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CANADIAN SHIELD:  
CANADA'S NATIONAL SECURITY STRATEGY  
AND NUCLEAR WEAPONS

1951-1971

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A Dissertation  
Submitted to  
the Temple University Graduate Board

---

in Partial Fulfillment  
of the Requirements for the Degree  
DOCTOR OF PHILOSOPHY

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by  
Sean M. Maloney  
May, 1998

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## ABSTRACT

Title: Canadian Shield: Canada's National Security Strategy and Nuclear Weapons, 1951-1971.

Candidate's Name: Sean Michael Maloney

Degree: PhD

Temple University, 1998

Doctoral Advisory Committee Chair: Dr. David Alan Rosenberg

Why did a country small in population, geographically removed from the sources of world conflict and with no territorial ambitions acquire and then divest herself of a comprehensive nuclear delivery capability? The debate over the role of nuclear weapons in Canadian national security policy has been influenced by aspects of the apparent Canadian subservience to a dominant United States. Some scholars believe that the Soviet threat was exaggerated for American economic purposes, and that NATO was strictly an American tool to execute a malevolent economic agenda. If one adheres to this perspective, it follows that the national interests of American allies did not exist. This is a completely unrealistic proposition since influence is not a zero-sum game and Canada was able to define and protect her interests despite a predominance of American power.

Canada acquired nuclear weapons to influence her allies as well as her enemies. Canadian aims were not grandiose ones. Canadian policymakers wanted peace, freedom, and economic prosperity for the Canadian people. Canadian national aims within NATO revolved around selecting the best strategic concept to deter the Soviet threat and by implementing measures to create a Canadian force structure that could participate in Alliance strategy. The fact that Canadian national security policy aims coincided with American national security policy aims at times does not prove that Canada was duped or manipulated, nor does it prove that Canada was an American satellite. These facts were demonstrated by Canada's positive, and at times effective, participation in both the NATO and NORAD strategic processes.

Canada used a combination of techniques to exert influence. There were close strategic, technical, and operational special relationships among Canada's armed forces and those of the United States, Britain, and West Germany. These relationships, activated by the commitment of salient Canadian forces, were used in a concerted effort to exert Canadian political influence on NATO in general and on the United States in particular. At times Canada also adopted obstructionist tactics in an effort to pressure the Americans. Another approach involved the use of geography as an influence tool.

The problem for Canada was that using these methods required a robust national security policymaking apparatus that had long-term interests as the basis for its activity, as well as effective military input in the process. Canada started to create such an apparatus, led by Chairman of the Chiefs of Staff Committee General Charles Foulkes and Secretary of State for External Affairs Lester B. Pearson. The apparatus was marginalized by

1963 by infighting within John G. Diefenbaker's government (to include an External Affairs faction consisting of Howard Green and Norman Robertson, a National Defence faction led by Douglas Harkness and Frank Miller, with the mercurial Prime Minister Diefenbaker in the middle). The existing apparatus was eventually dismantled by Pierre Trudeau's government in 1972. This ensured that the critical understanding of the relationship between influence, operational forces and national interests could not be communicated by the professional military representatives to the unelected civilian bureaucracy and the elected civilian officials. The purpose of the armed forces was even called into question. There was no adequate reply, which resulted in the dismantling of Canada's nuclear capability.

## TABLE OF CONTENTS

	Page
ABSTRACT.....	iv
LIST OF TABLES.....	xiii
LIST OF FIGURES.....	xiv
GLOSSARY AND ABBREVIATIONS .....	xvi
ACKNOWLEDGMENTS .....	xxiii

## INTRODUCTION: NO SLIGHT OR TRIVIAL INFLUENCE

Primary Argument and Approach .....	xxvi
Historiographical Importance of the Work.....	xxxii
Sources and Methods.....	liv
The Limits of the Study .....	lv

## CHAPTER

### 1. CANADIAN STRATEGIC POLICY TO 1951

Introduction.....	1
Canadian Strategic Policy in the Mackenzie King Era, 1939-47...2	2
The Transition from Mackenzie King to St Laurent.....	16
Disconnection .....	28
Goose Bay and SAC Support Agreements .....	40
Stabilization.....	42
Conclusion.....	54

## 2. FEAR IS NOT AN OPTION: A NEW STRATEGY, 1952-1955

Introduction .....	57
Canada in the Early 1950s .....	58
The Chiefs in the Early 1950s .....	60
Canada and Alliance Strategic Conceptualization, 1952 .....	64
The Continental Air Defence Focus, 1953 .....	69
Canadian Reaction to the "New Look", 1954 .....	78
A New Strategy: Canada and MC 48 .....	104
Conclusion.....	127

## 3. INFORMATION IS POWER: CANADA AND NUCLEAR WEAPONS INFORMATION

Introduction .....	130
Chance and Happenstance: Nuclear Cooperation to 1953 .....	132
Personal and Informal Relationships.....	147
Share and Share Alike? The Information Sharing Agreements.....	152
In the Land Where the Giant Mushrooms Grow: Canada and Nuclear Weapons Tests .....	159
Conclusion.....	181

## 4. NOW THRIVE THE ARMOURERS: THE FORCES ADAPT FOR NUCLEAR WARFARE

Introduction .....	183
The Royal Canadian Navy.....	185
The Army.....	211
The RCAF I: European Defence and 1 Air Division.....	234
The RCAF II: Continental Air Defence and Air Defence Command.....	247
Conclusion.....	272

## 5. THERE WAS ONLY ONE CATCH....A NEW STRATEGY EVOLVES AND DIEFENBAKER TAKES CONTROL, 1956-1957

Introduction .....	275
Canada and the Development of MC 14/2 (revised), 1956-1957 ..	276
The North American Air Defence Command.....	293

The Diefenbaker Government: Altering the Defence Policy Process.....	304
Conclusion.....	318
 6. NUCLEAR WEAPONS IN GERMANY AND AT SEA: CANADA, NATO, AND MC 70	
Introduction.....	321
MC 70 and The NATO Stockpile Question, 1957-58.....	322
The Information Problem Re-Asserts Itself.....	345
The Army and MC 70 .....	349
Canadian Maritime Forces and MC 70.....	360
1 Air Division and MC 70.....	383
Conclusion.....	400
 7. IS POWER NOTHING WITHOUT CONTROL? CONTINENTAL DEFENCE PROBLEMS AND DOMESTIC POLITICS, 1957-1959	
Introduction.....	402
NORAD Redux .....	403
Genies Almost Out of the Bottle.....	420
The Air Defence System: Two Steps Forward, 105 Back.....	429
Howard Green Enters the Cockpit and Takes Flight: Pearkes Prepares to Bail Out .....	476
Conclusion.....	501
 8. THE HANDLE OF THOR'S HAMMER: CANADIAN SUPPORT TO THE STRATEGIC AIR COMMAND	
Introduction.....	504
SAC Support arrangements: The St Laurent Government .....	505
Canada and SAC Support: The Diefenbaker Government, 1957-1960 .....	515
Warning Systems .....	523
The Problems of Alert Consultation.....	527
SAC Overflights and Canada .....	546
Conclusion.....	553
 9. CANADA'S NUCLEAR CRISIS I: A YEAR OF TRANSITION, 1960	
Introduction.....	555
A Year of Transition.....	556
Voo Doo Economics .....	563

The Special Committee on Defence Expenditures, 1960 .....	576
The Nuclear Disarmament Dimension in 1960 .....	589
The Montebello Meeting, June-July 1960: More Voo Doo .....	594
Developments in NATO Strategy, 1960.....	602
Force Structure and Continuing Negotiations, August-December 1960.....	605
Conclusion.....	624

## 10. CANADA'S NUCLEAR CRISIS II: FRUSTRATING INCREMENTALISM, 1961

Introduction.....	627
The Continuing Nuclear Debate, January-February, 1961 .....	627
First Clash: The Prime Minister versus The President .....	633
The Evolving Strategy .....	641
Second Clash: Harkness versus Green, The President versus The Prime Minister .....	659
The Berlin Crisis: August- September 1961.....	675
Inching Towards a Canadian Nuclear Capability, June- December 1961 .....	688
Conclusion.....	701

## 11. CANADA'S NUCLEAR CRISIS III: CAMELOT VERSUS THE PEACEABLE KINGDOM, 1962-1963

Introduction.....	703
Developments in Early 1962 .....	703
NATO Strategy and the Ministerial Meeting at Athens, April-May 1962 .....	709
The 1962 Election.....	720
Force Developments to August 1962 .....	723
Canada, Nuclear Weapons, and the Cuban Missile Crisis, October-November 1962 .....	735
Nuclear Negotiations, the NATO Ministerial Meeting, and The Nassau Agreement, November-December 1962 .....	769
The 1963 Campaign: Diefenbaker Self Destructs .....	778

## 12. CLOSE TO THE APEX: THE PEARSON GOVERNMENT, NUCLEAR WEAPONS AND NATIONAL SECURITY POLICY, 1963-1964

Introduction.....	795
Strategic Policy Process and Personalities in the Pearson Regime.....	796
Out of the Starting Blocks: Preliminaries to the Canada-US	

Nuclear Weapons Agreements, May 1963 .....	803
NATO Ministerial Meeting in Ottawa and the MLF:	
May 1963 .....	812
Nuclear Delivery Capability to July 1963 .....	817
Special Committee on Defence I: June-August 1963.....	819
End Game: The Government-to-Government Agreement is Signed: August 1963 .....	823
Hellyer's Ad Hoc Committee on Defence Policy:	
September 1963 .....	826
Special Committee on Defence II: October-November 1963 .....	836
Canadian Budgetary Considerations and Strategic Policy .....	843
NATO Strategy: Canada and the Crisis Over MC 100/1 .....	846
The 1964 Defence White Paper .....	852
Conclusion.....	864
 13. THOSE FAR DISTANT SHIPS, AIRCRAFT, AND RADAR STATIONS: CANADIAN CONTINENTAL DEFENCE FORCES AND NUCLEAR WEAPONS, 1963-1970	
Introduction .....	866
Continental Defence: The Threat in the 1960s .....	867
The Air Defence System: NORAD, Command and Control, and Forces .....	880
Canadian CF-101B Voo Doo/AIR-2A Weapons System.....	883
The Canadian BOMARC CIM-10B Weapons System.....	886
The Maritime Forces in Crisis 1964-67 .....	889
Conclusion.....	904
 14. AD CUSTODIENDAM EUROPAM: NATO'S CANADIAN NUCLEAR FORCES, 1963-1969	
Introduction .....	906
The Threat to Western Europe 1964-70.....	907
The SIOP, The JSTPS, and NATO .....	913
ACE and Theatre Nuclear Warfighting 1964-70 .....	923
1 Air Division and ACE's Central Region 1964-69.....	944
Conclusion.....	962
 15. HARD A PORT: DENUCLEARIZATION AND STRATEGIC VACUUM 1966-1972	
Introduction .....	964
Mike Pearson and the Americans .....	965
The Debilitating Effects of Unification.....	972
NATO Strategy Changes One Last Time .....	980
Pierre Elliott Trudeau and Friends: Thwarting the Policy Process.....	990
Canada and NATO: To Be or Not To Be, 1968-1969 .....	998

1970-72: Out with a Whimper.....	1036
----------------------------------	------

## 16. CONCLUSION

Conclusion.....	1042
Influencing the Enemy: The Threat/Deterrence Problem .....	1043
Influencing the Allies: Protecting Canadian Interests.....	1049
The St Laurent Government.....	1050
The Diefenbaker Government.....	1055
The Pearson Government .....	1062
The Trudeau Government .....	1068
Summation: The Nature of Canadian Influence.....	1072

BIBLIOGRAPHY.....	1076
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## LIST OF TABLES

	Page
Table 1: Planned CF-105 Armament Comparison, 1955.....	263
Table 2: Surface-to-Air Missile Comparison, 1955 .....	271
Table 3: NATO LANDCENT Nuclear Delivery Launchers: MC 70... 351	
Table 4: Comparison of Surface-to-Surface Missile Systems, 1958-61 .....	354
Table 5: Continental Interceptor Forces, 1958-60 .....	422
Table 6: Joint Planning Committee Bomber Threat Estimate, May 1958 .....	446
Table 7: Actual Soviet Strategic Bomber Threat to North America, 1955-68 .....	447
Table 8: BOMARC-Nike Hercules Comparison .....	451
Table 9: Relationship of Allied Alert Systems to Canadian Alert System.....	543
Table 10: U.S. National Intelligence Estimates: Strategic Threat to North America.....	869
Table 11: CANUS 63 Submarine Threat Analysis, 1963-1967 .....	871
Table 12: Actual Soviet Missile Submarine Strength as Constructed, 1956-1982 .....	872
Table 13: Central Region Nuclear Strike Force Build Up, 1963-1968 .....	931
Table 14: Nuclear Strike Resources: 2 ATAF vs. 4 ATAF, 1966-1967 .....	933

## LIST OF FIGURES

	Page
Figure 1: Canadian National Security Policy Organization, 1945-1951 .....	13
Figure 2: Canadian National Security Policy Organization, 1951-1963 .....	45
Figure 3: DRB Layer Concept, 1953.....	101
Figure 4: Submarine Threat to the Northeast, 1957-1962.....	209
Figure 5: RCN/RCAF Concept of Maritime Operations, 1957 .....	210
Figure 6: RCAF Air Defence Command, 1956.....	249
Figure 7: NORAD Total Air Defence Coverage, 1959-63.....	423
Figure 8: NORAD Nuclear Air Defence Coverage, 1958-61.....	424
Figure 9: CADOP 56-66 Target Complexes.....	432
Figure 10: SAC Northern Tanker Force Planning, 1956-63 .....	513
Figure 11: SAC OPLAN 10-59 Hostile Action Evacuation Plan .....	522
Figure 12: SAC Airborne Alert Routes, 1961-66 .....	552
Figure 13: Canadian Forces Headquarters Organization, 1964 .....	860
Figure 14: Operational Command Structure, 1965 .....	862
Figure 15: Ex TOCSIN B 1961 Attack Pattern.....	876
Figure 16: EMO 1966 Study Attack Pattern .....	878
Figure 17: NORAD Region and Division Boundaries.....	881
Figure 18: Soviet SSBN/SGN Threat, 1964-1970 .....	901
Figure 19: Soviet Missile Ranges .....	911
Figure 20: Periphery Attacks: General Strike Plan.....	926
Figure 21: Central Region Regional Ground Support Plan.....	940

Figure 22: Central Region Regional Anti-Nuclear Strike Plan.....	941
Figure 23: Central Region Regional Priority Nuclear Strike Plan....	942
Figure 24: Central Region Nuclear Prohibition Plan.....	943

## GLOSSARY AND ABBREVIATIONS

- 1 RDU: 1 Radiological Detection Unit
- ABAI: Agreed British-American Intelligence
- ABM: Anti-Ballistic Missile
- ACAI: Agreed Canadian-American Intelligence
- ACE: Allied Command Europe (NATO)
- ADC: Air Defence Command (RCAF)
- ADC: Air Defense Command (USAF)
- ADCANUS: Air Defence Canada-US (proposed command)
- ADM: Atomic Demolition Munition
- AEC: Atomic Energy Commission (US)
- AFCENT: Allied Forces Central Europe (NATO)
- AFSWC: Armed Forces Special Weapons Center (US)
- AIR-2A: See MB-1
- AIRCENT: Allied Air Forces Central region (NATO)
- AMC: Air Material Command (RCAF)
- AMF(A): ACE Mobile Force (Air) (NATO)
- AMF(L): ACE Mobile Force (Land) (NATO)
- ANF: Allied Nuclear Force (NATO)
- ANZUS: Australian-New Zealand-United States
- AOC: Air Officer Commanding (RCAF)
- APCC: Army Policy Coordinating Committee
- ASP: Atomic Strike Plan (NATO)
- ASROC: Anti-Submarine Rocket
- ASW: Anti-Submarine Warfare
- ATAF: Allied Tactical Air Force (NATO)

- ATC: Air Transport Command (RCAF)
- AVM: Air Vice-Marshal (RCAF)
- AWRE: Atomic Weapons Research Establishment (UK)
- BAOR: British Army of the Rhine
- BMD: Ballistic Missile Defence
- BMEWS: Ballistic Missile Early Warning System
- BUIC: Back Up Interceptor Control
- CADIN: Canadian Air Defence Integration
- CANCOMLANT: Canadian Commander, Atlantic (NATO)
- CANUKUS: Canada-United Kingdom-United States
- CAORE: Canadian Army Operations Research Establishment
- CAS: Chief of the Air Staff
- CBC: Canadian Broadcasting Corporation
- CDC: Cabinet Defence Committee
- CDS: Chief of the Defence Staff
- CENTAG: Central Army Group
- CEP: Circular Error Probable
- CF-100: Avro Canuck interceptor aircraft
- CF-104: Lockheed Starfighter strike/attack aircraft
- CF-105: Avro Arrow interceptor aircraft
- CFHQ: Canadian Forces Headquarters
- CFS: Canadian Forces Station
- CGS: Chief of the General Staff
- CIB: Canadian Infantry Brigade
- CinC: Commander in Chief
- CJSM(W): Canadian Joint Staff Mission Washington
- CNO: Chief of Naval Operations (US)

- CNS: Chief of the Naval Staff
- COG: Continuity of Government
- COSC: Chiefs of Staff Committee
- CONAD: Continental Air Defense Command (US)
- CPX: Command Post Exercise
- CSMAS: Counter Surprise Military Alert System
- CUSBSP: Canada-US Basic Security Plan
- CUSMSG: Canada-US Military Study Group
- CUSRPG: Canada-US Regional Planning Group (NATO)
- CUSSAT: Canada-US Scientific Advisory Team
- CVL: aircraft carrier, light (ASW)
- DCF: Defence of Canada Force
- DDE: anti-submarine destroyer
- DDH: helicopter-carrying destroyer
- DEFCON: Defence Condition (US)
- DEW Line: Distant Early Warning Line
- DRB: Defence Research Board
- ECM: Electronic Countermeasures
- EDP: Emergency Defence Plan
- EMO: Emergency Measures Organization
- EMP: Electro-Magnetic Pulse
- ETC: Emergency Telephone Conference
- FOAC: Flag Officer Atlantic Coast (RCN)
- GCI: Ground Controlled Approach air navigation system
- GIUK Gap: Greenland-Iceland-United Kingdom Gap
- GPF: General Purpose Frigate
- GSP: Global Strategy Paper, 1952 (UK)

- GSP: General Strike Plan (NATO)
- HMCS: Her Majesty's Canadian Ship (vessel or shore establishment)
- HRP: Human Reliability Programme
- IANF: Inter-Allied Nuclear Force (NATO)
- ICBM: Intercontinental Ballistic Missile
- ICI: Initial Capability Inspection
- IM: Interceptor-Missile
- IMSOC: Interceptor Missile Squadron Operations Centre
- IRBM: Intermediate Range Ballistic Missile
- JABCS: Joint Atomic Biological and Chemical School
- JCS: US Joint Chiefs of Staff
- JIB: Joint Intelligence Board
- JIC: Joint Intelligence Committee (Canada or US)
- JPC: Joint Planning Committee
- JPS: Joint Planning Staff (UK)
- JSTPS: Joint Strategic Targeting Planning Staff (US)
- JSWC: Joint Special Weapons Committee
- JSWPC: Joint Special Weapons Planning Committee
- kt: kiloton
- LABS: Low Altitude Bombing System
- LOFAR: Low Frequency Analysis and Recording
- LRMPA: Long Range Maritime Patrol Aircraft
- MAC: Maritime Air Command (RCAF)
- MAD: Magnetic Anomaly Detection
- MB-1: Douglas Genie nuclear air-to-air rocket system
- MC: NATO Military Committee
- MCC: Canada-US Military Cooperation Committee

MAP: Mutual Assistance Plan

MBF: Medium Bomber Force (UK)

MCL: Mid-Canada Line

MDAP: Mutual Defence Assistance Plan

MIDAS: Missile Defence Alarm System

MIRV: Multiple Independently-targeted Re-entry Vehicle

MLF: Multilateral Force (NATO)

MOU: Memorandum of Understanding

MPA: Maritime Patrol Aircraft

MRBM: Medium Range Ballistic Missile

MRV: Multiple Re-entry Vehicle

MSF: Mobile Striking Force (Canadian Army)

MT: megaton

MTDP: Medium Term Defence Plan (NATO)

NAC: North Atlantic Council

NAG: SACEUR's New Approach Group

NAORPG: North Atlantic Ocean Regional Planning Group (NATO)

NAS: Naval Air Station (US)

NATO: North Atlantic Treaty Organization

NDB: Nuclear Depth Bomb

NBCD: Nuclear, Biological, and Chemical Defence

NIE: National Intelligence Estimate (US)

NNR: Northern NORAD Region

NORAD: North American Air Defence Command (Canada-US)

NORTHAG: Northern Army Group (NATO)

NRC: National Research Council

NRU: Canadian nuclear reactor type

NRX: Canadian nuclear reactor at Chalk River

NSC: National Security Council (US)

NSTL: National Strategic Target List (US)

NWEF: Naval Weapons Evaluation Facility (US)

OAS: Organization of American States

ORI: Operational Readiness Inspection

OTU: Operational Training Unit

PARL: Prince Albert Radar Laboratory

POEADQ or "The Panel": The Panel on Economic Aspects of Defence Questions

PJBD: Permanent Joint Board on Defence (Canada-US)

QRA: Quick Reaction Alert

RCAF: Royal Canadian Air Force

RCN: Royal Canadian Navy

SAC: USAF Strategic Air Command

SACLANT: Supreme Allied Commander, Atlantic (NATO)

SAGE: Semi-Automated Ground Environment

SACEUR: Supreme Allied Commander, Europe (NATO)

SAM: Surface to Air Missile

SAS: Special Ammunition Storage

SCOD: Special Committee on Defence

SCODE: Special Committee on Defence Expenditures

SEATO: Southeast Asia Treaty Organization

SECDEF: Secretary of Defense (US)

SHAPE: Supreme Headquarters Allied Powers Europe (NATO)

SIGINT: Signals Intelligence

SIOP: Singly Integrated Operational Plan (US)

- SLBM: Submarine Launched Ballistic Missile
- SLOC: Se -Lines of Communication
- SOSUS: Sound Surveillance System
- SONWEC: Senior Officers Nuclear Weapons Employment Course (US)
- SSBN: nuclear powered ballistic missile carrying submarine
- SSM: Surface to Surface Missile
- STRIKEFLETLANT: Striking Fleet Atlantic (NATO)
- STRIKEFOR SOUTH: Striking Forces, Southern Europe (NATO)
- TOA: Transfer of Authority
- TOR: Terms of Reference
- TREE: Transient Radiation Electrical Effects
- UAR: United Arab Republic
- UN: United Nations
- UNEF: United Nations Emergency Force
- UNTSO: United Nations Truce Supervisory Operation
- VCAS: Vice Chief of the Air Staff
- WERPG: Western European Regional Planning Group (NATO)
- WUDO: Western Union Defence Organization
- ZEEP: Zero Energy Experimental Pile (Canada's first nuclear reactor)

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## INTRODUCTION: NO SLIGHT OR TRIVIAL INFLUENCE

### Primary Argument and Approach

This is the story of how and why Canada acquired and then divested itself of nuclear weapons. In the broad scope of literature dealing with nuclear weapons and alliance politics, there is no comprehensive study dealing specifically with Canadian nuclear weapons policy, policy which was fundamental to explaining the ebb and flow of post-1945 Canadian national security policy. This should strike scholars as an odd state of affairs given Canada's crucial position within the West's deterrence system. Canada deployed a wide variety of nuclear delivery systems (including defensive tactical weapons as well as offensive theatre weapons in the megaton-yield range), in the defence of North America and the protection of Strategic Air Command, in the defence of the Atlantic sea lanes, and in the defence of Western Europe. She also provided storage, dispersal, communications, and early warning facilities in support of the Western deterrent against Soviet expansionism. However, this critical position has been almost completely overlooked by non-Canadian and even by most Canadian historians.

The main argument of this dissertation is that Canadian national security policy and the place of nuclear weapons in it in the 1950s was designed not only to influence Canada's enemies and thus deter them from attacking, it was also designed to influence Canada's allies. Though an

extension of an existing Canadian strategic tradition, the new state of affairs produced effects which forced Canadian policymakers to transcend past Canadian foreign policy methods and objectives and take a position of increased importance on the world stage. By 1972, however, Canadian civilian national security policymakers were unable to adapt to the rapidly changing strategic and technical aspects of national security policy. Canada's uniformed national security policymakers were able to do so, but the gulf between the two groups grew wider and deeper over time which resulted in the dismantling of Canada's substantial nuclear capability and a reduction in the level of influence within NATO.

Unforeseen and unplanned benefits of Canada's contribution to alliance deterrent structures included prestige, honour, and self-esteem. This outcome leads us to the penultimate question of influence and the relationship between the development of armed forces and national policy objectives. There is a huge body of literature dealing with the relationship between the opposing superpowers during the Cold War; there is, however, a paucity of literature dealing with the relationships between the larger and smaller members of the NATO alliance.<sup>1</sup> In Canadian terms, the eternal historical question is, how does a smaller power formulate and obtain her objectives while in alliance with great and super powers? This question linked Canada's strategic tradition with the development of a Canadian national security strategy which included nuclear weapons.

Canada's nuclear involvement was an extension of Canadian strategic tradition. In his work China's Nuclear Weapons Strategy: Tradition Within

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1. One of the few works on this topic is Douglas Stuart and William Tow's The Limits of Alliance: NATO Out-of-Area Problems Since 1949 (Baltimore: Johns Hopkins University Press, 1990).

Evolution, Chong-Pin Lin defines strategic tradition as "a set of persistent strategic traits characteristic of a nation."<sup>2</sup> Canadian strategic tradition rests on three pillars. The first pillar is alliance warfare. Canada has rarely operated alone and will fight a war or cold war only as part of an alliance or coalition. Second, Canada retains a forward defence principle which is primarily based upon Canada's relative geographic isolation from the rest of the world. By fighting or deterring war overseas, Canadian strategic policymakers have believed that they could keep war at arms length from North America.<sup>3</sup> The third pillar is relative military autonomy.<sup>4</sup> It is politically dangerous and militarily anathema to relinquish national command and control over Canadian military forces engaged in alliance or coalition warfare. Canada, because of the relatively small numbers of troops deployed, was unable to avoid such relinquishment prior to the cold war. The most disastrous historical examples of the misuse of Canadian forces include placing Canadian forces at the disposal of the British for the Hong Kong operation in 1941, the Dieppe Raid in 1942, and aspects of Canada's participation in the strategic bomber offensive. During the Second World War Canadian commanders continuously

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2. Chong-Pin Lin, China's Nuclear Weapons Strategy: Tradition Within Evolution (Toronto: Lexington Books, 1988) p. 8.

3. As discussed in Charles P. Stacey, Canada and the Age of Conflict Vol. 1: 1867-1921 (Toronto: University of Toronto Press, 1984) and Canada and the Age of Conflict Vol. 2: 1921-1948 (Toronto: University of Toronto Press, 1981).

4. For the only real discussion of the so-called 'echelon above corps' problem, see Robert Caldwell, The Echelon Above Corps: Some Historical Perspectives on the Canadian Army Overseas (Ottawa: Department of National Defence ORAE, 1989).

struggled to retain national control over Canadian forces. They did so more often than not in the face of Canadian political indifference.<sup>5</sup>

This study does not argue the process which created Canada's strategic tradition. Rather, it seeks to explain how the three pillars had a dramatic influence on Canadian nuclear weapons policy. Canadian operational commanders, instead of Canadian policymakers, have had to find innovative means of protecting Canada's lifeblood and treasure from being misused. In the Cold War period, Canada's military leaders protected the third pillar by building operational influence into the command and control organizations which were in charge of the Canadian military alliance commitments. In most cases this meant placing Canadian staff officers into sensitive positions within the planning and operations sections of integrated alliance headquarters which in turn commanded Canadian forces assigned to them.

Linked to operational influence is the concept of saliency. Maintaining operational influence led to linking the Canadian military contribution to higher aims. For political reasons, Canadian military contributions also had to have a disproportionately high profile because of their smaller relative size within the alliance. This requirement prompted a quest for operational roles, missions, and capability which would provide Canada with saliency. Given that Canada had a strategic tradition that saw

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5. See Brian Loring Villa, Unauthorized Action: Mountbatten and the Dieppe Raid (Toronto: Oxford University Press, 1989); William Carter, Anglo-Canadian Wartime Relations, 1939-1945: RAF Bomber Command and No. 6 (Canadian) Group (New York: Garland Publishing, 1991); C.P. Stacey, Official History of the Canadian Army in the Second World War Vol. 1 Six Years of War: The Army in Canada, Britain, and the Pacific (Ottawa: Queen's Printer, 1957).

expression through alliance structures, what exactly did Canada hope to achieve by acquiring a nuclear delivery capability?

A secondary argument in this work relates to the long standing problems of creating a force structure (formations and command/control arrangements) to respond to continually changing alliance and national strategic concepts. Douglas Bland in his work Chiefs of Defence: Government and the Unified Command of the Canadian Armed Forces refers to the Canadian response to the Cold War as 'a strategy of commitments' with all of the inflexibility and irrelevance to Canada's needs that this phrase implies.<sup>6</sup> The belief that Canada merely served other countries' interests (particularly those of the United States) at the expense of her own has become the mantra of many Canadian strategic analysts who still seek to distance Canadian strategic history from Canadian involvement with nuclear weapons.<sup>7</sup> This study will argue that the Canadian force structure as it developed in the 1950s and 1960s was far more flexible and responsive to Canadian national requirements than previously believed and that Canada did incorporate Canadian national interests into her own approach to national security and nuclear weapons policy during the period in question.

This study is an exposition of the process by which Canada acquired her extraordinary nuclear capability. Initially Canadian policymakers had to recognize the nature and magnitude of the Cold War military threat to

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6. Douglas Bland, Chiefs of Defence: Government and the Unified Command of the Canadian Armed Forces (Toronto: Canadian Institute of Strategic Studies, 1995).

7. See for example Andrew Richter, "Canadian Defence Policy in a Changing Global Environment, 1945-1952," The McNaughton Papers Winter 1995/96 (Toronto: Canadian Journal of Strategic Studies, 1996).

Canadian interests. This was an ongoing process and is discussed in Chapters 1 and 2. Second, Canadian policymakers had to establish an agreed-upon strategy, which is also handled in Chapter 2. A military force structure was then needed to implement the strategy. Building it was a laborious and intricate process. Critical nuclear weapons effects information had to be made available so that the necessary training and doctrine could be prepared (Chapter 3). Equipment acquisition and planning were intertwined with training and doctrine. In Canada's case, this had to take place in her two separate potential theatres of operations: Europe and North America. Each theatre had different requirements for differing forces, equipment, and diplomatic support. Chapters 4 through 7 deal with these disparate but critical aspects of national security policy.

Finally, the forces had to have access to nuclear weapons themselves to participate fully in a strategy which gave primacy to their use in peacetime (deterrent function) and wartime (warfighting function). The divergent force structure aspects converged by 1960, but diplomatic problems related to USAF Strategic Air Command operations (Chapter 8), domestic politics in Canada and the dramatic deterioration in the world situation as well as a deterioration in Canadian-American relations (Chapters 9, 10, and 11) prevented the military force structure from fully taking its place in the deterrent system. Eventually the deadlock was broken and nuclearization could occur with its putative deterrent and diplomatic benefits (Chapters 12, 13 and 14). No sooner had Canada achieved her nuclear capability than a change in Government reversed the policy by 1972 (Chapter 15).

## Historiographical Importance of the Work

This study fills a great void in the literature on Canadian Cold War history. The existing literature is, in a word, obsolete and does not address critical issues related to the central position of nuclear weapons in Canadian national security policy. This limitation not only includes existing literature on the history of Canadian Cold War foreign policy but also much of the existing literature on Canadian defence policy.

The most important Canadian historian dealing with Canadian national security policy has been Charles P. Stacey, the Canadian Army's official historian during the Second World War. In addition to his multitude of official histories, Stacey wrote a critical work, Arms, Men and Governments: The War Policies of Canada, 1939-1945 (Ottawa: Crown Printers, 1970). This extremely comprehensive, narrative book examines all aspects of Canadian defence policy during the war, including command and control, the policy process, manpower, industrial planning, and Allied relationships. What emerges from this study, albeit not in a succinct fashion, is that, despite Canada's massive contribution to the war effort in all areas, Canadian strategic influence within the councils of the Allies was minimal, at best. This assumption has remained more or less unchallenged ever since, particularly by historians examining Canada's conduct of the Second World War.

In 1977 and 1981, Stacey published the two-volume Canada and the Age of Conflict.<sup>8</sup> These books represent a broad, sweeping view of Canadian defence policy from Confederation to the start of the Cold War. They rely on primary sources and examine most aspects of defence policy: economics, personalities, and policy development. Canada and the Age of Conflict effectively 'places' Arms, Men and Governments within a historical context and tacks on the first three years of the Cold War.<sup>9</sup> Stacey portrays an adolescent Canada still struggling within the confines of Empire, glimpsing (during the Second World War) a future where Canada could become more independent of such constraints. Most importantly, Stacey defines Canada's strategic aims during the war, implying that such aims or variants thereof remained in force in the post-war period. Stacey argues that Canada fought the war for cultural and economic reasons. Canada had close ties with Europe in a cultural and economic sense. Europe was Canada's primary market. British seapower traditionally protected the lines of communications with Europe, while the French army provided stability on the continent. If either area were threatened, Canada would suffer economically, since the market with the United States was relatively underdeveloped. If Europe fell, what was to stop totalitarianism from reaching North American shores?<sup>10</sup>

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8.C.P. Stacey, Canada and the Age of Conflict Volume 1: 1867-1921 (Toronto: University of Toronto Press, 1977) and C.P. Stacey, Canada and the Age of Conflict Volume 2: 1921-1948 (Toronto: University of Toronto Press, 1981).

9.The selection of 1948 coincides with the end of William Lyon Mackenzie King's 'reign' as Prime Minister. Since the books use the King Papers heavily and there are no Louis St Laurent papers relating to defence issues, this cut off date is not surprising.

10.C.P. Stacey, Canada and the Age of Conflict Volume 2: 1921-1948 , pp. 268-269.

The historical prism for viewing the post-1945 world was set. Canada could never hope to influence its larger allies strategically; Canada's only interests were developing relations with the United States and maintaining its relations with Europe.

James Eayrs' massive outpouring of narrative books on Canadian defence policy diverged from these themes in a number of respects.<sup>11</sup> The In Defence of Canada series portrays a detailed, complex dialogue among the principal civilian personalities of the Department of External Affairs, their political masters in the Government, and their allied counterparts.<sup>12</sup> In essential terms, Eayrs presents a pure diplomatic history with little discussion of the broader aspects of national security policy, with virtually no reference to Canadian military personalities or actual military capabilities. The works do not examine the detailed implementation of policy in the 'field'. For Eayrs, these are all rational men conducting a rational foreign policy through a rational process. Military considerations are a necessary evil, and alliances exist for political, not military considerations. Unlike Stacey, Eayrs believes that Canada's participation in alliance systems can be used to influence the strategic behavior of Canada's

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11. The In Defence of Canada series consists of five books: From the Great War to the Great Depression (Toronto: University of Toronto Press, 1964); Appeasement and Rearmament (Toronto: University of Toronto Press, 1965); Peacemaking and Deterrence (Toronto: University of Toronto Press, 1972) Growing Up Allied (Toronto: University of Toronto Press, 1980); Indochina: Roots of Complicity (Toronto: University of Toronto Press, 1983). He also was heavily involved in the Canada in World Affairs annual series, a staple item for those examining Canadian foreign policy. The material in that series does not differ radically from the In Defence of Canada works.

12. Essentially, the correspondence, which the books are mostly based on, includes correspondence between Pearson, Robertson, Wrong, Claxton, St Laurent, King and countless others.

larger allies, particularly the United States and Great Britain.<sup>13</sup> He forgets that the purpose of all the dialogue he describes is primarily to influence Canada's enemies, particularly the Soviet Union. This extremely important factor is virtually ignored in the post-1945 volumes and continues as a theme within the historiography.<sup>14</sup>

The shift away from Great Britain's orbit during the Second World War resulted in Canada's having a closer relationship with the United States. The effects on Canadian defence policy are examined in three different overviews. Robert Bothwell's Canada and the United States: The Politics of Partnership (Toronto: University of Toronto Press, 1992) traces the ebb and flow of the relationship from economic, diplomatic, and domestic political standpoints from 1945- to 1984. This overview develops the notion that Canada is not a simple puppet of the United States. Rather, Canada is, despite major inequalities, a true partner wielding influence in small ways, mostly through a combination of economic agreements, alliance politics (the International Commission for Supervision and Control in Vietnam, NATO, and NORAD), and through natural resources. Essentially, Canada's policy is to deliberately keep the United States at arm's length culturally while reaping defence and economic benefits because Canada cannot do anything else, there are no other courses of action to take. Defence policy is viewed through the need to use every possible means to maintain a close relationship, even at the expense of strategic influence.

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13. Also known as 'multilateralism' in the political science community.

14. According to Eayrs, he had access to but was prohibited from using a great deal of material emanating from External Affairs, including intelligence estimates.

Jack Granatstein and R.D. Cuff's Ties That Bind (2nd ed) (Toronto: Samuel Stevens, Hakkert and Co., 1977) suggests that the Canadian-American relationship was too close by the end of the Second World War and limited Canada's freedom of movement internationally. The close ties developed during the Second World War should have been temporary expedients and not carried over into the post-war world order. Written in response to Gabriel Kolko's critique of American foreign policy during the Second World War,<sup>15</sup> Ties That Bind concludes that, if Kolko is correct in his assertions that the post-war order was structured to keep Germany 'down' and the European markets open, and his assertion that the Cold War was an artificial creation brought on by American machinations, Canada was duped into supporting American foreign policy aims. If this is so, the authors argue, Canada had been duped for more than twenty years. The question (left unanswered by the authors) is, did Canada realize this early on and play along hoping to capitalize on the situation economically both in terms of the 'old' European market and the 'new' North American market?

Norman Hillmer collaborated with Jack Granatstein in a grand overview of the Canada-U.S. problem in For Better or for Worse: Canada and the United States to the 1990's (Toronto: Copp Clark Fitman, 1991). This book operates from the assumption that Canadian-American relations are inherently antagonistic and always have been. In fundamental terms, the authors trace the relationship once again, trotting out example after example of American economic manipulation, cultural insensitivity, and

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15. Specifically Gabriel Kolko, The Politics of War: The World and United States Foreign Policy, 1943-1945 (New York: Random House, 1968).

political bullying. Canada is no longer the unwitting dupe nor totally complicit as portrayed in The Politics of Partnership and Ties That Bind: Canada is a ship buffeted by the American ocean, understanding its situation but unable to do anything about it except try to steer a middle course. As with Ties That Bind, For Better or for Worse treats defence policy as part of the larger context of the relationship.

On the whole, with the exception of Ties That Bind, the existing literature produced more narrative than argument. The major historical foreign policy 'actors' were still the key factors in the historical 'drama' along similar lines as Eayrs depicted but with less detail. Other historians have been unable to break out of this mould. Denis Smith's Diplomacy of Fear: Canada and the Cold War (Toronto: University of Toronto Press, 1988) remains fixated on the Department of External Affairs and the 'actors' within that organization. Relying on primary source material not radically different from Eayrs, but focusing on a different slice of time, Smith demonstrates that the Department of External Affairs was actually an ad hoc organization unprepared to deal with the Second World War, let alone the onset of the Cold War. Canada's perceived need to balance out American influence in the post-war alliances drove Canadian policy, again not a radical departure from Eayrs' discussion of events in Growing Up Allied. Unlike Eayrs, Smith does discuss the Soviet threat but does so in terms of a domestic threat as opposed to a military one. National security policy receives short shrift as there is no discussion of how Canadian forces were structured to deal with the post-war world and how this structure related to foreign policy deliberations.

Arthur Andrew's The Rise and Fall of a Middle Power: Canadian Diplomacy from King to Mulroney (Toronto: James Lorimer and Co., 1993)

is an ambitious overview of post-1945 Canadian diplomatic efforts crammed into 181 pages. Andrew, a foreign service officer with the Department of External Affairs, cites no sources. It is not a memoir. Again, as with other works, The Rise and Fall of a Middle Power focuses on External Affairs' elite in an effort to explain "what it was like inside the Department of External Affairs when its reputation was high and Canada was cutting quite a figure as a Middle Power on the international scene....By the time [Pierre Elliott] Trudeau left, what had been an influential central government agency led by politically minded idealists had been converted into an operating department of government lead by economic determinists."<sup>16</sup> The book is useful when describing the internal workings of the department itself, but less so examining the role of department in foreign policy implementation. Canadian foreign policy (there is no discussion of national security policy), Andrew argues, was truly that of a Middle Power: Canada pushed other Middle Powers and smaller powers to exert pressure on the Great Powers to comply, within limits, with the internal deliberations of alliances either in NATO or the UN.

Political scientist Tom Keating draws on the existing body of literature for his study Canada and World Order: The Multilateralist Tradition in Canadian Foreign Policy (Toronto: Maclelland and Stewart, 1993).<sup>17</sup> Keating tracks the multilateral impulse throughout post-1945 defence policy, that is, the implicit understanding and explicit policy that Canada cannot and does

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16. Arthur Andrew, The Rise and Fall of a Middle Power: Canadian Diplomacy From King To Mulroney (Toronto: James Lorimar and Co., 1993) p. xix.

17. Holmes The Shaping of the Peace, the Eayrs series, and most of the memoirs written by Canada's foreign policy elite.

not act unilaterally in the world system. Canada's policy is shaped by other states within the system, and thus Canada's policy is reactive. This overview, as with others like it in the Canada-U.S. relations field, traces an ebb and flow instead of presenting a coherent argument. Thus, Canada and World Order follows Canadian defence policy as it examines, accepts, and implements multilateral policy through the vehicles of NATO, the ICSC, UN peacekeeping, the World Bank, and General Agreement on Tariffs and Trade. It includes economic policy as a component of foreign policy, and it handles this area with some simplicity. Keating argues that as the world system developed a crisis in the efficacy of multilateralism from the 1970's to the 1990's, Canada correspondingly suffered a crisis of multilateralism. Eventually Canada will have problems functioning alone and should remain involved in such organizations as the European Community.

Denis Stairs provides insight into Canada's involvement in the Korean War. His The Diplomacy of Constraint: Canada, the Korean War, and the United States (Toronto: University of Toronto Press, 1974) is a history with a bit of political science tacked on. Canadian policymakers at the time believed that they were participating in a UN-sanctioned peacemaking operations within the *Gestalt* of collective security. Stairs does not disagree but suggests that this was not the case of "a united community dispatching a posse in search of a lone and predatory outlaw ...[it was more like] a pair of rival street gangs in a lawless city."<sup>18</sup> Noting that the UN forces in Korea did not retain a single combat unit from the communist world and few units from the non-aligned nations, Stairs concludes that the Korean War

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18. Denis Stairs, The Diplomacy of Constraint: Canada, The Korean War, and the United States (Toronto: University of Toronto Press, 1974) p. x.

was actually an exercise in containment, not collective security. Even though Canadian diplomats did not realize it at the time, they did attempt to use the UN forum as a means of moderating American power in the conduct of the war. In this sense, The Diplomacy of Constraint supports the multilateral conception of Canadian defence policy and the work supports the 'great diplomats make great history' aspect of the literature.

Jack Granatstein and Robert Bothwell collaborated in a groundbreaking study of Canadian defence policy during the 1970's: Pirouette: Pierre Trudeau and Canadian Foreign Policy (Toronto: University of Toronto Press, 1990). Though the book is based on a number of confidential interviews and on the existing public record, the authors had privileged access to unreleased material. This study successfully synthesizes security policy issues and foreign policy issues. Granatstein and Bothwell portray Canadian defence policy in its economic, domestic political, alliance political, and personal incarnations as functioning as an entity. In essential terms, the authors believe that, in spite of public emanations to the contrary, Canadian defence policy did not change radically during the 1970's: it continued to rely on multilateral means to influence allies. The book utilizes a narrative approach to achieve its ends. On the down side, it does not take account of or develop a relationship between national security policy established prior to the Trudeau period and that created during the 1970s.

Escott Reid's Time of Fear And Hope : The Making of the North Atlantic Treaty (Toronto: McClelland and Stewart, 1977) is probably the best book on the origins of NATO and Canada's role in the diplomatic deliberations involved in the process of creating the treaty. Reid was a participant in the process, yet Time of Fear and Hope is not a memoir. It relies extensively on

primary source material and presents the situation not only from the eyes of the participants but from a procedural vantage point. Reid is interested in the process by which the treaty was created and how the components were developed. The book does suffer some drawbacks, that is, great diplomats at work with little or no discussion of security issues. Indeed, Reid is preoccupied with explaining Canada's push for Article 2 (non-military co-operation within the Alliance) and why Article 2 was an expression of Canadian multilateralism. It is essentially a process narrative, though the end chapter does briefly consider multilateral policy options other than NATO on a speculative basis.

Desmond Morton's ubiquitous A Military History of Canada (Edmonton: Hurtig Publishers, 1985) is a grand overview of Canadian security policy from New France to the 1980's. Utilized extensively as an undergraduate text, A Military History of Canada promulgates the belief that Canadian security policy in the Cold War period was completely subject to the whims of Washington's security policy. Morton relies almost exclusively on Eayrs, Holmes, Stairs, Granatstein, and John Warnock.

Two works dealing with Canadian nuclear disarmament efforts have emerged in recent years. Joseph Levitt's Pearson and Canada's Role in Nuclear Disarmament and Arms Control Negotiations 1945-1957 (Montreal: McGill-Queen's University Press, 1993) develops fresh primary sources from the National Archives of Canada in its examination of Lester Pearson and the Department of External Affairs policy towards nuclear disarmament. Canada participated on both UN commissions dealing with this issue; the participants included the Soviet Union, the United States, France, Britain, and Canada, which was the only middle power involved. Though this work focuses on the great diplomatic players in the foreign

relations drama, it does indicate that there was a legitimate, knowable threat to Canadian interests. Thus, according to Levitt, Pearson's view was that the United States would never initiate nuclear war in an unprovoked way against the Soviet Union, and in fact his primary concern was that the Soviet Union would attack unilaterally. Consequently, Canadian disarmament policy was to support American efforts in developing a strategic arms situation favourable to the United States. This meant loosely coordinating the Canadian and American positions in the UN discussions. If this could not be achieved, the fall-back position was to portray the Soviets as intransigent and win a victory in the propaganda theatre of the Cold War. Levitt aptly demonstrates that Canadian policy was not controlled or dictated from Washington, that policy was determined by Canadian leaders as being the best course of action in the best multilateral tradition.

Albert Legault and Michel Fortmann's A Diplomacy of Hope: Canada and Disarmament 1945-1988 (Montreal: McGill-Queen's University Press, 1992) is a detailed overview (almost 600 pages) of the Department of External Affairs disarmament efforts since the Second World War. Legault and Fortmann received privileged access to External Affairs documents for the production of this work. Though the book does not constitute "official history", it was funded by External Affairs (the authors are political scientists and they refer to their work as history).<sup>19</sup> The book's narrative revolves around its theoretical framework, based on the concepts of "bees" and "ants". According to the authors, diplomats are "bees", while members of the Department of National Defence are "ants." "Bees" produce flowers, while "ants" dig into the ground and defend. In effect, the "ants" and "bees"

19. External Affairs has an entire bureaucracy dealing with disarmament and even has an Ambassador-level position to command it.

each had their own bureaucracies, which were in opposition with regard to disarmament policy. The "ants" were not interested in it and refused to participate,<sup>20</sup> while the "bees" tried their best to participate in disarmament and maintain influence in the world community. The constant tension between the two is the heart of the book, while the constant ebb and flow of disarmament negotiations uses the Canadian internal policy situation as a backdrop. Once again, we see great diplomats (and this time, great bureaucrats) at work, to little effect. The authors do not really demonstrate that Canada had any serious impact on nuclear, chemical, or biological disarmament initiatives, though they strongly imply without evidence that disarmament was the primary foreign policy issue pursued by External Affairs since 1945.

Stand on Guard: The Search for a Canadian Defence Policy (Toronto: McClelland Stewart, 1965), by Andrew Brewin, was one of the earlier efforts examining the security component of defence policy.<sup>21</sup> Brewin, who served on the Senate Committee on Defence, argues that Canada has no security policy: The specter of nuclear attack, the overriding requirements to support the American nuclear deterrent, and the requirement to defend Europe ensured (between 1945 and 1965) that Canadian security policy was formulated in the Pentagon. Furthermore, Brewin argues that this was the correct course of action. Canada cannot be neutral given its strategic

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20."participation" defined as removal of nuclear, biological and chemical weapons systems from Canada's arsenal and providing information on allied systems to the disarms.

21.Other efforts included James Minifie's polemic Peacemaker or Powder-Monkey: Canada's Role in a Revolutionary World (Toronto: McClelland and Stewart, 1960) which was an argument for Canadian neutrality, and a polemic of a different shade, E.L.M. Burn's Megamurder (Toronto: Clarke, Irwin and Co., 1966).

position, and it cannot defend itself given its extent of territory. Thus, the twenty-year status quo. Brewin asserts that continental defence is too expensive and probably useless in the face of ICBM attack, and that the preponderance of allied forces in Europe and the small Canadian contribution is not operationally or cost effective. Thus, Canada should create a highly mobile land-air force for UN peacekeeping operations and to function as NATO's strategic reserve, and it should retain an ASW role to protect the strategic reserve as it deploys. Brewin, of course, was reflecting the *Zeitgeist* created by Minister of National Defence Paul Hellyer, who advocated and attempted to implement such a policy. In Brewin's view, Canada is incapable of doing anything alone, and Canada cannot influence its larger alliance partners. The threat is so big that Canada could not deal with it in real terms. This dissertation takes exception to these points of view.

The most underappreciated work on Canadian security policy is American political scientist Jon B. McLin's Canada's Changing Defense Policy, 1957-1963: The Problems of a Middle Power in Alliance (Baltimore: Johns Hopkins University Press, 1967).<sup>22</sup> The first book to examine systematically the critical 1957-1963 period, it suggests that Canada's maintenance of a defence establishment is suspect.<sup>23</sup> Canada does not need allies nor a defence establishment. Canada's armed forces are no more than a marginal contribution within alliances. Nobody will attack Canada

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22. From a political science approach. McLin's sources are predominantly media-based with generous reference to government hearings in Canada and in the United States.

23. For the uninitiated, this was a period of profound domestic political turmoil in Canada brought on partly as a result of the series of international crisis from Suez to Berlin to Cuba, partly as a result of the Diefenbaker government's stance on the acquisition of nuclear weapons and the strategy that governed their use.

because of its proximity to the United States, so why have an effective defence force? McLin suggests that Canadian statements justifying the retention of a defence establishment and alliances assert that, though the marginal military forces are strategically ineffective, they are nothing but dues for participation in the alliances (NATO and NORAD).

Secondly, contributing even something marginal enhances Canadian security indirectly. McLin supports the assertion that military forces are retained for other purposes. First, the Canadian defence industry directly benefits from participation in NATO. Second, the forces exist to support Canadian diplomacy. Canadian diplomacy, for McLin, revolves around the promotion of solidarity between the United States and Europe, the "bridge" or "interpreter" argument. The forces exist to support general influence within the alliances, again a spin off of the multilateral theme.

McLin's argument is compelling. The assertion, however, that there was no direct threat to Canada is not supported. Similarly, assuming that Canadian forces were merely dues for participation in NATO and NORAD disavows the real and effective contribution to the deterrence system made by those forces. This dissertation will argue that, though the forces did support Canadian diplomacy, the need for that diplomacy was mostly created by Canadian military participation in the alliances, which in turn was directly related to the Soviet threat.

Another American political scientist, John Warnock, develops a different perspective in his Partner to Behemoth: The Military Policy of a Satellite Canada (Toronto: New Press, 1970). Warnock, a self-professed revisionist in his perspective on American foreign policy, attempted to apply a similar approach to Canadian defence policy. American investment in Canada after the Second World War has, according to Warnock, distorted the

Canadian economy. American efforts to create defensive alliances to contain communism (both in a military and in an ideological sense) essentially co-opted Canadian economic, political, and military efforts for American purposes. In effect, Canada was forced into a subordinate position in the anti-communist crusade, and the nation is being economically exploited by the United States in pursuit of American ends. Consequently, Canadian reaction to American overtures in the defence policy field range from luke-warm to negative, since American policymakers arrogantly assume Canadian interests coincide with American interests and impose their view of the communist threat onto Canada's defence policy establishment. Warnock asserts that Canadian influence within the alliance systems is chimerical, possibly self-delusional. Canada has only as much influence as the United States' deems necessary at any time and nothing more. In a more sinister vein, Canada's political elite is complicit in the sham; even UN peacekeeping operations serve American interests. In sum, Canada is an American pawn and is an active collaborator at the highest levels.<sup>24</sup> The dissertation takes issue with all of Warnock's arguments.

To sum up, the primary attributes generally expressed in the existing body of literature dealing with Canadian foreign policy during the Cold War include the following:

- 1) Canada's strategic influence is either minimal or non-existent; Canadian action is constrained by its allies, not necessarily by its enemies.

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24. Warnock's sources include newspaper articles, government hearings in Canada and the United States, interviews, as well as reference to Eayrs's body of work.

- 2) The only way to influence larger allies is through Canadian diplomatic participation in alliance systems.
- 3) Great diplomats make great history.
- 4) Military considerations have little or no importance in relation to Canadian diplomatic efforts to secure her objectives since Canadian forces do not serve Canadian purposes.
- 5) The threat is either vague or irrelevant.
- 6) Canada's relationship with the United States is not as close as many believe, despite the geographical proximity.
- 7) Alternatively, Canada is duped or otherwise manipulated by the United States into serving purely American purposes.

Some positive steps, however, have been made to expand and extend the literature away from these constraints. Most are, however, the preserve of political scientists utilizing a non-historical format and methodology. In some cases, rigorous use of recently-opened primary sources has not been made.

Noting that there was a common perception in Canada that the Canadian-American defence relationship was too close for comfort, Brian Cuthbertson examined the effects of the apparent permanency on Canadian defence policy. Canadian Military Independence in the Age of the Superpowers (Toronto: Fitzhenry and Whiteside, 1977) argues that

Canadians have always been wary of close involvement in defence matters, a tradition extending back to the 1800's when another superpower was Canada's guardian. Unlike Canada's imperial relationship with Great Britain, the Canada-US relationship has been driven by what Cuthbertson calls the "continental imbalance."<sup>25</sup> This imbalance refers to the inequality in military strength dedicated to the defence of North America. Canada cannot meet the United States plane for plane, missile for missile, ship for ship. Cuthbertson maintains that the United States' quest for continental defence in the 1950's and 1960's increased the continental imbalance which aggravated the Canadian domestic political situation by appearing to impinge on Canadian sovereignty. This in turn blurred the distinction (in Canadian policymakers' minds) between continental defence requirements, overseas defence requirements, and naval requirements. Should NORAD be part of NATO? Should Canadian naval forces allocated to NATO SACLANT have a continental defence role under Canadian command? To what extent can military forces be utilized in exerting influence on the United States, and how should Canada go about it in the future?

Cuthbertson argues that the declining need for massive anti-bomber and anti-airborne defences actually altered the continental imbalance in favour of Canada in the continental relationship. If Canadian ships allocated to NATO SACLANT and Canadian forces allocated to NATO<sup>26</sup> are 'returned' to Canadian operational command, they could also be used to add weight to the balance in favour of Canada. Unlike other writers, Cuthbertson

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25. Brian Cuthbertson, Canadian Military Independence in the Age of the Superpowers (Toronto: Fitzhenry and Whiteside, 1977), p. 1.

26. At least, those earmarked for Norway as opposed to the Central Region.

examines the effects of internal revolutionary movements (like the *Front de libération du Québec*) on the Canada-U.S. relationship. If Canada did not make an effort to head off such destabilizing insurrection rapidly, Cuthbertson believes that the United States would have intervened and put paid to any concept of sovereignty. Thus, forces allocated to continental defence are actually more valuable pieces in the influence game than those dispersed abroad.

The only works so far dealing with the actual bureaucratic defence policy process in Canada are Douglas Bland's The Administration of Defence Policy in Canada, 1947-1985 (Kingston: Ronald P. Frye and Co., 1987) and Chiefs of Defence: Government and the Unified Command of the Canadian Armed Forces (Toronto: CISS, 1995). Bland, a former Army officer and a public policy specialist, has produced a tour de force detailing how Canadian defence policy was made and how this process changed since 1947. Though prescriptive in nature, these works provide the uninitiated with a step-by-step examination of the bureaucratic structures involved in the process, how and why they have been altered over time, and what the (detrimental) effects have been on actual defence policy and its implementation. Bland demonstrates how the military component of the defence policy process was systematically squeezed out of the process, with unelected bureaucrats replacing trained military leaders in providing advice to the elected political officials. He also describes the systematic dilution of the military ethic in the sense that soldiers have become bureaucrats in uniform. External Affairs has no place in Bland's process. The problems with the implementation of defence policy are inherent to the Department of National Defence bureaucracy and military leadership. If the Defence side of the house cannot articulate its requirements to other

departments and the political leadership, how can it expect to be an equal player in the creation of foreign policy?

A superb book dealing with defence policy process is Danford Middlemiss and Joel Sokolsky's Canadian Defence: Decisions and Determinants (Toronto: Harcourt, Brace, Janovich, 1989). The authors, both political scientists, argue that defence policy is made within the context of domestic and international constraints. Canadians on the whole (and many policymakers in particular) do not realize that Canada does have a significant degree of autonomy in making defence policy. It is a question, therefore, not of whether autonomy exists, but how it is exercised. People must realize that defence policy is the government's choice, not something that is imposed by outside forces, be they Soviet or American. Policy is, however, subject to constraints, and it is in the context how the government chooses to trade off and adjust to the domestic and political environment that defence policy is made and implemented. If we doubt that Canada has such choices, then we cannot believe that Canada is a sovereign nation, a belief that is not realistic today.

Sokolsky and Middlemiss, using historical case studies, examine the legacy of a flawed policy process (what they call the 'White Paper syndrome') and track the impact of three environments on policy making: the federal government environment (bureaucratic process), the external environment (operating within alliance systems and the nature of the threat), and the domestic environment (changing Canadian attitudes towards defence issues). Though this work is an overview, it takes into account the fact that there are multiple factors at play in the creation of defence policy, unlike the works which emphasize the great diplomats.

The ground-breaking narrative history The 1962 Cuban Missile Crisis: Canadian Involvement Reconsidered (Toronto: The Canadian Institute of Strategic Studies, 1993) was written by political scientist Peter T. Haydon. This work is based on extensive primary source research, both in Canada and in the United States. Haydon walks through the Canadian decisionmaking process while it was under the stress of the Cuban Missile Crisis and how the political decisions (if lack of a decision is in fact itself a decision) translated into military and diplomatic action. Canada's continental defence forces were structured in the 1950's to participate in a general war and possessed nuclear delivery systems and conventional forces. The Diefenbaker government's anti-nuclear and anti-American posturing before and during the crisis almost prevented Canadian participation in continental defence preparations, to the detriment of protecting the American nuclear deterrent. Canada's military forces, therefore, acted unilaterally by alerting themselves and conducting aggressive ASW and air defence operations. Diefenbaker's strict reliance on the 'letter of law' in defence agreements between Canada and the United States mad under the previous Liberal government caused a dramatic rift in Canadian-American relations, probably the worst in the twentieth century. The 'personalities' at External Affairs were unable to use their influence to solve this one and it took military action in the context of long-standing defence agreements to restore Canada's credibility and influence with the United States.

Joseph T. Jockel deconstructs earlier beliefs that the NORAD agreement was an American tool imposed on Canada to deprive her of sovereignty. In No Boundaries Upstairs: Canada, The United States and The Origins of North American Air Defence, 1945-1958 (Vancouver: UBC Press, 1987),

Jockel argues that, even though Canada placed her own continental forces under an American commander in wartime, this step was critical for legitimate operational reasons. It was also the culminating step in a ten-year process of fragmented air defence planning placed under pressure by the belief that a Soviet nuclear attack was imminent. This process, according to Jockel, was a symbiotic one between the USAF and RCAF working together, sometimes at odds with their respective foreign services: "If Canada were indeed an indentured labourer, perhaps the contract of servitude had been prepared for signature by the U.S. and Canadian air forces, if not actually signed by them."<sup>27</sup> The result was the NORAD agreement, signed by the Diefenbaker government in 1958 (Diefenbaker believed that he was blindsided by the Chiefs of Staff Committee and, along with problems over the Arrow, this caused the rift which culminated with the operational problems during the Cuban Missile Crisis).

This argument parallels Haydon's discussion of the Canadian forces and the Cuban Missile Crisis. In both studies we have examples of military activity uncoordinated with diplomatic activity. Once this situation is placed under the stress of a crisis, it breaks down and causes no end of problems between Canada and her allies. This argument runs counter to several prevalent ideas in the literature, most importantly the role of influence and the degree of American control over Canadian affairs. Perhaps the lack of influence is a consequence of Canadian decisions instead of encroaching Americanism, as Sokolsky and Middlemiss suggest. Be that as it may, Jockel successfully uses an array of new primary sources drawn from

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27. Joseph T. Jockel, No Boundaries Upstairs: Canada, The United States, and The Origins of North American Air Defence, 1945-1958 (Vancouver: UBC Press, 1987), p. 4.

Canadian and American archives and steers clear of 'great diplomats' meeting in smoke filled rooms.

There are two unpublished theses dealing with Canadian nuclear weapons. The most cited work dealing with Canadian nuclear policy (next to McLin) is Jocelyn M. Ghent's 1976 PhD dissertation, "Canadian-American Relations and the Nuclear Weapons Controversy, 1958-1963." (unpublished PhD Dissertation, University of Illinois, 1976, University Microfilms International Order Number 76-24,087). This work attempted to develop a theory of 'transnational relations' in which governmental bureaucratic entities (like the RCAF and USAF) deal with each other across borders without reference to elected policymakers. The theory is weak and not adequately developed in the dissertation. The work basically is reduced to utilizing interviews and open source material to examine the Kennedy-Diefenbaker personality conflict and its impact on Canadian-American relations before, during, and after the Cuban Missile Crisis. The other notable unpublished work is Robert Clark's 1983 MA thesis, "Canadian Weapons Acquisition: The Case of the BOMARC Missile" (unpublished MA thesis, The Royal Military College of Canada, 1983). Clark does a good job telling the story of the BOMARC system (relying somewhat on Ghent as well as some limited primary sources) but looks at the BOMARC situation in isolation from other precedents and delivery system acquisitions.

It is clear that compared to the literature on Canadian foreign policy, the defence policy literature has not progressed to examine many important areas. More is required. There is no systematic or detailed examination of Canadian strategy in the 1950-1970 period or the place of nuclear weapons in its implementation. The only work that examines the place of nuclear

weapons in Canadian planning is my own study War Without Battles: Canada's NATO Brigade in Germany, 1951-1993 (Toronto: McGraw-Hill Ryerson, 1997). This study is limited to the Canadian Army's land commitment to Europe during the Cold War. Canadian Shield will, therefore, fill the void by examining in detail the national security policy process, the place of nuclear weapons in that process, and how these policies were implemented between the years 1951 and 1972.

## Sources and Methods

Canadian Shield relies extensively on primary source information extracted from archives in Canada, the United States, and the United Kingdom. Many interviews were conducted with participants, though this became increasingly difficult because of age and unavailability. Secondary sources and memoirs were used if the data required were not available from primary sources.

The principal archives used in the study were the National Archives of Canada and the Department of National Defence's Directorate of History and Heritage (DGHIST) archive. A full listing is included in the bibliography. The single most important collection is the comprehensive Raymont Collection at DGHIST. Other archival material came from the Public Record Office, Kew, UK, and the US National Archives II at College Park, Maryland. Three American Presidential archives were used: These were the Dwight D. Eisenhower Abilene, Kansas; the John F. Kennedy Library, Boston, Massachusetts; and the Lyndon B. Johnson Library, Austin, Texas. The John G. Diefenbaker Centre at the University of Saskatchewan

was also utilized, as were the George Pearkes Papers at the University of Victoria.

Extensive and successful use was made of the Access to Information Act (ATI) in Canada and the Freedom of Information Act (FOIA) in the United States. Both processes, while imperfect in many ways, contributed significantly to the study. Special note should be made regarding the efforts of the National Security Archive in Washington D.C. to declassify information American nuclear weapons policy. This is an invaluable institution and in some ways was absolutely critical to the progress of the study.

### The Limits of the Study

It is a truism to state that no study can cover everything, and Canadian Shield is no exception.

The economic framework in the study is admittedly skeletal. We do not have a single-volume history or analysis of Canadian defence economic policy formulation during the period in question. I have elected to sketch the outline only in round figures and indulge in detail only when it was possible given the existing data.

As the reader will see, this study takes pains to examine the technical and operational aspects of the Canadian commitments in relation to strategy formulation. This approach may discourage readers not *au fait* with military affairs. It is my contention, however, that this information is of critical importance to the creation of Canadian national security policy and that the lack of understanding of it in certain policymaker quarters has

drastically affected policy in a negative way. This is not merely an *ex post facto* argument relating only to the 1951-1972 period. This problem is endemic to today's policymaking process in Canada since the latter is so much based on myths, half-truths, outright distortion, and incorrect historical interpretations. Indeed, as we have seen, Canadian historiography on national security policy is deficient because these matters have not been fully understood by historians as well as policymakers. No matter what decisions are made in Ottawa's smoke filled rooms, Canadian soldiers, sailors, and airmen still have to carry them out. Their ability to do so is therefore integral to the execution of policy. For those seeking to avoid these important details, I would suggest bypassing Chapters 4, 6, 13, and 14.

The study was never intended to nor could it be a full examination of American policy towards Canada and the place of this policy within the context of American Cold War policy. Though it does provide insight into this policy, this work is written unabashedly from a Canadian standpoint. A separate book will have to be written from an American perspective some day.

Some of the personalities, particularly Canadian military men, may not appear as 'round' as others. This is a direct result of the shocking lack of available personal papers and the proliferation of undocumented reputational rumours over the years. Since it is not the purpose of this study to engage in tabloid journalism, caution has been exercised in this area.

Finally, there are a number of conventions that non-Canadian readers should be aware of. Neither Prime Minister Louis St Laurent nor the ASW destroyer class of ships named after him have a period in his last name. There is no 'Administration' in Canada in the sense that there was a 'Kennedy Administration' in the United States: there is Government as in

"the Pearson Government." Canadians make use of -our constructions as  
in armour and -re constructions as in 'theatre' or 'centre.'

## CHAPTER I

### CANADIAN STRATEGIC POLICY TO 1951

#### Introduction

The purpose of Chapter 1 is to provide an overview so that the contextual origins of Canada's Cold War national security policy and the place of nuclear weapons within it can be understood. Practically all policy-oriented and operational themes diverge from this period and later converge during the 1960-63 nuclear weapons crisis. The 1945 to 1951 period was critical in several ways. First, the national security policy process which dominated Canadian decisionmaking for the next fifteen years was established. Second, Canada's primary long-term alliance commitments and the force structure to satisfy them were also established. These would also remain in place for the next 15 years. Third, the first major Canadian nuclear weapons policy decisions were also made: the lack of a decision for an independent Canadian nuclear weapons programme and the decision to allow the United States Air Force's Strategic Air Command (SAC) to operate from Goose Bay, Labrador. Finally, the two men who had the greatest impact on Canadian nuclear weapons policy rose to prominence within the decisionmaking process by 1951. These men were: Lieutenant General Charles Foulkes, Chief of the General Staff (CGS); and Lester B. "Mike" Pearson, initially Undersecretary of State and later Secretary of State for External Affairs.

All of these factors operated within the context of a changing Canadian national security policy. This context not only included the transition from

the Second World War to the Cold War. It also included a transition from the King Government to the St Laurent Government and that Government's mixed ability to come to grips with a series of Cold War crises which arrived in short order: Czechoslovakia, Berlin, the Soviet atomic bomb test, and the Korea conflict. Given the fact that this is an introductory overview, the focus will be on broad themes, and in some cases on the people involved rather than the minutiae of all policy decisions made between 1939 and 1951. In essence, this period demonstrated the influence of the three strategic traditions on Canadian national security policy in the early years of the Cold War and serves as a launching pad for a more detailed discussion of Canadian nuclearization.

### Canadian Strategic Policy in the Mackenzie King Era 1939-47

Canadian strategy in the immediate aftermath of the Second World War was as much a reaction against precedents established during that war as a response to the new Soviet threat. Consequently, the policies of William Lyon Mackenzie King, the Prime Minister of Canada during the Second World War and up to 1948, deserve examination.<sup>1</sup>

King's Canadian *Weltenshauung* as it developed in the 1930's revolved around the mutually profitable imperial economic relationship with Great

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1. In the Canadian system of government, the leader of the victorious political party in a national election (who must run in a riding and be elected as well) becomes Prime Minister. There were four major political parties in Canada during the 1930's and 1940's: The Liberal Party, The Conservative Party, Social Credit (right wing socialists from western Canada), and the Co-operative Commonwealth Federation (the socialists, later called the New Democratic Party or NDP). National parties also have provincial counterparts, and Quebec had a number of separatist and nationalist organizations. Mackenzie King was a Liberal.

Britain, one which involved little or no commitment from Canada save natural resources and services. King was thus reluctant to involve Canada in imperial defence schemes, fearing that such operations would utilize Canadian military forces as imperial levees. This view was derived from the advice of Sir John A. Macdonald, Canada's first Prime Minister from 1867 to 1873 and from 1878 to 1891, who had frequently cautioned that Britain should "not ask Canada for military contributions when there is no enemy in the field."<sup>2</sup> Oscar Douglas Skelton, Undersecretary of State in charge of Canada's fledgling Department of External Affairs, supported King's views. Under Skelton's leadership, the External Affairs organization in the 1930's mainly consisted of men who were interested in diplomacy but were uneducated in the complex interaction between national economic self-interests and national military power. The objective of this department prior to the war was not to develop foreign or defence policy, or to develop Canadian economic interests with an eye towards the world-wide expansion of Canadian trade. On the contrary, External Affairs' *raison d'être* was to maintain the cordial economic relationship with Great Britain and little else.<sup>3</sup>

The Second World War altered this arrangement. Mackenzie King quickly took control of External Affairs, which in effect doublehatted the Prime Minister as the External Affairs minister (Skelton died early in the

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2. C.P. Stacey, Canada And The Age Of Conflict Volume 2: 1921-1948 The Mackenzie King Era (Toronto: University Of Toronto Press, 1984) p. 207. Sir John A. was a Conservative.

3. External Affairs was formed in 1909 but it was not really a viable department until Skelton re-organized it in 1926. See John Hilliker, Canada's Department of External Affairs Volume I: The Early Years, 1909-1946 (Toronto: McGill-Queen's University Press, 1990), particularly Part One.

war). Though King had isolationist tendencies, his personal loyalty to Great Britain during this crisis was an overriding factor. By assuming control over External Affairs, he could contain the isolationist bureaucracy. Canada's Department of National Defence had been chafing for years under budgetary constraints and the lack of a role within the limited foreign policy framework.<sup>4</sup> Mackenzie King's willingness to explore the use of military force resulted in a more or less clearly defined Canadian strategic policy that eventually governed Canada's conduct of the war.

Canada fought the Second World War for nostalgic/cultural and economic reasons. The close ties that the Canadian political and economic elite felt existed between Canada and Great Britain, supported by a vocal majority of the population, cannot be considered insignificant. More importantly, however, Canada's economic self-interest was in full play. Europe was Canada's primary market, with the United States a distant second. It was also a secure market; British seapower guaranteed lines of communications, while the French army provided stability on the continent. If Nazi Germany took Europe and/or threatened the sea lines of communications to it, Canada had no fall-back position economically. If Britain fell, what was there between the victors and North America?<sup>5</sup>

Militarily, Canada was in poor shape at the start of the war. All three services were minuscule in size; little interaction existed between the Canadian services and those of the United States and only slightly more so with Great Britain. Formal liaison military missions and intelligence

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4. See James Eayrs, In Defence of Canada: From the Great War to the Great Depression (Toronto: University of Toronto Press, 1964).

5. Stacey, Canada And The Age Of Conflict, II, pp. 268-269.

exchanges between Canada and Great Britain did not exist. Given this state of affairs, Skelton believed that Canada should pursue a "limited liability" policy and contribute only air forces, air training and limited naval coastal forces. The successes of the Axis powers on all fronts between 1939 and 1941 negated this concept. Canada, Mackenzie King concluded, had to commit herself fully to the war in all respects.<sup>6</sup>

In doing so, a nation of 11 million people deployed six infantry and armoured divisions and 48 squadrons of aircraft (including 14 strategic bomber squadrons) to fight in Europe. Canada also contributed the West's third largest navy, which consisted of 400+ ships. Most of the fleet was dedicated to operations in the North Atlantic. Canada also contributed substantially to the British Commonwealth Air Training Plan and materially in the form of small arms, transport and armoured vehicles, aircraft and to a lesser extent, shipbuilding. Though Canadian forces operated in almost all theatres of war, the vast majority of the effort involved securing North America, securing the lines of communication to Europe, and conducting land and air operations in Europe proper. This European focus resonated with Canada's war aims, which were the destruction of Nazi Germany and the restoration of peace in Europe with its associated cordial and profitable economic relationship.<sup>7</sup>

The policy process was cumbersome. King did form a War Cabinet (which was a subset of the Cabinet), and it included the Prime Minister, the Under Secretary of State for External Affairs (since the Prime Minister held

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6. Ibid., p. 257.

7. These figures are drawn largely from C.P. Stacey's Arms, Men and Governments: The War Policies of Canada 1939-1945 (Toronto: The Queen's Printer, 1970), pp 64-66, 302.

the Ministerial portfolio), and the ministers for National Defence, Mines and Resources, Justice, Finance, Munitions and Supply, National Defence for Air, and National Defence for Naval Services. There was no strategic intelligence assessment mechanism to support the War Cabinet in its efforts; information generally came from American and British sources. Even though Canada contributed to the war in a disproportionate fashion, she did so really as part of the British Empire. Canadian forces operating in Europe were under British command and relied on the theatre coalition commands for intelligence and operational control. The only exception was the development of a Canadian-American-British naval control of shipping and a signals intelligence (SIGINT) matrix designed to support the Battle of the Atlantic, though Canada had some limited independent SIGINT capability. In only a handful of instances did the Canadian government intervene in theatre-level affairs. Canadian forces operating in North America remained under Canadian command but were closely coordinated with American forces through the medium of the Canada-US Permanent Joint Board on Defence (PJBD), an organization established in 1940.<sup>8</sup>

The net effect of the war on the strategic policy-making process was to decentralize military decisionmaking to the theatre level, while each minister responsible for each military service functioned as the service representative in the War Cabinet. The War Cabinet coordinated production with the military requirements furnished by the service ministers and provided overall coordination of the domestic war effort. Unfortunately, confusion reigned on certain issues, particularly the divisive conscription

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8. Stacey, Arms Men and Governments pp. 114-115; DGHIST, file 74/457, C.P. Stacey, "The Canadian-American Permanent Joint Board on Defence, 1940-1945."

issue in 1944; the cumulative effects reduced Canada's fighting efficiency to some degree and brought about a domestic political crisis.

The conscription crisis of 1944 is still a matter of historiographic contention in Canada. Basically, French Canadians were leery about fighting in a war which they viewed as designed to further the imperial aims of Great Britain. A number of Vichy agitators pushed this line. Canadian forces have been traditionally volunteer formations, but a confused personnel policy brought on by interservice rivalry reduced the number of replacements for the land forces drastically. Conscription was introduced by the Mackenzie King government but only with the political compromise that conscripted troops would be used in home defence and not deployed overseas. When the government reneged on this pledge, a serious domestic split developed which threatened to disrupt the Canadian war effort.<sup>9</sup>

King considered Canada's Second World War effort to be an anomaly, a once-off event. It was back to business as usual once Nazi Germany and Imperial Japan were defeated. The vast air and naval armadas were scrapped and the soldiers demobilized in rapid succession, leaving a single brigade and a handful of ships and air force squadrons. There was, however, one significant change that affected post-war Canadian policy. The possibility that Europe, including Great Britain, could be lost early in a war forced a more intimate relationship between Canada and the United States. The PJBD remained the mechanism for continental defence planning, but it also acted as a coordination mechanism for Canadian and

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9. Robert Bothwell, et al., Canada 1900-1945 (Toronto: University of Toronto Press, 1987) pp. 317-337.

American war production and technology transfer.<sup>10</sup> The creation and retention of the PJBD into the post-war period indicated that Canada would no longer focus exclusively on the relationship with Great Britain.

Events in 1946 conspired against King's vision of a return to the pre-war status quo. The use of the atomic bomb against Japan, though spectacular, took a back seat to the revelations of widespread Soviet espionage in Canada and the United States. Soviet cipher clerk Igor Gouzenko defected to Canada in 1945 and brought with him a vast amount of verifiable evidence that shocked officials in Canada, the United States, and Great Britain. King's attitude shifted ever so slightly away from his conception of the status quo, but he was unwilling to take any steps to reverse demobilization.<sup>11</sup>

There is, of course, the matter of the lack of an independent Canadian nuclear weapons programme. A number of observers have argued that there was a deliberate decision made by the King Government not to produce nuclear weapons and that this was a morality-based decision. These observers have linked this alleged decision to Mike Pearson's attempts to foster early UN arms control efforts in 1945-46. If we dispose of the argument that the lack of a decision is a decision nonetheless, a better possibility remains open to examination. It appears that the matter of independent nuclear weapons production in Canada was never seriously raised in the King cabinet or elsewhere outside the External Affairs bureaucracy at the time. If this is the case, then there could not have been

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10. See the introduction to Joel J. Sokolsky and Joseph T. Jockel(eds), Fifty Years of Canada-United States Defense Cooperation: The Road From Ogdensburg (Lewiston: The Edwin Mellen Press, 1992).

11. See Denis Smith, Diplomacy of Fear: Canada and the Cold War 1941-1948 (Toronto: University of Toronto Press, 1988), pp. 72-110.

an active, conscious decision not to produce them. The best reason was economic. Why should Canada spend massive amounts of money on an independent programme if she had the ability to profit from uranium sales to the United States while at the same time deriving protection from the Americans, who would spend money to be armed with nuclear weapons and the associated delivery systems? It should also be noted that the Canadian atomic energy research programme actually accelerated in 1945-1946.<sup>12</sup>

Even with the passage of the American 1946 McMahon Act, which prohibited nuclear weapons information sharing, Canada was still close to British efforts to build a weapon and could conceivably derive protection in any case. There was no perceived need in the late 1940s for an independent Canadian nuclear weapons programme, though as we will see the events of 1960-1963 could possibly have been avoided if there had been one. Though the written record is unclear, it appears as though the King Government was actually hedging its bets in case Canada did need a nuclear weapons programme. The need for an independent Canadian nuclear weapons programme was actively discussed in 1956 and will be examined in Chapter 4.

Canada did, however, join the United Nations in 1945. There was a great deal of hope amongst the new post-war leadership in External Affairs that the UN would become the final guarantor of peace and security. King had

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12. John W. Holmes, The Shaping of the Peace: Canada and the Search for World Order 1943-1957 2 Volumes (Toronto: University of Toronto Press, 1979), I, pp. 196-229; Andrew Richter, "Canadian Defence Policy in a Changing Global Environment, 1945-1952," The McNaughton Papers Winter 1995/96, Canadian Institute of Strategic Studies (hereafter CISS); James Eayrs, In Defence Of Canada: Peacemaking and Deterrence (Toronto: University of Toronto Press, 1972) pp. 258-319; Robert Bothwell and William Kilbourn, C.D. Howe: A Biography (Toronto: McClelland and Stewart, Ltd., 1979), pp. 212-214.

finally removed his External Affairs Minister "hat" and appointed Louis St Laurent to replace him. St Laurent had an extremely able second in command, Lester B. "Mike" Pearson.

The word most often used to describe Mike Pearson is "affable." Fellow Cabinet member Judy LaMarsh described Pearson in this fashion:

To know Mike Pearson a little was to love him--a little. To know him better was to be disappointed and disillusioned--the better, more disillusioned.... Pearson is easy to approach, humorous, self-deprecating, lovable. He has simple tastes, and dislikes formality and ostentation and bombast. Sometimes petulant and irritable, forgetful, child-like and not to be depended upon, his favourite word is 'flexible'. He will back off from any fight and seek a compromise. It isn't that he lacks courage, he just prefers to talk rather than fight.<sup>13</sup>

In addition to his outwardly pleasant demeanour, Pearson's trademarks were his bow tie and his slight lisp. He was born in 1897 at Newtonbrook, Ontario. The son of a Methodist minister, Pearson's background originally emphasized that "British loyalty, Canadian nationalism, and Methodist faith were stems of the same plant...." The future Prime Minister was a baseball enthusiast who also played hockey and football. During the First World War, Pearson served in a medical unit in Egypt and Salonika. He transferred to the Royal Flying Corps, where an instructor thought that "Lester" was "too sissified" and promptly dubbed him "Mike." Mike cracked up during flight training and was diagnosed with "neurasthenia," which appears to have been some variant of what we would today call critical incident stress disorder.<sup>14</sup>

13. Judy Lamarsh, Memoirs of a Bird in a Gilded Cage (Toronto: McClelland and Stewart Ltd, 1968), pp. 5-6.

14. John English, Shadow of Heaven: The Life of Lester Pearson (2 vols) (London: Vintage UK, 1989), I, pp. 2, 43-45.

His illusions about Empire somewhat muted after viewing war's detritus in the hospital unit, Pearson next attended Oxford in the 1920s and acquired his BA. He then went on to teach history at the University of Toronto, where he met O.D. Skelton. Along with Norman Robertson and others, Pearson was recruited into the new Department of External Affairs. His first assignment was to the Canadian delegation at the 1930 London Naval Conference. He returned to London in 1935 and served at the Canadian High Commission there throughout the early stages of the Second World War. In 1945 he became Canada's Ambassador to the United States.<sup>15</sup>

Together St Laurent and Pearson fashioned an agenda to ensure that traditionally isolationist Canada would remain "thoroughly and lastingly in the web of international organizations" and would thus contribute her fair share internationally to peace and security.<sup>16</sup> Unfortunately, the ability of the UN to function in this capacity was, St Laurent and Pearson believed, limited by four-power control and by dangerous Soviet actions in Greece and Iran. The inability of the UN to harness the atomic genie greatly concerned both men. By 1946, both were disillusioned with the UN and sought other security mechanisms that Canada could participate in.

While Pearson and St Laurent were exploring new horizons, King was shifting back into a more isolationist stance. This stance was, however, different from the defence posture taken in the 1930's. King believed that there was a Communist threat to Canada but he had not yet developed a more rigorous conception of it. Though he was extremely hesitant to get Canada involved overseas, King did believe that Canada should develop

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15. Ibid.

16. English, Shadow of Heaven, p. 321.

some contingency plans particularly in light of the fact that strategic bomber aircraft could carry more destructive payloads longer distances than in the 1930's. King, prompted by his defence minister, Brooke Claxton, altered the Canadian defence policy process to reflect this new thinking, and several new organizations emerged. (See Figure 1)

These changes included the creation of a permanent Cabinet Defence Committee and a Chiefs of Staff Committee late in 1945. Under the earlier system, the service chiefs reported directly to their respective minister, who in turn reported to the War Cabinet. Now, the service chiefs met together to sort out inter-service problems and then referred them to the Minister of National Defence, who in turn represented them in Cabinet in matters of lower priority.

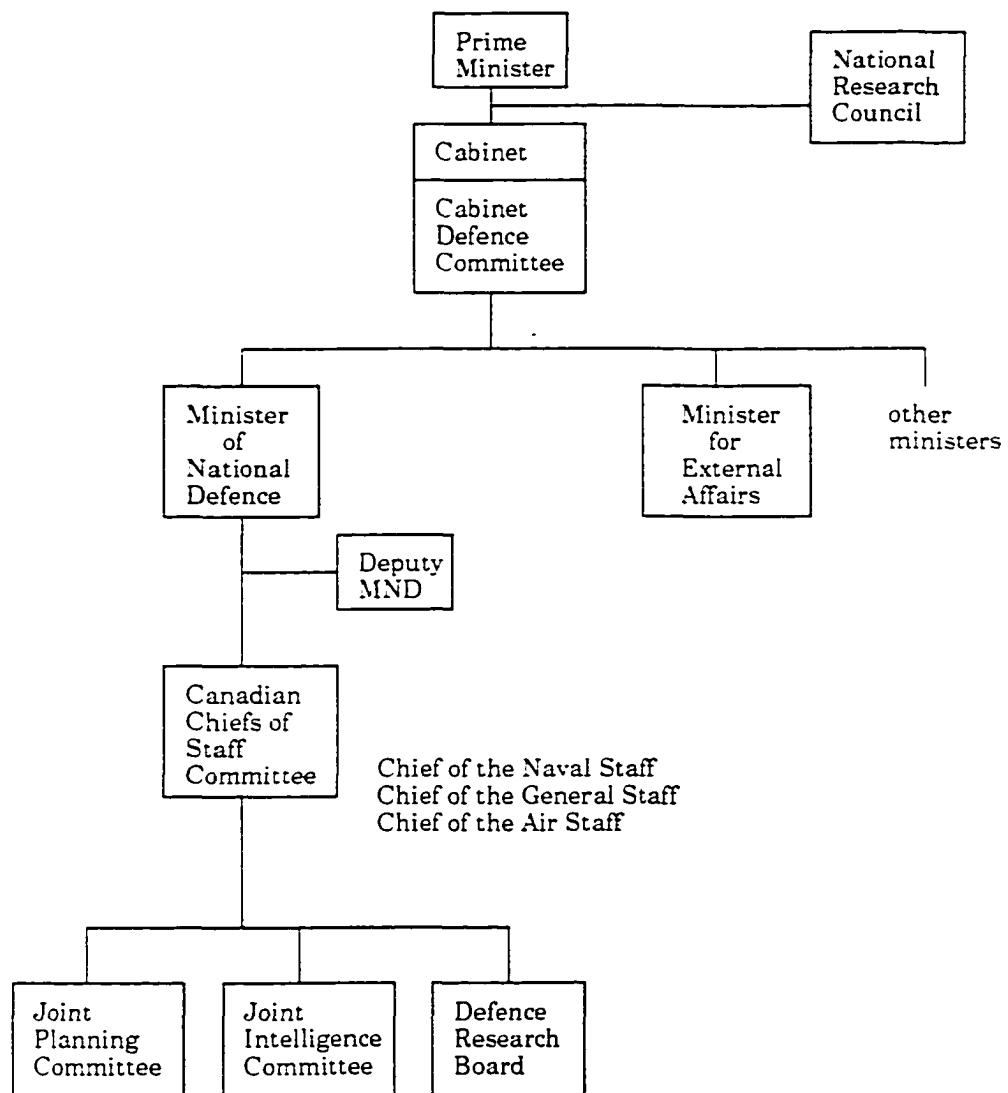
The Cabinet Defence Committee, which consisted of the ministers of National Defence, External Affairs, and Finance, the Chief of the Air Staff, the Chief of the General Staff , the Chief of the Naval Staff, and in many cases the Prime Minister, handled defence matters of a higher priority. The effect was to streamline the defence policy process and reduce the administrative burden from four bureaucracies to one.<sup>17</sup>

On the international front, King determined that the new Canadian-US relationship was useful for the development of post-war defence, since the

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17. Douglas Bland, The Administration of Defence Policy in Canada, 1947 to 1985 (Kingston: Ronald P. Frye and Company, Publishers, 1987) pp. 149, 151; David Jay bercuson, True Patriot: The Life of Brooke Claxton 1898-1960 (Toronto: University of Toronto Press, 1993) pp. 153-175.

Figure 1  
Canadian Strategic Policy Organization, 1945-1951



possibility that North America itself might be attacked directly had increased. One mechanism to do so was the already-established PJBD, a relationship which Canada participated in as an equal partner, not as a subordinate. During the war, the PJBD functioned as a semi-formal advisory body with no direct authority; it acted as a channel for an exchange of views so that Canada and the United States could arrive at a recommendation on joint defence issues which was reasonable to both parties. In the words of Brooke Claxton, Canada's Minister of National Defence from 1946 to 1954, "It had no public functions, no dinners, no press relations and no leaks."<sup>18</sup> The PJBD consisted of a Canadian Section from External Affairs and a US Section from the State Department. The country hosting the particular meeting chaired the sessions. Military coordination during the war was handled directly through the Canadian Joint Staff Mission in Washington and the US Joint Chiefs of Staff.<sup>19</sup>

This changed in 1946. The PJBD retained its advisory character at the foreign policy and defence production level, but connections at the military level changed dramatically with the formation of the Military Cooperation Committee or PJBD/MCC in May 1946. The MCC was the direct link between the Canadian Chiefs of Staff Committee (COSC) and the US Joint Chiefs of Staff (JCS). By this time, the COSC had formed a Joint Planning Committee (JPC), which was the equivalent of the US JCS Joint Strategic Plans Committee (JSPC), and a Joint Intelligence Committee, which

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18. National Archives of Canada [hereafter NAC] MG 32 (B5) Brooke Claxton Papers, unpublished, untitled memoir, pp. 941.

19. Director General, History [hereafter DGHISTI], 82/820, "A Brief History of the Canada-United States Permanent Joint Board on Defence, 1940-1960;" NAC MG 30, vol. 288 file 1-8-1, 14 Dec 45, "Memorandum on Continued Collaboration between U.S. and Canada".

mirrored the US JCS JIC. Canadian and American members met regularly in MCC Subcommittee sessions, which were dedicated to completing a joint intelligence appreciation of the threat to North America and a Canada-US Basic Security Plan (CUSBSP) to react to the threat. Theoretically subordinate to the PJBD, the MCC relationship took on a life of its own separate from the foreign policy level as the late 1940's progressed.<sup>20</sup>

Canadian military strength had by 1946 been whittled away, scrapped, and mothballed. Only those forces committed under the CUSBSP remained. This commitment included an airportable brigade group with its air transport capability; the RCN deployed one light carrier, one cruiser, three destroyers, three frigates, and three minesweepers; and the RCAF had four fighter, two light bomber and one maritime patrol squadrons. The strategic bombers were scrapped or modified into maritime patrol aircraft.

Equipment and ships built during the Second World War were in the main "mothballed" if they were current as of 1945. Mobilization planning for a replay of the Second World War continued to be the primary activity of the service staffs between 1945 and 1948; conscription in peacetime did not receive consideration because of the political problems encountered during the war.<sup>21</sup>

To sum up: by late 1947 there was a curious mix of isolationism and internationalism within the Canadian foreign policy establishment. King had some pro-British sentiment but was wary of firm, long-term

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20. NAC RG 24 vol 21287 csc 1652:1 Pt 1., 29 Nov 46, CoSC JPC "Progress Report No. 1" plus organizational diagram.

21. NAC RG 24 acc83-84/167 vol 8067 NSTS 11270-15-1 vol1, 11 Dec 47, memo to the Canadian Section, MCC, "Implementation Measures, Canada-US Basic Security Plan;" RG 24 TS 1272-20 vol 3 1007, "Canada-US Basic Security Emergency Defence Plan MCC 100/12: 1951 Corrigendum."

involvement overseas, while his new foreign policy advisors projected a wider view of Canada's place in the post-war world. This state of affairs was personality-driven as much as anything. On the military front, the services were emasculated after the war but found themselves involved in what amounted to a close military alliance with the United States. This state of affairs was driven by the precedent established during the war and by King's forward, if blurred, belief that there was a threat "out there." The events of 1948 would, however, alter Canadian strategic policy in ways King could never have foreseen; a chasm would develop between Canadian strategy and Canadian force structure.

### The Transition from King to St Laurent

King stepped down as Prime Minister and "Uncle Louis" St Laurent became Canada's Prime Minister in 1948 . St Laurent, a Roman Catholic from the province of Quebec, harboured little nostalgia for the pre-war imperial relationship between Canada and Great Britain. Not that St Laurent was anti-British; he just held a larger view of Canada's place in the world. St Laurent's faithful subordinate in External Affairs, Mike Pearson, "politicized" himself, was duly elected to Parliament and became Secretary of State for External Affairs.<sup>22</sup> The other members of the Cabinet did not change, nor did the service chiefs.

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22. Unlike the American system, members of the Cabinet in Canada must be drawn from elected Members of Parliament. There are no complicated and political confirmation hearings.

St Laurent's leadership style could be described as "hands off" and decentralized. The problems in national unity brought on by the 1944 conscription crisis dictated that a closer watch be kept on the domestic political scene. St Laurent, as a French Canadian, was the perfect man for this role. He had able ministers in Pearson (External Affairs), Brooke Claxton (Defence), C.D. Howe (Defence Production), and others; St Laurent coordinated their efforts at the Cabinet Defence Committee level.<sup>23</sup>

This hands off attitude, as well as Pearson's tendency to make decisions on his own without developing a consensus with his staff and colleagues, allowed Pearson to implement the agenda that he had developed with St Laurent during the Mackenzie King period. Pearson firmly believed that sovereignty was not enough; Canada had international responsibilities as well as international interests. Now that Great Britain had declined as a major power and the imperial bond was weakened by the war, Canada was in a position to do one of three things: Canada could remain in the imperial sphere (the Commonwealth of Nations in the post-war period); Canada could shift into a significantly closer economic relationship with the United States; or Canada could develop some modicum of independence in world affairs.<sup>24</sup>

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23. For an extended discussion of St Laurent's role in domestic politics, see Dale C. Thomson, Louis St Laurent, Canadian (Toronto: MacMillan of Canada, 1967) pp. 202-273. This book is notable for its complete lack of discussion on foreign policy and defence issues. One archivist at the NAC explained to me that the author worked from St. Laurent's personal papers. These papers had all references to defence matters removed from them before they were passed on. Other sources on issues such as Korea and NATO could have been used for the biography but were not for some reason. The result is a very incomplete portrait of a fascinating individual and a historiography which reflects Pearson's contribution more than St Laurent's in the foreign policy field.

24. George Ignatieff, The Making of a Peacemaker: The Memoirs of George Ignatieff (Toronto: University of Toronto Press, 1985), p. 110.

Pearson selected the third, believing that the old imperial relationship was bad not only domestically but stifled Canada economically, and that there was "the need to ensure our survival as a separate state against powerful, if friendly, social and economic pressures from our American neighbour."<sup>25</sup>

In this light and based on wartime experience, Pearson formulated several Canadian foreign policy objectives:

- 1) National Unity
- 2) Political Liberty
- 3) The rule of law in international affairs
- 4) The values of Christian civilization
- 5) The acceptance of international responsibilities in keeping with our conception of our role in world affairs.<sup>26</sup>

The means to achieve these ends included Canadian representation in the UN and in the Commonwealth of Nations, direct and equal relationships with France, Britain and the United States and eventually membership in the North Atlantic Treaty Organization (NATO). Canada, Pearson reasoned, was now in a new position of strength and influence in world affairs; retreating into isolationism would in effect throw away all the gains made in the Second World War.

Translating this agenda into action was not unmanageable when it came to diplomatic forums like the UN or the Commonwealth. The agenda fell down in the area of military policy. Pearson did not make allowance for the problems of coordinating a new foreign policy with a new military policy

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25. Lester B. Pearson, Mike: The Memoirs of the Rt. Hon. Lester B. Pearson (2 vols) (Toronto: University of Toronto Press, 1973) II, p. 25.

26. Ibid., p. 26.

agenda to support it, nor did Claxton attempt any such coordination from his end of the spectrum. As we will see, contradictions developed.

The Czech crisis of 1948 brought into much sharper focus the military threat to Canada and her allies. Work on the Canada-US Basic Security Plan under the auspices of the PJBD/MCC accelerated, the two countries forged a stronger intelligence relationship and a closer tripartite relationship among the military leadership of Canada, the United States and Great Britain emerged.

The PJBD/MCC relationship had by 1948 progressed beyond functioning as a coordinating agency for Canada-US continental defence planning. Certainly the CUSBSP was an accomplishment, as it was a comprehensive plan to defend North America from naval, land, and air threats, and this itself was significant as it had an impact by committing Canadian forces and resources. The real importance of the PJBD/MCC for Canadian strategic policy was the insight that the PJBD/MCC provided into American strategic thinking, and it provided Canadian planners strategic intelligence.<sup>27</sup>

The CUSBSP was not a static plan; it was regularly updated as new intelligence flowed in and new weapons systems were deployed. The intelligence flow into the PJBD/MCC to support it came from both Canadian and US sources. Canada's lack of a strategic intelligence assessment body

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27. NAC RG 24 vol 21287 csc 1652:1 Pt 12, (n/d) Memo to the Cabinet Defence Committee: Canada-U.S. Basic Security Plan Implementation Programme-Fiscal Year 1948-49; 17 Oct 52, "Report by the U.S. Section, Canada-U.S. MCC to the Canadian Section: Analysis of Functions of the Canada-U.S. Military Cooperation Committee." The CUSBSP was comprehensive and included annexes for air intercept and warning, meteorological planning, air photography, hydrography, mapping and charting of the whole continent, air navigation aids, strategic information, strategic air reconnaissance, anti-aircraft defences, protection of SLOC's, mobile striking forces, signals communications, and command relationships.

during the war had not limited her ability to possess intelligence collection mechanisms. These mechanisms had languished, however, until they were refurbished in 1948. The PJBD/MCC intelligence subcommittee (which included members from the Canadian Joint Intelligence Committee and the American Joint Intelligence Committee) used both nations' intelligence flow to produce the Agreed Canadian-American Intelligence estimate (ACAI), which was then used to generate changes to the CUSBSP. The link also functioned as an exchange of other intelligence information unrelated to the production of the plan. To produce an effective plan, the US JCS had to reveal to the Canadian Chiefs of Staff Committee where the CUSBSP fit within the larger context of American global strategy.<sup>28</sup> On the other side of the coin, however:

In the assessment of the threat, Canada is dependent upon the United States for virtually all principal intelligence estimates. The Canadian contribution is limited to the analysis and assessment of the information and to collaboration in a joint estimate of the threat. The joint estimate has always been a compromise and has not always been accurate. As a result, it has been necessary for Canada to make considerable change and expensive adjustment to its contributions to continental defence.<sup>29</sup>

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28. For example, see NAC RG 24 vol 21287 csc 1652:1 Pt 3, 24 Jun 49, ACAI 5/2, "Probable Courses of Action Against Canada, the United States and areas Adjacent thereto, 1 Jan 1957." One plan from the U.S. JCS PINCHER series, DEERLAND, and portions of it resemble the CUSBSP. See The JCS 1946-53 Part 2: The JCS and the Soviet Union (University Publications of America, microfilm), 30 Sep 47, JWPC, "Strategic Study of the Northeastern Approaches to the North American Continent, Short Title: DEERLAND." See also DGHIST 112.3M2(D125), 26 Nov 46, memo from DCGS(A), "Defence Policy: General Considerations: Joint Planning with the United States."

29. Charles Foulkes, "The Complications of Continental Defence," in Livingston Merchant (ed.) Neighbors Taken For Granted: Canada and the United States (New York: Frederick Praeger, Publishers, 1966) pp. 101-133.

The lack of an intelligence coordinating body in Canada was noted and rectified by early 1948. As Brooke Claxton noted in his memoirs: "The flow of intelligence from friendly countries as well as from our missions and representative abroad was so large that it required a considerable organization of well informed people to see that the information went to the right people."<sup>30</sup>

Three special organizations were set up to handle this. The Defence Research Board (DRB), consisting of the Chiefs of Staff of the three services, the President of the National Research Council, the Deputy Minister of National Defence, and at least six of Canada's more prominent scientists, functioned under the Canadian Chiefs of Staff Committee as though it were an equal but separate armed service. DRB, led by Dr. O.M. Solandt (whom we will meet in more detail in Chapter 3) possessed the Joint Intelligence Board (JIB). Unlike the COSC's JIC, JIB's purpose was to coordinate scientific intelligence and provide a link between the armed services and the scientific elements in Canada supporting the defence effort. The other organization was the Communications Branch of the National Research Council (NRC). The NRC was essentially a RAND Corporation, a National Security Agency, and an Atomic Energy Commission combined; it was an advisory body to the Prime Minister. The Communications Branch, along with the signals organizations from the armed services collected and collated SIGINT. External Affairs also had a small economic intelligence unit and a member from External Affairs sat in on DRB meetings. The

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30. NAC MG 32 (B5), Claxton Papers, unpublished, untitled memoir, p. 825.

degree and quality of intelligence passed on to External Affairs and other government departments in the early part of the 1950s is still classified.<sup>31</sup>

The increased tension with the Soviet Union in 1948 also produced the American-British-Canadian or ABC relationship. Unlike other security arrangements, the ABC (also called the Tripartite) relationship was a less concrete conglomeration of connections established in the immediate post-war among Canada, the United States, and Great Britain. There was no overall frame work to this relationship in the sense that of the PJBD or NATO had a framework. Instead, the ABC relationship consisted of several standardization committees, intelligence sharing arrangements, and attempts to coordinate Canadian, American and British global strategic planning.

There was really little or no overall political control exercised over the ABC bodies. The standardization committees, which derived from war-time experience, sought to standardize communications, codes and ciphers, ammunition calibres, and perhaps most importantly screw threads. These matters were mundane technical things that the Cabinet level leadership did not really want to know, let alone need to know. However, these standardization connections grew to encompass other areas of military cooperation.

The most famous tripartite project was the creation of the atomic bomb during the war. Even though restrictive American legislation prevented the development of an ABC nuclear relationship in the 1940's, this did not apply to other weapons of mass destruction. All three parties had separate (and

31. Ibid., pp. 823, 825-826, 978-979; see also John Bryden, Best Kept Secret: Canadian Secret Intelligence in the Second World War (Toronto: Lester Publishing, 1993) pp. 264-312; R. MacGregor Dawson, The Government of Canada (Toronto: University of Toronto Press, 1952) p. 290. The Joint Intelligence Committee files remain closed.

thus expensive) chemical and biological weapons programmes. If each party had something to contribute to the other members, there was no reason why standardization should not encompass chemical and biological weapons.<sup>32</sup> It took little effort for Dr. Solandt to convince Brooke Claxton that this would be a beneficial relationship: "The chiefs and Dr. Solandt persuaded me that this was a big league and that in order to obtain the advantages of membership, including the exchange of information, it was necessary that Canada should make a proper contribution. In other words, we should have some secrets to trade."<sup>33</sup> This discussion was instrumental in the developing Canadian quest for nuclear weapons effects information which is discussed in detail in Chapter Three.

The ABC relationship was not referred to Cabinet for discussion and decision, nor were the intelligence sharing arrangements that were developed in 1947/1948 among Canada, the United States, and Great Britain (Australia and New Zealand joined later). These arrangements assigned SIGINT areas of responsibility to each of the participating nations. The information gathered was then disseminated amongst the members to their respective SIGINT intelligence organizations for further dissemination within the defence policy structure of each country. Like the

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32. John Bryden, Deadly Allies: Canada's Secret War 1937-1947 (Toronto: Maclelland and Stewart, 1989) pp. 201-226. This book was almost not published because the NAC released ABC material to the author; the British subsequently complained that Canada had broken the policy of three-nation release of the information that was part of the ABC agreement on BW/CW.

33. Claxton memoir, p. 964.

standardization committees, these were direct service-to-service connections.<sup>34</sup>

The increase in Cold War tension also drew together the ABC countries' planning staffs, specifically the Canadian Joint Planning Committee (JPC), the American Joint Strategic Planning Committee (JSPC), and the British Joint Planning Staff (also JPS). There was opposition from King in the waning days of his government probably because he was concerned about Canada's apparent inability to influence how her forces would be used in a future war. Nevertheless, combined planning among the staffs flourished. Guidance for the planning staffs, as established among General Charles Foulkes (Canadian Chief of the General Staff), Field Marshal Bernard Law Montgomery, Viscount Montgomery of Alamein (Chief of the Imperial General Staff), and General Omar Bradley (Chief of Staff US Army and later Chairman of the JCS), focused on the possibility that there would be a war between the Soviet Union and the West. As such, the three staffs were to exchange intelligence and formulate plans for the conduct of such a war.<sup>35</sup>

Initially meeting on a purely informal basis and without consulting the foreign policy organizations of their respective countries, the planning staffs sought to coordinate and reconcile national conceptions of how a global war would be fought. Matters like command and control, areas of responsibility, and logistics planning were discussed on a number of

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34. Jeffrey T. Richelson and Desmond Ball, The Ties That Bind: Intelligence Cooperation Between the UKUSA Countries (Boston: Allen and Unwin, 1985) pp. 1-9.

35. DGHIST, Charles Foulkes Papers (Raymont Collection Series VI), 24 Jun 69, Paper given by Foulkes at National Defence College, "The Evolution of Canadian Defence Policy," pp. 12-14.

occasions. Each planning staff sent a monthly list of current projects to the other two planning staffs for information purposes. Eventually, joint strategic concepts were formulated even though the specifics of the American strategic bombing campaign against the Soviet Union were watered down or omitted. The penultimate ABC strategic concept, completed in the summer/fall of 1948, which formed the basis for NATO's first strategic concept MC 14, was called DOUBLESTAR by the Americans, SPEEDWAY by the British, and BULLMOOSE by the Canadians. Canadian military commitments did not change at this point from those established under the CUSBSP.<sup>36</sup>

Canadian political oversight over combined strategic planning became more tightly controlled than the standardization or intelligence areas. Brooke Claxton noted in retrospect that planners, in their enthusiasm, overstepped the real capabilities of the nation:

The great danger of planning activities of this kind is that the planners live and work without regard for the facts of national life. Unless they are very closely supervised they are apt to draw up plans that are utterly unrealistic and impossible of fulfillment...the final decision must be made under our system by the government or minister acting within a framework of governmental policy....General Foulkes [the Chief of the General Staff] and I found that the planners were getting out of hand....<sup>37</sup>

In 1949, Canadian JPC planners almost committed Canada to sending two divisions to the Middle East in the event of war. There was no

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36. DGHIST 193.013 D8, files of the JPC. See for example, 14 Jun 52, "UK JPS Work Projects". There are a large number of such exchanges in the JPC files. See Sean M. Maloney, Securing Command of the Sea: NATO Naval Planning 1948-1954 (Annapolis: Naval Institute Press, 1995), pp. 86-137.

37. Claxton memoir, p. 959.

supporting mobilization or logistical plan, let alone any discussion of the strategic policy implications for the Canadian war effort.<sup>38</sup>

While these connections were being formed without reference to the Canadian strategic policy framework as established by Pearson, Pearson himself was keeping the Department of National Defence and the military services out of the loop. Moves towards the creation of a collective security organization in Europe were well known to External Affairs, who were kept informed by the British Foreign Office. Consultations between St Laurent and Clement Attlee, the British Prime Minister, had also raised the possibility of an "Atlantic Security System" to include Canada and the United States. The establishment of the Brussels Treaty Organization (also called the Brussels Pact or Western Union Defence Organization) in March 1948 prompted Pearson to explore the Atlantic idea further. The steps by which NATO was formed are too complex to be included here; suffice it to say, Pearson did not want the Canadian military organizations involved in the discussions initially. Eventually WUDO formally invited Canadian Chief of the General Staff Charles Foulkes to London to participate in WUDO defence discussions in September 1948.<sup>39</sup>

Pearson's agenda, in keeping with his previously established foreign policy aims, was to maintain world peace and security and to have Canada play a role in doing so. He did not like bi-lateral or tri-lateral organizations with larger allies. This, he believed, limited Canadian influence. How could Canada achieve her aims while maintaining her independence? Four-

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38. Public Record Office, Kew [hereafter PRO] DEFE 6/11, 14 Oct 49, British JPS, "JPS and ABC Meeting."

39. Pearson, Mike, II, p. 43; NAC RG 2 18 vol 60 C-10-9-M, 14 Sep 48, "Record of Discussions at 46th Meeting of the Cabinet Defence Committee."

power bickering had destroyed the UN's ability to perform the mission. An Atlantic Pact including the non-Communist countries in Europe, Canada, and the United States was the answer.<sup>40</sup>

Pearson, however, saw an Atlantic Pact as something greater than a military alliance. Again, this was another aspect to the counterbalance idea. Clearly, the smaller nations could not compete with the Americans and British in terms of military forces; to use a paraphrase, "he who has the weapons makes the rules." If other non-military aspects were incorporated into the Atlantic Pact, it would strengthen connections among the smaller nations and force a more conciliatory line in coalition relations. Interestingly, this plan also served a Canadian purpose, that of national unity. Quebec could now no longer use the old "its an imperial war and we won't play" excuse to not contribute to any military effort if it was required.<sup>41</sup> These were some of the issues at stake in Canada's decision to assist in forming NATO. What Pearson did not understand was the link between deployed Canadian military forces and the credibility necessary ability to counterbalance the American preponderance of influence within an alliance. Membership was not enough.

The events surrounding the First Berlin Crisis of 1948-1949 do not concern us here in detail. It was a catalyst for the creation of the North Atlantic Treaty Organization, of which Canada became a charter member. In its wake Canada did, however, exert a great deal of influence over the early NATO civil and military structures. The concept of NATO as more

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40. John English, The Worldly Years: The Life of Lester B. Pearson 1949-1972 (Toronto: Random House of Canada, 1993) pp. 13-15.

41. Pearson, Mike, II, pp. 55-56.

than a military alliance was the subject of great debate; the United States and Britain initially were skeptical since it might dilute their already overwhelming influence. Non-military aspects of NATO were, however, included as Article 2 of the North Atlantic Treaty. This was somewhat of a victory for Pearson but the overriding concern for the military security of Western Europe took priority over such things.<sup>42</sup>

### Disconnection

The differences between King's strategic policy and Pearson's strategic outlook were marked. King's post-war continentalism had a limited objective (the security of continental Canada) and a limited military force structure to support it (the CUSBSP commitments). Pearson created a new and far-reaching international foreign policy but for a number of reasons, a congruent military policy, and force structure were not developed to support it. This posed problems for Canada when she was asked to 'ante up' and contribute military forces for NATO and for the Korean War. Why was this so? There were the familiar political reasons involving Quebec and conscription which plagued Canada during both world wars, as well as economic reasons. More importantly, however, there was no real understanding within External Affairs for the detailed integration of military structure and foreign policy goals, nor did the military leadership push for the development of such a structure. At this point (1947-1949), the three services reported to the Minister of National Defence and could not

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42. Eayrs, In Defence of Canada: Growing Up Allied, pp. 68-189; see also Reid, Time of Fear and Hope.

present a unified front. Brooke Claxton was in the process of reorganizing the department, dealing with several mutinies in the Royal Canadian Navy, and fending off criticism in the press which focused on the dilapidated state of the armed forces, a state which he was partially responsible for generating.<sup>43</sup>

The Canadian defence policy-making process had not really changed by 1949. The Cabinet Defence Committee still was the main forum whereby Pearson and External Affairs representatives met with Claxton and the service chiefs. The main preoccupation of the CDC in 1949 revolved around the political and military organization of NATO and where Canada fit into it. There was little discussion of developing a Canadian military force structure for NATO despite the fact that that was the next logical step. Most discussion focused on continental defence measures.<sup>44</sup>

World events, however, stimulated further reactive changes in Canadian military commitments. The explosion of the first Soviet atomic bomb late in 1949 and the invasion of the Republic of Korea in 1950 shook Canadian policymakers out of their complacency. A crisis mentality developed not only in Ottawa but throughout the country. The first item on the Cabinet Defence Committee agenda for the next three years was "Imminence of War." Detailed intelligence analyses on Communist global strategy were commissioned and presented. The media also added to the crisis atmosphere. After the Chinese intervention, Maclean's (the national newsmagazine) displayed on its cover a Bulletin of the Atomic Scientists-

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43. David Jay Bercuson, True Patriot: The Life of Brooke Claxton 1898-1960 (Toronto: University of Toronto Press, 1993) pp. 153-175.

44. See for example, NAC RG2 box 244 C-10-9-M Cabinet Defence Committee Minutes, 18 May 49 to 22 Dec 49.

like globe with clock arms indicating five minutes to midnight. It was within this context that the lack of a force structure to demonstrate Canada's contribution to collective security almost torpedoed Pearson's plan for Canada's place in the world.<sup>45</sup>

The St Laurent Government's approach to the Korean problem was ad hoc. The majority of Canada's foreign policy connections were with Europe, not Asia. Canada had little economic interest in Asia. The North Korean attack was itself a surprise to Canadian policymakers, as was the immediate US military commitment to the region. Once it was clear that the collective defence of the Republic of Korea was under UN auspices, St Laurent indicated publicly that Canada would participate in defensive measures under a UN-designated commander. Only after the United States announced a huge defence build-up did St Laurent authorize and announce the dispatch of three RCN destroyers and two RCAF transport squadrons to support the UN effort. These forces were allocated to the defence of North America under the CUSBSP and as such Canada reneged somewhat on this commitment.<sup>46</sup>

While the destroyers HMCS Cayuga, Athabaskan, and Sioux steamed for Korea and RCAF North Star aircraft carried American soldiers to Japan, Canada was castigated by the US press for sending a token force. There was literally nothing else to send, however. The force structure authorized by Mackenzie King was geared towards continental defence and there had been no provision made for expansion by the St Laurent

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45. NAC RG 2 series 18 vol 243 C-10-9-D, 18 July 1950, JIC "The Imminence of War;" "Crisis 1951: A Maclean's World Report," Maclean's, February 1951.

46. Herbert Fairlie Wood Strange Battleground: The Official History of the Canadian Army in Korea (Ottawa: Queen's Printer, 1966) pp. 12-13.

government between 1948 and 1950. In an attempt to stave off American pressure to do more, the Canadian Ambassador to the United States met with members from the US State Department. A memo to US Secretary of State Dean Acheson from a subordinate reveals the lack of Canadian preparedness for Korea:

I had heard that the real reason for his coming to see you and the President might be to ask that we not push the Canadians around quite so hard, particularly with respect to urging them to send ground forces to Korea....He did not raise this subject with me but I myself took the initiative in asking him about the Canadian reaction. He said he felt that the Canadian government was embarrassed at being backward in getting troops to Korea and realized that they were behind Canadian public opinion in this....St Laurent and External Affairs Minister Pearson were fully aware that much needed to be done. With regard to our pressure on the Canadians, Mr. [Stanley]Woodward [US Ambassador to Canada] went no further than to say that he thought we had been right in bringing the matter urgently to their attention...in his opinion, we should leave them for the time being to work the matter out for themselves....<sup>47</sup>

Behind the scenes, General Foulkes, the Chief of the General Staff, was in contact with his American and British counterparts. Eventually, through British channels, the concept of a Commonwealth Division consisting of Canadian, British, Australian, and New Zealand troops was passed on to the Canadian Defence Committee via the Canadian Chiefs of Staff Committee. Since there had been no formal request made of Canada by the UN to send ground forces, the idea was placed in suspended animation.<sup>48</sup>

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47. USNARA RG 59 box 2773, 611.42/8-2150, 21 Aug 50, memo to Acheson from Bonbright , "Appointment with Ambassador Woodward."

48.Ibid., p. 20; NAC RG 2 section 18 C-10-9-M, Cabinet Defence Committee, 65th Meeting, 19 Jul 50.

Prodding by Canadian public opinion expressed through the press, the joint UK-Australian-New Zealand announcement of a Commonwealth Division, and an official US request for a Canadian brigade group finally forced the policymakers to implement a land force commitment to Korea. Pearson had to announce publicly that:

Canadian defence policy, therefore, until June of this year [1950], had been based on the concept of providing a small, highly-skilled regular army, charged with the responsibility of doing its immediate share of North American defence, especially in the Arctic, and designed to be capable of rapid expansion in the event of a general war which might require Canada to be defended outside of Canada. The furnishing to the United Nations on short notice of expeditionary forces capable of quick deployment to distant areas had not entered our planning....<sup>49</sup>

The existing brigade group, the Mobile Striking Force, could not be deployed, since such a move ran counter to the CUSBSP commitments which had already been depleted in other ways. There was no peacetime mobilization plan; everything was geared to supporting a long war with adequate build-up time. As a result, one battalion from the MSF was sent to Korea while 25 Canadian Infantry Brigade and its replacement brigade were raised. The raising of 25 CIB was a fiasco. 25 CIB was not drawn from the Militia or from the regular army; it was recruited off the street and consisted of a mixture of veterans and young adventurers. Though 25 CIB fought with distinction in Korea, the chaotic recruiting plan netted several amputees, a number of criminals, and even a man blind in one eye. It took some time to weed out and build up 25 CIB, much longer than had been

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49. Wood, Strange Battleground, pp. 23-24.

anticipated. The process, from recruiting to deployment, took 10 months (July 1950 to April 1951).<sup>50</sup>

If the Korean commitment was an example of reactive force structuring, the commitment of Canadian forces to NATO's central region was a bureaucratic mistake. The original NATO military organization was established by December 1949. It was the product of a compromise between US and British positions and a Canadian proposal fielded by General Charles Foulkes. Essentially, the North Atlantic Area was divided into a number of geographical Regional Planning Groups. NATO nations from the specific regional areas participated in the creation of a regional force structure and emergency defence plan. These regional defence plans were coordinated by the Military Committee (a NATO body consisting of the Chiefs of Staff from each NATO country and an integrated staff) and an Anglo-American-French body called the Standing Group. Under the guidance of the Cabinet Defence Committee, Canada committed military forces to the Canada-US Regional Planning Group (CUSRPG) and the North Atlantic Ocean Regional Planning Group (NAORPG); Canada also was an 'observer' on the Western European Regional Planning Group.<sup>51</sup>

The reality of the situation was that Canada allocated a number of ships to protect the sea lines of communications to Europe and started a modest reserve ship refurbishing programme to supplement the ships dedicated to continental defence. The CUSRPG was, in reality, only a "front" organization for the Canada-US PJBD/MCC. CUSRPG's emergency defence

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50. For an expanded discussion of the problems surrounding 25 CIB, see Carl G. Rennie's "The Mobilization of Manpower for the Canadian Army During the Korean War, 1950-1951," unpublished MA thesis, Royal Military College, 1982.

51. Maloney, Securing Command of the Sea, pp. 86-137.

plan was a highly diluted version of the MCC's CUSBSP. This action was done ostensibly for security reasons; in all probability, the Canadian and US planners had a "special relationship" and jealously guarded their "turf."<sup>52</sup>

The Canadian observers at the Western European Regional Planning Group (WERPG) soon were doing more than observing. The WERPG solicited force tabulations from its constituent members for planning purposes only so that an Emergency War Plan would be available more or less immediately if the Soviets used Korea as a feint and attacked NATO. Canadian observers at the WERPG were instructed by the Cabinet Defence Committee that one brigade group and nine squadrons of fighter aircraft (of an unspecified type) could be used in the WERPG deliberations for the WERPG EWP.<sup>53</sup>

Sometime after the Chinese intervention in the Korean War in November 1950, the NATO regional planning groups submitted their emergency war plans to the NATO Military and Defence Committees. These emergency war plans, when combined, served as the basis for NATO's Medium Term Defence Plan (MTDP). By some bureaucratic glitch, the MTDP was approved as a definite force structure plan by NATO without consulting the individual governments involved. There was no military conspiracy underlying the glitch; NATO bureaucracy was immature at this point, and the stresses of a possible war caused some problems within the medium-

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52. DGHIST, Canadian Chiefs of Staff Committee Minutes, meeting 455, 11 Jan 50; DGHIST file 82/196 vol. 8, 12 Sep 50, "MCC Planning," Records of the JCS Part II: 1946-

53 Europe and NATO (UPA microfilm), 22 Nov 49, memo, U.S. Section, CUSRPG to JCS, "Organization for CUSRPG Planning." COSC minutes, specifically those in file 1308 of the Raymond Collection, 9 Jul 54, 565th meeting, note that certain ACAI's were "expurgated" for use by the CUSRPG.

53. NAC RG 2 series 18 vol 243 C-10-9 Cabinet Defence Committee meetings, 23 Nov 49, 22 Dec 49, 1 Dec 50.

level organizations. Canada was now more or less locked into a European commitment. St Laurent and the Cabinet Defence Committee could either protest the issue and withdraw from the commitment, or Canada could make good on the commitment somehow, or it could modify the commitment. Since any public display of disunity within NATO at this crucial juncture could have been exploited by the Soviets, St Laurent chose to honour the commitment.<sup>54</sup>

Further talks between Canadian representatives and General Dwight D. Eisenhower, who was by this point NATO's Supreme Allied Commander, Europe (SACEUR), raised the Canadian contribution to two divisions at some unspecified point in the future. General Foulkes and the Canadian Chiefs of Staff Committee reasoned that a full division could be formed when the Korean War was over and that a second division could be raised from the reserves and sent to Europe 30 days after the start of a war in Europe. For the time being, Foulkes committed one brigade group to Europe in 1951 as a display of Canadian solidarity with SACEUR's Integrated Force. Once the Korean commitment was complete, the other two brigades for the division would be stationed in Canada and transported to Europe in the event of war.<sup>55</sup>

The problems with raising 25 CIB were well known to the Chiefs of Staff Committee. In order to avoid a similar situation, the Chiefs of Staff Committee, with input from the Cabinet Defence Committee, chose to raise

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54.NAC RG 2 series 18, vol 243 C-10-9 Cabinet Defence Committee meetings, 12 Oct 50, 3 Nov 50, 1 Dec 50; Claxton memoir, p. 1266.

55.DGHIST, Raymont Collection file 183, 27 Sep 50, Foulkes to Claxton, "The Concept of the Integrated Force;" NAC RG 2 series 18 file C-10-9-M Cabinet Defence Committee meetings, 7 Sep 51, 2 Oct 51.

two brigade groups from the reserve forces instead of recruiting a Special Force off the street as they had for 25 CIB. Composite units were formed from Militia units starting in May 1951, training commenced in June, and the formation, called 27 Canadian Infantry Brigade (27 CIB) deployed to Europe in November 1951. Unfortunately, the training standards were not progressing and it took the better part of 1952 to bring 27 CIB up to fighting standard.<sup>56</sup>

With regard to process, it should be noted here that, despite the ad hoc nature of their formation, the dispatch of 25 CIB to Korea and 27 CIB and 1 Air Division to Europe were approved by Parliament. Though the St Laurent Government could have sent these formations overseas unilaterally, members of the Cabinet Defence Committee knew that Opposition as well as public support was necessary.<sup>57</sup>

The situation with 1 Air Division was somewhat different from the land force commitments. As noted earlier, the Canadian MTDP commitment for Europe included nine squadrons of aircraft. SACEUR had, however, invited the Chiefs of NATO members' Air Staffs to participate in the development of NATO air requirements. The resulting document became known as the Paris Plan. Without consulting the Cabinet Defence Committee or the Chiefs of Staff Committee, the Chief of the Air Staff, Air Marshal "Wilf" Curtis, postulated that Canada should be able to provide 12 fighter squadrons and 12 light bomber squadrons.<sup>58</sup> When word of the situation got

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56. DGHIST file 73/596, 26 Apr 51, "Canadian Contribution to the Integrated Force (Europe); file 410.B27.042(D1) "Operation PANDA."

57. DGHIST Raymont Collection, file 192, 18 Oct 51, Order in Council.

58. DGHIST file 86/40, 20 Jun 51, "Summary of the Paris Plan to Accelerate NATO Air Force Programme."

back to Ottawa, Brooke Claxton feared the worst. Upon investigating the situation, Claxton concluded that:

Our Air Force, though not our government, had been represented in these discussions and I believe took an active part in them. They resulted in allotting to Canada an additional bomber wing, which would have brought our contribution to NATO up to something close to 1000 aircraft or more than the number contributed by either the U.S. or Britain. Nothing but the unbridled enthusiasm of our airmen could have produced such a result. I was exceedingly annoyed...this whole episode I am sure was an attempt by the Chief of the Air Staff to do an end run around the NATO military command so as to bring about pressure for a substantial increase in the overall aircraft strength....<sup>59</sup>

The final number of RCAF fighter squadrons committed by the government to NATO was 12, with no bomber squadrons.<sup>60</sup>

There were other factors in play, however. It appears as if the original WERPG figure of nine squadrons for planning purposes emanated from the RCAF. In 1946, Clarence Decatur Howe (Minister of Trade and Commerce, formally Minister of Munitions and Supply during the war, known as the 'Minister of Everything') supported the establishment of three aircraft companies in Canada: A.V. Roe (AVRO Canada), Orenda and Canadair. There were two reasons. The RCAF in the post-war period required modern jet aircraft, and Howe wanted a Canadian-owned and operated aircraft industry. Wartime experience demonstrated that Canada did not have control over allied aircraft built in Canada, even if they were destined for RCAF units overseas. In many cases, British and American munitions

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59. Claxton memoir, p. 1290.

60. The Paris Plan was the genealogical antecedent for the Canadian acquisition of nuclear strike aircraft in 1960. 1 Air Division RCAF changed its role from an air defence organization to a nuclear strike bomber force, replacing its 12 squadrons of F-86's with 8 squadrons of CF-104's.

control boards interfered with Canadian production. The RCAF, along with the NRC and the DRB, set requirements for two aircraft types, a long range all-weather interceptor and a day fighter. The commitment of air defence squadrons to the CUSBSP allowed design and production to commence on the interceptor (the AVRO CF-100 aircraft); as there was no need for a day fighter, that project was put on hold.<sup>61</sup>

By 1949 it was apparent to the RCAF that it could produce a requirement for the day fighter, thus the NATO MTDP requirement. Howe was more than happy to provide the aircraft. At some point, the decision was made not to produce an indigenous fighter for this role. Howe, through a crown corporation (that is, one owned by the Government of Canada) approached North American Aviation in the United States and signed an agreement to produce the F-86 Sabre aircraft. As there was a shortage of General Electric engines in the United States, Orenda Engines set about producing a Canadian design which exceeded the capabilities of existing jet engines.<sup>62</sup> These aircraft, dubbed the F-86 Sword, were the backbone of the Canadian air commitment to NATO after 1951.

In addition to producing aircraft for the RCAF NATO commitment, Howe had his sights on bigger targets. With the exception of the United Kingdom, no country in Europe in the early 1950's was capable of mass producing jet fighter aircraft. There was no reason why Canada should not take economic advantage of the NATO requirements for vast numbers of jet fighters. In all, 430 Sabres were exported to the United Kingdom, 300 to the

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61. Larry Milberry, The Canadair Sabre (Toronto: CANAV Books, 1986) pp. 13; Grieg Stewart, Shutting Down The National Dream: A.V. Roe and the Tragedy of the AVRO Arrow (Toronto: McGraw Hill Ryerson, 1988) pp. 59-60.

62. Milberry, The Canadair Sabre, p. 16.

Federal Republic of Germany; Italy, Greece, Turkey, and even Yugoslavia received Canadian Sabres under Canadian and US Mutual Defence Aid Programmes.<sup>63</sup>

The Canadian Mutual Aid Programme was one area where the Cabinet Defence Committee was able to mate foreign policy goals with military and defence planning without the problems accompanying land and air force commitments overseas. Pearson, St Laurent, Foulkes, Howe, and others recognized that Canada had to do something substantial in order to bridge the gap between Fall 1950 and the arrival of Canadian forces in 1951, as well as balancing out the loss of prestige resulting from the overseas commitment problems. In addition to the problem of pride, there was a real need to re-equip European armies so that they would be effective fighting formations and thus reduce Europe's dependence on forces brought in from Canada, the United Kingdom, and the United States.<sup>64</sup>

The first installment of the Canadian Mutual Aid Programme took the form of two complete divisional sets of equipment, most of which had been produced during the war and was occupying space in depots. The equipment was made available to Belgium and the Netherlands, along with spare parts and uniforms. Canadian Arsenals, a wartime crown corporation, had overproduced 3.7" anti-aircraft guns and 25 pounder howitzers. In addition there were several corvettes left over from the Battle

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63. Ibid., pp. 256, 285, 315.

64. NAC RG 2 series 18 vol 244 C-10-9-M, Cabinet Defence Committee meetings, 8 Sep 50, 28 Dec 50.

of Atlantic. All of these items were made available to NATO nations under the Canadian MAP.<sup>65</sup>

A successful component of the Canadian MAP that warrants brief mention was the NATO aircrew training plan. Drawing from the vast amount of experience gained while running the wartime British Commonwealth Air Training Plan, Canada offered aircrew training on jet aircraft for NATO air forces. Compared to BACTP, the NATO programme was modest. Still, 1500 personnel from NATO air forces trained in Canada each year for the next 10 years starting in 1951.<sup>66</sup>

### Goose Bay and SAC Support Agreements

An important product of the increased anxiety over the Korean War were the promulgation of the first two significant nuclear weapons agreements between the US and Canada since the Second World War. The USAF's Strategic Air Command (SAC) wanted to use Goose Bay as an emergency bomber base in the event of war and thus wanted to pre-deploy nuclear bombs for its B-36 aircraft there. Using the most secret form of arrangement possible, Meetings of Consultations were conducted in 1950 involving deputy ministers of External Affairs, Defence, and the ambassadors of both countries, as well as the Chairman of the US JCS. No written records were kept. By October 1950, Canada authorized SAC to build

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65. Ibid.

66. Report of the Department of National Defence For the Fiscal Year Ending March 31 1952 (Ottawa: Queen's Printer, 1952) p. 11.

a nuclear storage site at Goose Bay, but nuclear weapons were not to be permanently stored in it without the approval of the Canadian government. The approval was never given, though the site was used by SAC to store nuclear weapons and nuclear weapons components in transit from North America to overseas bases, clearly a liberal interpretation of the agreement.<sup>67</sup> There were two reasons for Canada to accede to the American request. Foulkes thought that allowing SAC to use the base would increase the efficiency of SAC if it came to war. Pearson, on the other hand, was looking for a means to get the United States to consult with Canada prior to the use of nuclear weapons.<sup>68</sup>

The second was a similar Meeting of Consultation in January 1951. Related to the storage agreement, SAC wanted permission to fly bombers carrying nuclear weapons over Canadian airspace with only routine flight clearances. The crash of a B-36 and loss of its nuclear weapon over Canada in 1950 probably gave Canadian policymakers some pause, but by June 1951 the two nations agreed that SAC overflights would be allowed on a case-by-case basis.<sup>69</sup> In discussions between External Affairs and the State Department, the nations agreed that

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67. NAC RG 24 vol 20710 csc 232, 21 Oct 59, memo for the Cabinet Defence Committee, "The Deployment of Nuclear Weapons to the Existing Storage Facilities at United States Leased Portion, Goose Bay Air Base;" NAC MG 32 B 19 vol 27 file 42-66 vol 1: memo Foulkes to Pearkes, 15 Nov 57; DGHIST, The Raymont Study, pp. 38-39; NAC RG25 vol 4501 file 50030-L-40 pt. 1, 24 Oct 50, memo to Pearson, "Comments on Mr. Claxton's Memorandum of October 23 to Cabinet."

68. USNARA RG 59 box 3174, 14 Jun 51, memcon, "Possibilities of War with the Soviet Union 1951-52: Use of Atomic Weapons;" 27 Jul 51, memcon, "Possibilities of War with the Soviet Union 1951-52: Use of Atomic Weapons."

69. DGHIST, Raymont Study, pp. 38-39.

Requests of the Government of the United States for permission to make use of facilities in Canadian territory for the deployment of atomic weapons (both without and with their nuclear components) or to overfly Canadian territory with such weapons shall be addressed to the Canadian Government by the Department of State through the Canadian Embassy in Washington....As much advance notification as possible will be given by the Government of the United States, and on its part the Government of Canada will seek to answer such requests promptly.<sup>70</sup>

These meetings were important in that they laid the groundwork and established the mutual trust necessary for the more extensive air defence discussions and information exchanges arrangements that would come in the future. It also gives first indication as to the divergence of opinion within the Canadian national security policymaking community as to how nuclear weapons should be used as tools of influence.

### Stabilization

Canadian strategic policy up to 1951 was short term and reactive by nature. The only exception was the already established continental defence system, which did not require radical alteration. The haphazard response in other areas resulted from the lack of consideration given to determining what military forces were necessary to back up the new foreign policy. As External Affairs Minister, Pearson carried on after 1950 as he had before, opening up new areas and expanding Canada's global connections. The defence side of the house, particularly Claxton and Foulkes, re-organized

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70. Information released under FOLA [hereafter FOIA], 29 May 51 draft letter to Secretary of State from Canadian Ambassador.

the defence policy process and struggled to bring the haphazard and varied commitments under some form of rational control.

The realization that Canada had to get her strategic act together resulted in what was euphemistically referred to as the "expansion of the defence programme." This amounted to a reassessment of Canadian strategy and how Canada was going to pay for it. Late in December 1950, the Chiefs of Staff Committee, through Claxton, advised the Cabinet Defence Committee that

Even if fears that there may be war in 1951 are exaggerated, no one can doubt that the likelihood of war in the next eighteen months is very much greater than it was considered to be six months ago. During this period, of eighteen months, there is little prospect of building up an integrated force sufficiently strong to deter aggression. During this period we shall consequently be facing increased risks. With the United States doing everything physically possible to prepare, the position of Canada and the Government of Canada will become increasingly difficult to justify unless we have ground for believing that the Americans are wrong. Therefore our planning and action should have the twofold aim of (a) preparing Canada against the conditions of a total war; and, (b) continuing to assist and support the provision of deterrent forces in the hope that time will be available to make them effective.<sup>71</sup>

For example, the peak expenditures during the Second World War occurred in 1944-45 and was CAN\$ 2,938,319,395. By 1948-1949, Canada was spending CAN\$ 268,731,347. The 1950-51 expansion brought it up to CAN\$ 782,351,378. By 1951, Canada had land forces deployed overseas at the opposite ends of the earth, an air commitment in Europe which was twice the size of the continental defence air commitment, naval forces off Korea and in the Atlantic, an aircrew training plan for its allies, and, to boot, was

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71.NAC RG 24 vol 29711 csc 2-3-2 D9.2, 27 Dec 50, memo for the Cabinet "Expansion of the Defence Programme."

giving away weapons and equipment. The need to maintain, support, train, build and improve military forces, as well as produce military hardware, required a modified defence organization.<sup>72</sup> (See Figure 2)

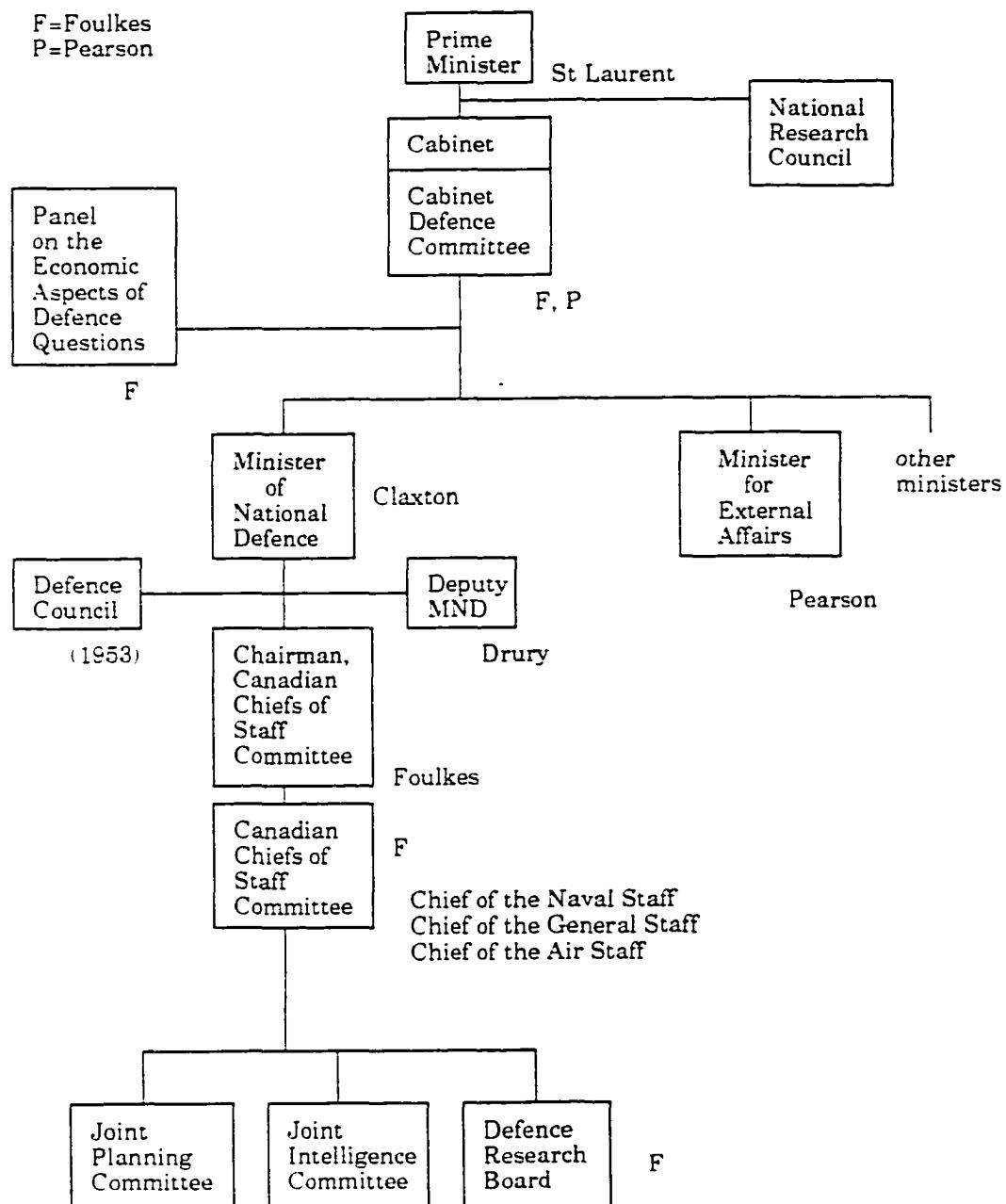
The most important change was the establishment of a new position: the Chairman of the Canadian Chiefs of Staff Committee. Previously, the three service chiefs reported to the Minister of National Defence and were responsible for running their own shops and having direct ties with other allied services. The Chiefs of Staff Committee (COSC) was prior to 1951 more or less a forum to coordinate joint efforts and solve interservice problems in a committee setting. The COSC now had one leader, and the Minister of National Defence could get joint advice from one man.

That man was Charles Foulkes. Born in England in 1903, Foulkes moved to Canada in his teens and received his education in London, Ontario at Western University. Foulkes became a Machine Gun Corps Militia officer in 1923 and joined the regular force as an infantry officer in 1926. Eventually, after a series of appointments, Foulkes attended the Staff College at Camberley, England. As for his wartime service, Foulkes commanded the Regina Rifles and later 3rd Canadian Infantry Brigade. By January 1944, he had command of 2nd Canadian Infantry Division and led the division from Normandy to Antwerp and into the Netherlands. In November 1944 he moved to Italy to command 1st Canadian Corps and then brought the corps to northwest Europe in January 1945 to participate in the final push of the war. He accepted the surrender of the German forces in the Netherlands at the hotel in Wageningen on 4 May 1945. He then took

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72. Report of the Department of National Defence For the Fiscal Year Ending March 31 1949 (Ottawa: Queen's Printer, 1949) p. 108; Report of the Department of National Defence For the Fiscal Year Ending March 31 1952 (Ottawa: Queen's Printer, 1952) p. 118.

Figure 2  
Canadian Strategic Policy Organization, 1951-1963



over as Chief of the General Staff. At 42 years old in 1945, he was one of the youngest men ever to lead the Canadian Army.<sup>73</sup>

Foulkes was not well-liked by a number of officers who served with him. One subordinate, Major General Harry Foster, thought that Foulkes was a "know-it-all" with a mouth that was "as mean and narrow as his hard shelled Baptist mind." In a mess dispute while junior officers, Foulkes wanted to settle matters with Foster in the boxing ring (Foster declined). Foulkes was not a graduate of the Royal Military College (RMC) and had Militia roots. This background clashed with the more status-conscious officers in the Canadian Army (note also that Foster was an RMC graduate) throughout Foulkes' career. These men thought Foulkes was an ambitious "climber," merely punching tickets. There are no apparent indications that Foulkes' command of 2nd Division and 1st Corps in northwest Europe was anything less than competent.<sup>74</sup>

Assessing Foulkes' performance as CGS in the immediate post-war period is problematic. King's Government was hell-bent on rapid demobilization, and even Brooke Claxton could not arrest the decline. Foulkes chafed under unrealistic mobilization and planning conditions imposed by King, but there was little he could do about it. The 25 Brigade fiasco and the problems encountered in raising 27 Brigade were most likely catalytic events for Foulkes, who was determined that Canada could not afford to be caught unprepared again. Foulkes was intimately involved in

73. DGHIST, uncatalogued Raymont Collection, biographical questionnaire, Charles Foulkes, 19 July 1945.

74. Tony Foster, Meeting of Generals (Toronto: Methuen, 1986) pp. 84-85; see also C.P. Stacey, Official History of the Canadian Army in the Second World War Volume III: The Victory Campaign (Ottawa: Queen's Printer, 1960).

the creation of the NATO command structure: it was his plan for the regional planning groups which was implemented in 1949.<sup>75</sup>

Foulkes' personal connections were extremely important to the creation and implementation of Canadian strategic policy. Foulkes enjoyed the confidence of the Secretary to Cabinet (later Ambassador to the United States and Ambassador to NATO), A.D.P. Heeney, Minister of National Defence Brooke Claxton, and the "Minister for Everything," C.D. Howe.<sup>76</sup>

The Director of Central Intelligence in the 1950s, General Walter Bedell Smith, for example, was a close wartime friend. Foulkes' relationship with the Chairman of the US JCS, General Omar N. Bradley, was also built on a wartime foundation, as was his relationship with Field Marshal Bernard Law Montgomery, the British Chief of the Imperial General Staff. US Army General and later SACEUR Alfred M. Gruenther and Foulkes also had a positive relationship dating back to the war. Historian J.L. Granatstein notes that Gruenther's briefing notes state that Foulkes was "pleasant but unimpressive, restrained and thin-skinned. He is not a forceful leader nor is he endowed with any great amount of brains. He appears to think highly of US military leaders and enjoys associating with them. In dealing with him a little flattery and personal attention on a 'first name' basis would be

75. Bercuson, True Patriot, Chapters pp. 153-206; Eayrs, In Defence Of Canada: Growing Up Allied, pp. 129-190.

76. DGHIST, Raymont Collection, See "Report on the Organization and Procedures Designed to Develop Canadian Defence Policy, and on the Provenance of Documents and Records Compiled by Colonel R.L. Raymont and Placed in the Custody of the Director of History, Department of National Defence, and other sources, dealing with the Formulation of Canadian Defence Policy Since World War II" [hereafter 'Raymont Study']. Brooke Claxton was also on very good terms with Gruenther: Claxton used to send Gruenther cheese from Cooke's Old World Shop in Kingston, Ontario. Gruenther spoke several times at National Defence College Kingston and his wife developed an attachment to Stilton cheese. See DDEL, Gruenther Papers, Brooke Claxton folder, 2 May 53, letter from Gruenther to Claxton.

helpful." The correspondance between the two men as well as Foulkes' central, forceful, and positive role in moulding post-war Canadian defence policy is at odds with this appraisal.<sup>77</sup>

The creation of the new position of Chairman of the Chiefs of Staff Committee was accomplished for several sound organizational reasons but the most important of them related to NATO. Canada needed direct and permanent representation on NATO's Military Committee, the body that developed and implemented strategy for the NATO area. Pearson had blocked Canadian participation in NATO's Standing Group, which was essentially a method of ensuring American, British, and French control over NATO military strategy. Pearson believed this ran against his view of NATO (and Canada's position within it) as more than a military alliance. It would demonstrate to the smaller NATO nations that Canada was not on their side, which would disrupt Pearson's idea that Europe and NATO was a counterweight to the US and the UK. Still, Canada had forces deployed in the NATO area and should have some say over how they would be employed, and Foulkes lobbied for Canadian representation. With Claxton on board, the changes were formally introduced in Cabinet and Parliament on 1 February 1951, and the Chairman of the Chiefs of Staff Committee became a reality.<sup>78</sup>

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77. J.L. Granatstein The Generals: The Canadian Army's Senior Commanders in the Second World War (Toronto: Stoddart Publishing, 1993) p. 177.

78. Report of the Department of National Defence For the Fiscal Year Ending March 31 1951 (Ottawa: Queen's Printer, 1951) p. 9; Douglas L. Bland, The Military Committee of the North Atlantic Alliance: A Study of Structure and Strategy (New York: Praeger, 1991) Ch. 6; Bercuson, True Patriot, pp. 222-224.

The creation of the Chairman position had several effects. The service chiefs now had to go through Foulkes to talk to Claxton, which caused some resentment with his Chief of the General Staff Guy Simonds who:

objected, on occasion, to the way Foulkes involved C.M. "Bud" Drury, the civilian deputy minister of national defence, in military decision-making. He found that Foulkes and Drury often made decisions after reaching an arrangement behind closed doors with one or more chiefs of staff or with the minister. Obviously compromises were necessary when an examination of the detailed papers supporting each service's case did not yield a decision in open committee. Simonds had almost an obsession, though, that the resulting "political" decision was second best militarily...[the process] gave the chairman too much influence.<sup>79</sup>

Foulkes was now at almost the same level of influence as the Minister, and even though he was subordinate to Claxton, Foulkes influenced him through the Deputy Minister, Bud Drury, who had been a Foulkes subordinate during the war. The Government formed the Defence Council in 1953, ostensibly to assuage the service chiefs by allowing them access to the Minister of National Defence. Theoretically, the Defence Council consisted of the Chairman of the Chiefs of Staff Committee, the service chiefs, the Deputy Minister, and the DRB Chairman. In reality, it was not a significant factor in the creation of strategic policy at this time.<sup>80</sup>

Foulkes also had direct access to the NATO Military Committee which allowed him to observe and influence NATO military strategy at its highest level, rather than just observing American and British global strategy

79. Dominick Graham, The Price Of Command: A Biography of General Guy Simonds (Toronto: Stoddart Publishing Co. Ltd, 1993) p. 244.

80.DGHIST, Raymont Collection, file 1072, Chairman of the Chiefs of Staff Terms of Reference book.

through the ABC connections. Foulkes' bilateral connections with the Americans were already strong, but he also favoured the absorption of the ABC relationship into NATO in as many areas as possible for practical reasons. Clearly, "If known [the ABC relationship], would be resented by the other countries...the U.S. view was that, for security reasons, this planning could not be done inside NATO at present."<sup>81</sup>

Thus, under Foulkes, Canada retained a bilateral defence arrangement with the United States through the PJBD/MCC (using the NATO CUSRPG as a 'front organization' to feed NATO sanitized continental defence information), intelligence connections through the ABC relationships, and influence in NATO affairs through the Military Committee.

The second major alteration in the defence policy process was the formation of a body with the obscure title of Panel on the Economic Aspects of Defence Questions. Although the Panel had originally met in February 1950, the commitments that developed thereafter increased its necessity. Succinctly, the Panel's purpose was to

...provid[e] machinery for interdepartment consultation on those aspects of defence which are of concern to other Departments in the economic, financial and supply fields, particularly those arising in connection with the North Atlantic Treaty. The Committee [sic] reports to the individual ministers or to the Cabinet Defence Committee on such of the above matters as are appropriate.<sup>82</sup>

The Panel consisted of the Secretary to the Cabinet, the Deputy Minister of National Defence, the Deputy Minister of Finance, the Under-Secretary of State for External Affairs, the Deputy Minister for Trade and Commerce,

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81. Claxton memoir, p. 1231.

82. DGHIST Raymont Collection, file 762, June 1963, "Canadian Defence Organization."

the Chairman of the Chiefs of Staff Committee, the Chairman of the Defence Research Board, and the Deputy Governor of the Bank of Canada. Note that deputy ministers were professional civil servants from their respective ministries and not elected officials.<sup>83</sup>

An analysis of the Panel minutes indicates two things. By the late 1950s, particularly after the 1957 election, the Panel actually functioned as a shadow Cabinet Defence Committee in the sense that the various ministries gathered together before each Cabinet Defence Committee meeting in order to coordinate position papers within the Panel. The Panel members who were present at the Cabinet Defence Committee included the Chairman of the Chiefs of Staff Committee and the Secretary of the Cabinet; the deputy ministers were normally in charge of producing position papers for their politicized Ministers and could thus control the information being transmitted to them for use in the Cabinet Defence Committee meetings. Secondly, the presence of the people who controlled governmental financing were on the Panel itself and thus privy to what direction defence matters were going, and thus gave them time to react to defence finance needs without waiting for a Cabinet decision on some items.<sup>84</sup> In effect then, the Panel did not actually replace the Cabinet Defence Committee but was in a position to control much of the information that the CDC saw, and the presence of Foulkes on both bodies gave ideas created in the Panel some continuity in Cabinet Defence Committee decisions.<sup>85</sup>

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83. Ibid.

84. See NAC RG 49(DDP) vol 708 file 247-5 vols 1-4. for Panel on the Economic Aspects of Defence Questions material from the 1950's.

85. DGHIST, Raymont Study, p. 46-47.

In this way, Foulkes developed greater influence in the national security policy process than Claxton or even Pearson. Claxton served only on the Cabinet Defence Committee; Pearson was on the Cabinet Defence Committee, controlled External Affairs, and represented Canada on the North Atlantic Council, a body which exerted little control over the NATO Military Committee. Foulkes, on the other hand, was a member of the Cabinet Defence Committee, chaired the Chiefs of Staff Committee (which handled defence planning with the PJBD/MCC through the Joint Planning Staff and the Joint Planning Committee), was a member of the Panel on the Economic Aspects of Defence Questions, was part of the Defence Research Board, and most importantly, was a member of NATO's Military Committee. In sum, Foulkes was into all levels of the national security policymaking process and in a position to add continuity to whatever policy he could get other 'players' to agree to.

The stabilization of Canadian national security policy continued from 1951 to 1952. In the foreign policy arena, Pearson explored the possible use of the Commonwealth of Nations as a possible counterweight to influence the Americans as well as British. Much effort was thrown into the Colombo Plan, which essentially was an economic support plan created by a grouping of Commonwealth nations in Southeast Asia which included India, Pakistan, Britain, and other British territories. Pearson developed a relationship with India as part of a counterbalance scheme, but the material results of this are still debated. In the main, most Canadian diplomatic efforts were directed east to Europe and south to the United States. Pearson also ensured that Canada kept her hand in in the nuclear

disarmament area, though the effort was not great and was in the main supplementary to the American effort.<sup>86</sup>

Canadian military commitments overseas stabilized as did the continental commitments developed by the PJBD/MCC. Two separate defence systems (analogous to theatres of war) developed, the continental system under the PJBD/MCC, and the Atlantic system under NATO. Each possessed intelligence collection and dissemination organizations, force planning and command organizations, and strategic concepts. The continental system was a bilateral Canada-US relationship. Strategic intelligence flowed back and forth across the border, which in turn directly affected force requirements and planning. It was a closed system until 1952-1953. The Canadian joint committees interfaced directly with their American counterparts and had a strategic concept in the CUSBSP. The Atlantic system was also a closed system. Intelligence and force requirements were generated by integrated NATO headquarters with Canadian military input. Command and planning was also handled by integrated NATO headquarters, again with Canadian military input. NATO's strategic concept, MC 14, was derived from the now-defunct ABC strategic planning relationship.<sup>87</sup> Only matters affecting the financing of the forces within the systems were elevated to the national political decisionmaking level.

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86. John Holmes, The Shaping of Peace: Canada and the Search for World Order 1943-1957 Volume 2 (Toronto: University of Toronto Press, 1982) pp. 165-187; Joseph Levitt, Pearson and Canada's Role in Nuclear Disarmament and Arms Control Negotiations 1945-1957 (Kingston: McGill-Queens University Press, 1993) pp. 75-136; See also James Eayrs, In Defence Of Canada: Indochina: Roots of Complicity (Toronto: University of Toronto Press, 1983).

87. The standardization and intelligence sharing arrangements did continue.

These cycles were broken only when political and/or technological developments raised substantial threats to the status quo. Two things altered this all too brief status quo: the development of thermonuclear weapons and the means to deliver them intercontinentally. Once the Soviets had this capability, the MC 14 concept in the Atlantic system would be obsolete. The pattern of war established under this concept involved a Second World War-style conflict fought in a largely conventional mode with a limited number of kiloton-yield weapons. The CUSBSP would also become obsolete. It emphasized airborne/airtransported and naval threats to North America; some kiloton yield weapons might be used by the enemy if they could acquire forward bases for their TU-4 bombers or V-2-type missiles. There was no real intercontinental SAC deterrent force before; now there was one and its bases in North America had to be protected. How Canadian strategic policymakers took these factors into account in their formulation of Canadian strategy after 1951 is the subject of Chapter 2.

## Conclusion

The election of Louis St Laurent as Prime Minister and the elevation of Lester B. Pearson to the post of Secretary of State for External Affairs resulted in a new strategic policy framework. Though the continental relationship with the United States was a subset, this new framework was multilateral in nature and sought to involve Canada seriously in many international relationships. These relationships included the United Nations, the North Atlantic Treaty Organization, and the Commonwealth of Nations, among others. There was, however, no change in the military force

structure or recognition that mobilization planning based on the Second World War experience was obsolete for future types of wars.

The 1950-1951 crisis period exposed the weaknesses of the gap between Canadian strategic policy and military force structuring to support it. The new Pearsonian strategic policy remained in effect and Canada had to make good on its paper commitments with blood, steel, and aluminum. A reactive force structure developed, one subjected to unforeseen pressures and agendas, which sometimes differed from those projected in the strategic policy framework. These included the commitment of naval, air, and land forces to the Korean conflict ostensibly under the command of the United Nations; the deployment of land and air forces to Europe as part of the North Atlantic Treaty Organization's Integrated Force; the creation of a generous mutual air programme for NATO allies; and the allocation of naval forces to protect sea lanes to both theatres. Continental defence forces were retained at the levels established under the bi-lateral Canada-US defence arrangements. The Atlantic system and UN operations temporarily superseded the continental defence system as priorities within the overall framework. The reactive force structure was also indicative of the confusion and uncertainty which existed in the early NATO planning and policy organizations.

After 1951, the strategic policy framework remained the same, while the Atlantic and UN commitments stabilized. New threats to the continental system, information made available to Canada by its concerned allies as they struggled to adapt to a new environment, forced modifications to defence forces and planning, thus allowing continental issues priority over Atlantic or UN issues. A driving force in this stabilization was General Charles Foulkes, who was able to influence this stabilization through a new

defence policy process and by his contacts within NATO and bilaterally with the United States. At the same time, Mike Pearson developed means by which Canada might apply leverage to influence American behaviour in the international arena. One of these was the establishment of SAC support arrangements involving Canadian territory. Another included applied pressure for non-military cooperation in NATO. The problem was the lack of recognition on Pearson's part that committed Canadian military forces were an integral part of any equation involving attempts to influence NATO allies. The American response to the Canadian commitment to Korea was a case in point.

The stabilization process would continue into 1952 and provide the basis for long lasting change in Canadian strategic policy which included the formulation of a NATO and then a Canadian strategic concept, as well as the eventual nuclearization of the Canadian force structure.

## CHAPTER 2

### FEAR IS NOT AN OPTION: A NEW STRATEGY, 1952-1955

#### Introduction

The aim of this chapter is to trace the development of Canada's approach to Cold War strategy above and beyond the ad hoc thinking of the 1949-1951 period to 1955. The culminating point of this process was the NATO strategic concept MC 48, adopted by NATO nations in November 1954. The importance of MC 48 to Canadian nuclear policy is exceptional. MC 48 laid the foundations for Canadian national security thought, force structure, and, in many cases, operational planning until 1967. It is therefore vital that its development and relationship to Canadian strategic planning be examined in some detail.

Between 1952 and 1954, Canadian strategic planners dealt with four parallel and, in some cases, overlapping strategic issues which had no real conceptual, formalized structure. MC 48 eventually provided such a structure. The development and deployment of the hydrogen bomb and associated delivery systems altered the existing basis of Canadian national security policy. First, the air defence aspects of the CUSBSP required radical revision. Second, the development of a serious deterrent force, USAF's Strategic Air Command, took on new importance, as did its potential operating locations. Third, the North Atlantic Ocean became more than just a highway to reinforce and resupply NATO land and air forces. Fourth, the impact of the H-bomb produced changes to NATO land and air forces' concept of operation.

On the foreign policy front, new questions were raised relating to the civil-military relationship. Who could order the use of nuclear weapons? Should the military leaders have the exclusive right to do so in an emergency or not? How did this issue affect Canadian control over her forces? Did it affect Canadian foreign policy objectives? These questions would ultimately be answered in the 1960s, but for the time being they troubled Canadian policymakers with the acceptance of MC 48 as a strategic concept.

Another aspect of the strategy debate during the period was the initiation of the CF-105 Arrow interceptor programme, an aircraft which could be equipped with nuclear air defence weapons. Though the Arrow would have delayed and unforeseen deleterious effects on Canadian national security policy, the programme emerged from the strategy debate of this time. How, then, did Canadian strategic policymakers come to understand and deal with these problems prior to 1955?<sup>1</sup>

### Canada in the early 1950s

Some context to Canadian national security policy development in the 1950s is necessary. Economically, Canadians experienced tremendous prosperity which many historians believe was the result of a closer relationship with the United States, a status which was as deliberately

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<sup>1</sup>. There is very little discussion in the secondary source literature on the cumulative impact of the New Look, the New Approach Group, or MC 48. Schaffel (Emerging Shield) and Jockel (No Boundaries Upstairs), deal with the continental air defence aspects in isolation of the NATO aspects. Eayrs' In Defence of Canada: Growing Up Allied merely glosses over the issues discussed in this chapter.

fostered by St Laurent Government economic and social policies. Referred to as the New Continentalism, this relationship was not actually new. The Second World War produced a shift away from the imperial relationship with Britain to this closer relationship with the United States, particularly in the defence and economic spheres. This shift occurred during the war and became more even pronounced in the 1950s. More American investment flowed into Canada to contribute to resource development, while more Canadian goods flowed south to the United States than flowed east to Europe. There were some exceptions. Large chunks of Marshall Plan aid were spent in Canada, and the goods and resources were shipped to Western Europe. Despite a minor recession in 1953-54, it was a distinct boom period. Canada was an extremely healthy economic power.<sup>2</sup>

On the international front, there were attempts to expand Canadian involvement globally. For example, External Affairs was involved in the 1954 Geneva Accords both through diplomatic efforts and in a peace observation capacity. This was a mission known as the International Control and Supervisory Commission (ICSC). In the Middle East, Canada was a member of the United Nations Truce Supervisory Organization (UNTSO), a peace observation mission reporting on Arab-Israeli hostilities in the region. In Asia, Canada maintained troops in Korea as part of the UN force until 1955 in case the ceasefire was broken by the Communist forces.<sup>3</sup>

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2. See Granatstein and Hilmer, For Better or for Worse, pp. 163-193 and Bothwell et al., Canada Since 1945 Part Three.

3. Holmes, The Shaping of Peace, II, pp. 143-188; see also Eayrs, In Defence of Canada: Indochina: Roots of Complicity.

The bulk of Canadian military and diplomatic efforts, however, remained focused on the continental relationship in North America, the defence relationship with the Americans, and the protection of Western Europe from Soviet expansion. The main threat to peace was from the Soviet Union in the form of continued maintenance of a massive military capability. Soviet power directly threatened Canadian interests abroad and now even Canadians in their homes, in a way unimaginable a decade before. It was necessary to secure the Canadian North Atlantic base first before pursuing secondary diplomatic adventures abroad.

### The Chiefs in the Early 1950s

It is necessary at this juncture to introduce the members of the Chiefs of Staff Committee (COSC) who oversaw the acceptance and initial implementation of Canada's strategic policy in the 1952 to 1956 period. We have already met General Charles Foulkes in the previous chapter. The CNS, Vice Admiral E.R. "Rollo" Mainguy, commanded the destroyer HMCS Ottawa during the Second World War and was credited with the first enemy submarine sunk by the RCN. A dynamic naval officer, Mainguy then commanded the cruiser HMCS Uganda in the Pacific campaign. After several RCN mutinies in 1949, Brooke Claxton appointed Mainguy to handle the groundbreaking inquiry. The 'Mainguy Report' was a critical step in facilitating the RCN's attitudinal shift from a Royal Navy to a Canadian

Navy. He was a logical successor to the somewhat befuddled Vice Admiral H.T.W. Grant given the political climate of the times.<sup>4</sup>

Like Foulkes, Chief of the General Staff Lieutenant General Guy Granville Simonds was born in England. Unlike Foulkes, Simonds was raised on the other side of the Atlantic by his father, who was an artillery officer. Eventually, Simonds attended high school in Canada and was accepted into Royal Military College in 1921. Apparently, Simonds asserted to his fellow cadets early on that he would eventually become the CGS. Joining the Royal Canadian Horse Artillery in 1925, Simonds continuously aced officers professional exams and even carried on a lively public correspondence relating to divisional organization with E.L.M. Burns in Canadian Defence Quarterly during the 1930s. During the Second World War, Simonds rapidly rose to command a Canadian Corps in Italy and became Montgomery of Alamein's protege. Simonds trod on many toes and ruthlessly fired those subordinates which he believed were incompetent. During the Normandy Campaign, Simonds pioneered the mass use of fully-tracked armoured personnel carriers. After the war, many thought that Simonds was a 'shoe in' for CGS but the position was given to Foulkes, who it was believed was more "effeciant, organized, and cold, a man who lived for compromise and conciliation." It is possible that the powers that be believed that Simonds was too British and perhaps too closely linked to Montgomery for a post-war Canada which was trying to shed her imperial

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4. See Tony German, The Sea is at Our Gates (Toronto: Maclelland and Stewart, Inc., 1991) pp. 76, 82-85, 200-209.

links with Britain. In any case, Foulkes and Simonds were generally antagonistic towards each other.<sup>5</sup>

Canada's Chief of the Air Staff was the portly Air Marshal W.A. "Wilf" Curtis. Born in southern Ontario in 1893, Curtis served as an infantry officer from 1914 to 1916 and then transferred to the Royal Naval Air Service, where he flew on the Western Front for the rest of the war. Curtis joined the embryonic Canadian Air Force (pre-Royal) in the 1920s and served in a wide variety of staff and training positions. By 1941, Curtis was the deputy Air Officer Commander in Chief of the RCAF's Overseas Headquarters. He led the fight for "Canadianization." The RCAF staff overseas were adamant that RCAF squadrons remain under Canadian, not RAF, control. There were too many Canadians in the RAF, and the RCAF units, particularly those serving with Bomber Command, had little autonomy. Curtis was not impressed with overbearing British interference in RCAF affairs. As such, much of his time was spent protecting Canadian interests. When posted to Canada in 1944, he also blocked attempts to place Canadian aircrews and squadrons under RAF control in the Pacific campaign. Curtis was promoted to the COSC in 1947, unlike Simonds and Mainguy who both were promoted in 1951. It was Curtis who, along with C.D. Howe, pushed for the production of the first Canadian jet interceptor aircraft, the Avro CF-100 Canuck, in the late 1940s.<sup>6</sup>

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5. See Dominick Graham's biography of Simonds The Price of Command and J.L. Granatstein's, The Generals, pp. 145-178.

6. The Canadian Who's Who: A Biographical Directory of Notable Living Men and Women Vol. X 1964-1966 (Toronto: Trans-Canada Press, 1966) p. 245; Greenhous et al., The Official History of the Royal Canadian Air Force Vol. III: The Crucible of War 1939-1945 (Toronto: University of Toronto Press, 1994) pp. 52, 95-96, 110-111.

Curtis retired late in 1953. The man overseeing the RCAF's implementation of MC 48 was Air Marshal C.R. "Roy" Slemon. Slemon was a member of the first RCAF pilot's course in 1923 (six people, of whom Slemon was the only one to remain in the RCAF by 1924- The others were killed in accidents). During the Second World War, Slemon was the Senior Air Staff Officer at No. 6 Group (RCAF), Canada's contribution to Bomber Command (the SASO flew missions as well as conducting staff duties).<sup>7</sup> Taking over in 1953, Slemon guided the RCAF into the nuclear age before becoming Deputy Commander in Chief of the North American Air Defence Command (NORAD) in 1957.

These were the men to whom fell the burden of dealing with rapid technological change in the thermonuclear age. In general terms, Foulkes handled the large political questions and the interface between the relationship of requirements and policy. In terms of personality and experience, Mainguy, Simonds, and Curtis were each experts in their fields and were adept at relating technological requirements to operational ones. To what extent Foulkes influenced the selection of Mainguy and Simonds in 1951 and the continued contribution by Curtis is unknown. Given the nature of the policy process, it is highly likely he had a hand in it.

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7. W.A.B. Douglas, The Creation of a National Air Force: The Official History of the Royal Canadian Air Force Volume II (Toronto: University of Toronto Press, 1986) p. 92; Brereton Greenhous et al., The Crucible of War 1939-1945: The Official History of the Royal Canadian Air Force Volume III (Toronto: University of Toronto Press, 1994) pp. 915-917.

## Canada and Alliance Strategic Conceptualization: 1952

The NATO ministerial meeting in Lisbon during April 1952 concluded that maintaining a large conventional force structure in Europe was not economically feasible and that the existing force structure was incapable of deterring the Soviet Union without nuclear weapons to supplement it. Acceptance of these facts initiated a reassessment of how NATO would fight a war. This reassessment would take another two years and be altered continuously given the rapid pace of technological change and threat estimates.<sup>8</sup>

In his capacity as the NATO Military Committee chairman, Foulkes raised the issue of developing an implementation plan for nuclear weapons during the annual review process after Lisbon. The political side of NATO was slow to react, but the the Military Committee, was enthusiastic about doing so in July 1952. SHAPE, Foulkes believed, should take the lead in this planning since it directly affected SHAPE planning at the operational and tactical levels. General Alfred Gruenther (working at SHAPE under General Matthew B. Ridgway), after discussions with Foulkes, was interested in conducting such a study, but the lack of information on the weapons themselves would delay it for some time.<sup>9</sup>

British perspectives on the future of NATO strategy produced the influential Global Strategy Paper (GSP) in 1952. The British GSP was

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8. For a detailed description of SHAPE's deficiencies, see NAC RG 25 vol 4533 file 50030-AB-40 Pt. 3, 25 Aug 52, memo for The Minister, "SACEUR's Report to the Standing Group on the Status of Forces in his Command;" 25 Aug 52, "Review of SACEUR's Status Report to Standing Group, 12 July 1952-SHAPE 723/52."

9. NAC MG 30 E 144, vol. 1 file NATO Canadian Ambassador to- Correspondence, Notes, memoranda 1952, 1953, 30 Jul 52, letter ADP Heeney to L.B. Pearson.

influential in the sense that it formulated the basis for NATO's 1954 strategic concept in terms of the form that future war would take. The GSP, driven both by the need to determine where nuclear weapons fitted into both Allied and Soviet strategy, and by reductions in British defence expenditures, postulated a war in which the first phase would be one of unparalleled intensity, implying immediate and widespread nuclear weapons use, lasting perhaps a few weeks, followed by a period of indeterminate conventional military activity in the ensuing chaos. The GSP cautioned against planning for a short war, though it emphasized that more peacetime resources should be placed on preparation for the first phase so as to ensure the survival of the nation if deterrence failed.<sup>10</sup> On other matters, the GSP indicated that the UK desired to re-create some mechanism (perhaps in the ABC mode) to consult on global strategy and the allocation of resources to meet threats outside the NATO area.

Viscount Harold R.L.G. Alexander, the UK Minister of Defence, authorized Marshal of the RAF Sir John Slessor, who was the GSP's architect, to release it to Foulkes in Canada and to General Omar Bradley in the United States. The release was done for information purposes but also with the intent to coordinate alliance military thinking. Foulkes met with Bradley in September 1952 to discuss these matters. A tripartite military concept was out of the question but British thinking had prompted Bradley to ask SACEUR (General Matthew Ridgway) to produce a plan incorporating nuclear weapons into NATO defence plans for Western

10. Alan Macmillan and John Baylis, Nuclear History Program Occasional Paper 8: A Reassessment of the British Global Strategy Paper of 1952, (University of Maryland Center for International and Security Studies, 1994) pp. 30-31. For other discussions on the GSP, see Ian Clark and Nicholas Wheeler, The British Origins of Nuclear Strategy 1945-1955 (Oxford: Clarendon Press, 1989) and William Jackson, Britain's Defence Dilemma: An Inside View (London: BT Batsford, Ltd., 1990).

Europe. The problem was releasing nuclear information, which was prohibited by the American Atomic Energy Act of 1946. Foulkes, who was also the chairman of NATO's Military Committee, got Bradley to agree to release enough information so that some preliminary planning could start. Weapons characteristics and composition were not part of this information. Bradley was not sure as to what the long-term impact of the GSP would be on US planning, but promised to keep Foulkes informed of any future changes.<sup>11</sup>

The GSP was formally briefed to the Cabinet Defence Committee in October 1952. A Canadian analysis of the GSP concluded that not enough military force structure and atomic information would be available to NATO by the December 1952 meeting to dramatically alter the Alliance's strategic concept, and thus the GSP would not affect Canada's force structure until 1954, when SACEUR was to have provided an assessment of his force requirements. Secondly, Canadian strategic planners noted the two-phase war concept and predicted that most nations would pour their resources into forces dedicated to deterring war and then fighting it in the first phase, rather than providing forces for both phases.<sup>12</sup>

Pearson was concerned that the British would reduce their conventional forces in Europe to pay for their strategic nuclear force. He "hoped that a fuller exchange of information between the United Kingdom and the United States and a reasonable division of effort in atomic warfare, including

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11. DHIST, "The Raymont Study," pp. 132-133; National Security Archive [hereafter NSA] memo Foulkes to Claxton, 15 Sep 52, "Notes on Discussion with General Bradley held in Washington on 10 September 1952."

12. NAC RG 24 vol 20710 csc 232, 7 Oct 52, memo to the Cabinet Defence Committee, "Canadian Comments on UK View on Global Strategy and Defence Policy."

coordination of target priorities, would be achieved in order to lighten the pressure on the UK defence budget." He also thought that "it was unfair of the United States to ask European countries to make plans on the basis of information in the possession only of the United States." This situation had to change. Claxton thought that the Soviets would match American strategic nuclear efforts. With larger nuclear weapons "it would be profitable to an enemy if only one bomber got through to a North American city." Early warning and air defence should be improved.<sup>13</sup> Foulkes thought that depending on strategic air warfare to affect the immediate course of a battle was "impossible", though it would affect events in the long term.

The Cabinet noted these things, but the secretary recording the proceedings for the meeting stated that "a recent statement of United Kingdom views on global strategy, which gave greater emphasis to the place of atomic weapons, was resulting in a re-examination of plans for the defence of Europe. It would not in any event affect present Canadian defence planning."<sup>14</sup>

For the time being, it did not appear to. MC 14/1, tabled in December 1952, was produced to update strategic guidance for the major NATO commands (SHAPE and SACLANT) and the Canada-US Regional Planning Group (CUSRPG). As in previous NATO concepts, NATO's aim was to "convince the USSR that war does not pay, and to insure a successful defence of the

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13. NAC RG 25 vol 4903 file 50115-P-40 Pt. 2, 9 Oct 52, Extract from Cabinet Defence Committee Meeting."

14. NAC RG 2 vol 2651, 15 Oct 52, Cabinet Conclusions.

NATO area should war occur."<sup>15</sup> The method was to stabilize the Soviet offensive in Western Europe and conduct a counter-offensive. North America was important in that it "possesses the principal Allied production and offensive capacity and is geographically well placed to provide several of the bases required to control vital sea lines of communication....In addition it provides the main base for the strategic air offensive."<sup>16</sup>

In terms of priority of effort, the Canada-US Region was to ensure that it would

...devote to defensive purposes only that portion of their total forces which is necessary to provide a reasonable degree of protection for the essential elements of North American war-making capacity....the first call on the forces considered necessary to provide the minimal acceptable degree of protection of North America must be allotted to the defence of its productive capacity, communications, bases, mobilization and training facilities....in 1956 the Soviet Union may have a formidable atomic potential against North America, and an adequate defence for this area thus becomes essential in order to permit NATO to accomplish its military objectives.<sup>17</sup>

Canadian planners did not like the original draft wording, which omitted this last phrase and thus omitted the possibility the Soviets might attack Canada. They were also not happy with the imprecise discussion on the impact of nuclear weapons use by both friend and foe and thus pushed to have it included. Nevertheless, MC 14/1 was approved in December

15. Document released by SHAPE Historian, 9 Dec 52, North Atlantic Military Committee, "Decision on MC 14/1: A Report by the Standing Group on Strategic Guidance."

16. Ibid.

17. Ibid.

1952.<sup>18</sup> Problems were aggravated by the fact that the United States had exploded a hydrogen device in October 1952 (the MIKE test) and the implications of this event were not disseminated in time for the December NATO meeting, most likely because of the lack of nuclear information channels within NATO at the time.

### The Continental Air Defence Focus: 1952-1953

The on-going NATO strategy debate progressed concurrently with significant developments in the Canada-US relationship, particularly those aspects dealing with the air defence of North America. Despite the hazy thinking in MC 14/1's appreciation of the problem, the two nations made great strides in coordinating thinking, planning, scientific development, and implementation. The decisions produced by this relationship were not made under the umbrella of a NATO strategic concept (as later force structure decisions would be) but were very loosely related to what was happening in Paris and London, more by the inclusion of some of the same personalities than by deliberate design.

The air threat to North America was not a new theme. Early coordination was achieved through the PJBD and MCC, resulting in the CUSBSP air warning and intercept appendix in 1947. Construction on the American PERMANENT radar system started in 1951, as did a limited number of USAF radar stations in Canada (the PINETREE line), which

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18. NAC RG 25 vol 4495 file 50030-E-1-40 Pt.1, 7 Oct 52, Joint Intelligence Committee, "Strategic Guidance;" 8 Oct 52, Report by the Joint Planning Committee to the Chiefs of Staff Committee, "Strategic Guidance;" 1 Dec 52, memo for Defence Liaison, "NATO December Ministerial Meeting."

were located in central and eastern Canada covering the approaches to the industrialized north east United States. The main threat was projected to be the Soviet TU-4 BULL, a B-29 copy, equipped with biological, chemical, atomic, or conventional weapons.<sup>19</sup>

The fear-laden atmosphere in the United States stimulated American interest in civil defence. A special study, Project EAST RIVER, concluded that an air defence system was essential to prevent catastrophic damage to the United States as a socio-economic entity. Three to four hours warning was needed. Such a system would have to be based partly in Canada. Consequently, a Summer Study Group was assembled at the Massachusetts Institute of Technology's Lincoln Laboratory (also known as Project LINCOLN) to discuss what the threat consisted of and what a possible air defence system might look like. The Summer Study Group was significant not only for its task but for the fact that two Canadian scientists participated. They were Dr. John S. Foster of McGill University and Dr. George Lindsey of the DRB.<sup>20</sup>

The Summer Study Group believed that the Soviets would have a stockpile of fission bombs between 1954 and 1958 and that these bombs would have a yield greater than the nominal 20-kt bomb that most planners

19. U.S. Joint Chiefs of Staff, Records of the Joint Chiefs of Staff, Part 2 1946-53: the United States (Bethesda Md: University Publications of America, 1979) Reel II, Joint Intelligence Committee, "USSR Long-Range Bombing Capabilities," 17 Apr 50; NAC RG 24 acc 83-4/167 vol 8067 file NSTS 112070-15-1 Vol 1, 11 Dec 47, memo to the Canadian Section of the Military Cooperation Committee, "Implementation Measures, Canada-US Basic Security Plan."

20. Joseph T. Jockel, No Boundaries Upstairs: Canada, The United States and The Origins of North American Air Defence, 1945-1958 (Vancouver: UBC Press, 1987) pp. 61-64; Kenneth Schaffel, The Emerging Shield: The Air Force and the Evolution of Continental Air Defense 1945-1960 (Washington DC: The Office of Air Force History, 1991) pp. 172-174.

worked with. There was a probability that the Soviets would develop thermonuclear bombs. Better Soviet aircraft similar to the B-47 would be available, with ICBM's coming on-line by 1965. Submarine-launched missiles were a distinct probability, but the group was interested in air defence, not ASW at this point. If there were no warning, 20 large atomic bombs would expose 45 million people to radiation and kill half of them.<sup>21</sup>

The group concluded that active air defence was feasible and that improvements should be made as soon as possible. This active air defence system, as proposed, should consist of the following components: two Arctic radar chains (later reduced to one); another radar line located in central Canada; a tracking and control system connected to the radar lines; and interceptors.<sup>22</sup> Defensive forces should consist of Canberra-type bombers equipped with air-to-air missiles, perhaps equipped with nuclear warheads:

Atomic bombs were considered as air-to-air weapons. Against a formation of bombers they appear to be an economical weapon. If the launching plane is to escape the results of the explosion, and the time of flight is to be short enough to prevent the enemy from escaping evasive action, then some simple form of rocket propulsion will be required. The lethal radius is estimated to be 4000 ft. head-on or tail-on, but 8000 ft. side-on.<sup>23</sup>

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21. NAC RG 24 vol 4220 file 756-181-267-2, 10 Dec 52, MIT Lincoln Laboratory, "Summer Study Group."

22. In essence, this would become what we know today as AWACS.

23. NAC RG 24 vol 4220 file 756-181-267-2, 17 Sep 52, G.R. Lindsey, "Report on Summer Study on Air Defence Problems held by Project LINCOLN."

A local area defence weapon, perhaps either or both of the BOMARC and Nike systems currently being tested, should be used in addition to manned fighters to intercept enemy bombers.<sup>24</sup>

The Summer Study Group had access to information regarding technological developments in the United States. In 1949, the USAF Air Defense System Engineering Committee undertook a project to improve interception control with computers. A British information system, the Comprehensive Display System, was modified to include a 'Whirlwind' computer and connected by telephone and HF radio to a series of radars. This technology evolved into the Lincoln Transition System, later called the Semi-Automated Ground Environment or SAGE in 1954.<sup>25</sup>

In 1950, the USAF approved the development of an interceptor missile, the IM-99, also called the BOMARC (BO=Boeing, MARC= Michigan Aeronautical Research Center). BOMARC was modified in 1953 so that it could interact with SAGE. The first version, BOMARC A, had a range of 125 miles and initially was supposed to be equipped with a high-explosive warhead. The Nike Ajax, a US Army project, was a supersonic point defence missile with a 25-mile range. Over 3000 of these were deployed in the United States between 1953 and 1954. Like the initial BOMARC model, it was also equipped with a conventional warhead. Detailed information on BOMARC made its way to the RCAF as early as 1952.<sup>26</sup>

24. Ibid.

25. Ibid., Schaffel, pp. 197-201.

26. FOIA, USAF Air Defense Command, "Historical Study No. 30: Interceptor Missiles in Air Defense 1944-1964," February 1965; A.J. Bacevich, The Pentomic Era: The U.S. Army Between Korea and Vietnam (Washington DC: NDU Press, 1986) pp. 77-80; U.S. National Archives and Research Administration [hereafter NARA] RG 59 box 2880, U.S. State Department, "Fact Sheet: Guided Missiles and Rockets," 22 Jun 59; BOMARC information was given to the RCAF by the USAF through the CJSW Washington in

The nuclear air-to-air weapon discussed at MIT was the Douglas MB-1. Code-named HIGH CARD, then DING DONG, and finally Genie, the MB-1 was proposed in 1951 for use against massed air attacks. A formal requirement for its development was produced in January 1952 but it would not be deployed for a number of years.<sup>27</sup> The Study Group, including the Canadian participants, had a clear view as to what technologies were available for a future air defence effort.

Dr. Lindsey assessed the report in terms of implications for Canada. The DEW Line would cost a lot of money if Canada built it. If the Americans built it, it would require a major infringement on Canada's sovereignty. The same went for interceptor aircraft and the bases to support them. This situation would pose problems in command and control, also associated with sovereignty issues. Finally, Dr. Lindsey noted that

...there is a sinister implication for Canadian target cities. If the prediction of heavy attacks proves accurate, and these attacks are met by strong forces deployed in depth to inflict successive stages of attrition as the attack penetrates farther into the system, then the targets which will be better protected are those deep in the interior of the defended area....If the enemy believes this to be the case he is likely to concentrate his attention on the outer surfaces of the system....For this reason it would behoove the inhabitants of the outer fringe to develop the layers of defence outside of their target areas.<sup>28</sup>

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September 1952. DGHIST file 79/429, VCAS, "Divisional Items of Interest Week Ending 18th Sep 52."

27. Chuck Hansen, U.S. Nuclear Weapons: The Secret History (New York: Orion Books, 1988) pp. 176-177.

28. NAC RG 24 vol 4220 file 756-181-267-2, 17 Sep 52, G.R. Lindsey, "Report on Summer Study on Air Defence Problems held by Project LINCOLN."

After a divisive budgetary battle between air defence proponents and the Strategic Air Command, the Americans approved NSC 139 (31 December 1952). This paper stated that a distant early warning capability should be developed and ready by 1955.<sup>29</sup> Formal Canadian-American discussions could now begin.

Canadian policymakers, particularly Mike Pearson, were disturbed about the sovereignty implications noted by Dr. Lindsey. Canada was anxious to participate, but not without conditions. In addition to participating in ad hoc study groups, Canada wanted advance knowledge of American thinking and plans regarding air defence matters, particularly American force requirements. Canada also wanted some form of joint planning along with joint command arrangements for any air defence system involving both nations. These conditions, it was believed, would alleviate potential problems like those "caused on occasion by the USAF's tendency to utilize informal channels of communication owing to a lack of appreciation of the impact on Canada...."<sup>30</sup> The PJBD/MCC had other tasks, and they were not structured for the passage of detailed technical information.

Canada was already developing her own air defence projects. These included the McGill Fence (later called the Mid Canada Line or MCL) and a new interceptor aircraft. The MCL was different from a series of manned radar stations, as envisioned by the Americans. The MCL consisted of a

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29. Jockel, No Boundaries Upstairs, p. 70.

30. U.S. Department of State, Foreign Relations of the United States, 1952-1954 Volume VI Western Canada and Europe Part II [hereafter FRUS] (Washington DC: Government Printing Office, 1986) pp. 2047-2048, memo Perkins to Matthews, "Difficulties encountered in obtaining Canadian Government approval for US or joint defense projects in Canada," 14 Nov 52.

series of ground stations which projected a signal upwards in an arc. It was directional in the sense that it could determine whether aircraft were headed north or south. In effect, the MCL was a trip-wire laid out along the 55th parallel.<sup>31</sup>

As for interceptor aircraft, Canada had designed, produced and built her own all-weather jet-propelled interceptor, the CF-100 Canuck. Though this aircraft had a proven capability by 1953, many technological advances had been made since its introduction in 1949, particularly in aerodynamics and weapons systems. A replacement was needed. Canadian intelligence appreciations indicated that the Soviets would have 750 medium piston-propelled and 50 jet-propelled bombers capable of reaching North America by 1954, with more jet bombers available by 1958. The RCAF assembled a team in January 1952 to generate requirements for a CF-100 replacement. Essentially, the RCAF wanted a twin-engined two-seat aircraft equipped with guided missiles with a speed of Mach 1.5 and a 600 nm range. Cabinet approved the construction of two prototype aircraft in December 1953.<sup>32</sup>

This new interceptor was designated the CF-105 Arrow. Undertaken by Avro Aircraft of Canada, the Arrow programme evolved drastically to the point where the speed requirements increased to those in excess of Mach 2 in addition to the ability to carry and launch the latest guided air-to-air missiles. The initial weapons system planned for the Arrow involved only conventional missiles but between 1954 and 1957 designers and air defence

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31. Schaffel, p. 193.

32. DGHIST file 193.013(D9) JIC 52/1, "The Threat to North America;" DGHIST, the Raymont Collection file 631, 19 Aug 58, Chairman Chiefs of Staff (Foulkes) "Report on the Development of the CF-105 Aircraft and Associated Weapons System, 1952-1958;" see also Richard Organ, et al. Avro Arrow: The Story of The Avro Arrow From Its Evolution to its Extinction (Erin, Ontario: The Boston Mills Press, 1980) pp. 11-17.

planners were pulled steadily towards equipping the aircraft with nuclear air defence weapons. In effect, the Arrow would be Canada's first designed and built nuclear delivery system; though the details of this aspect of it are discussed in Chapters 4 and 7.<sup>33</sup>

Canada had something more to offer other than just geography. Combined with clear indications to American policymakers that any air defence effort would have to be a collaborative one, this understanding produced a new relationship: the Canada-US Military Study Group (CUSMSG). CUSMSG consisted of representatives from the RCAF's Air Defence Command and the American Air Defense Command with scientific support provided by the Canada-US Scientific Advisory Team (CUSSAT), which had members from DRB in Canada and the various American air defence technology bodies. CUSSAT was responsible for acting as a "medium of exchange" for scientific information.<sup>34</sup>

CUSMSG oversaw the implementation of Project COUNTERCHANGE (later changed to CORRODE) throughout 1953. CORRODE replaced LINCOLN and the Study Groups as the primary scientific body dealing with air defence and overlapped with CUSSAT. One aspect of CORRODE included a joint Canada-US project to determine the feasibility of establishing a high Arctic radar chain. CORRODE established a series of

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33. DGHIST, Raymont Collection, file 11, 19 Aug 58, "Review of Sparrow 2 Considerations;" Raymont Collection, file 631, 19 Aug 58, "Report on the Development of the CF105 Aircraft and Associated Weapon System."

34. In July 1954 the Americans created a unified command, CONAD, to handle joint US air defence matters. USAF Air Defense Command's commander commanded CONAD. See Office of the Chairman of the joint Chiefs of Staff, Ronald Cole et al., The History of the Unified Command Plan 1946-1993 (Washington DC: Joint History Office) pp. 23-24; DGHIST, "Raymont Study", pp. 116-117; DGHIST file 79/24, 31 Aug 53, AVM F.R. Miller, "Report of the Second Meeting of the Canada-US Military Study Group;" NAC RG 24 vol 112 file 096 107.4 v. 1, 14 Dec 53, memo from G/C E.M. Reyno to CPlansI, "CUSSAT."

experimental stations to test men, radar, and communications systems in the extreme Arctic climate and to learn more about the bizarre electromagnetic anomalies generated in this environment which might affect early warning.<sup>35</sup>

The tentative concept of operations discussed in the Summer Study Group took on more shape. The CORRODE group formalized the place of an early warning system in the broader context of a war with the Soviet Union. In effect, the early warning system was one of four things necessary for the defence of North America. The first was early warning derived from signals intelligence (SIGINT) and other sources within the Soviet Union. The second was the effectiveness of SAC; that is, how much damage could SAC produce against the Soviet bomber force before it reached North America. The third component was the early warning system. Fourth was the ability to disrupt an attack over North America both at the area and point defence levels. Six hours warning was necessary from the initial penetration of the early warning system.<sup>36</sup>

The CORRODE test sites were built and tested in the Arctic throughout 1953, while independent Canadian work continued on the McGill Fence project. In April 1953, SAGE development team got the go ahead. SAGE would be developed to coordinate and control the air battle. This came after the acceptance by US policymakers of NSC 159/4, which recommended that

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35. DGHIST file 193.009 (D53), 6 Feb 53, AVM Miller, "Project COUNTERCHANGE: Experimental Early Warning Radar Sites in the Arctic."

36. Ibid.

air defence projects be developed to include SAGE, the MCL, and additional peripheral radars (gap fillers, AEW aircraft and 'Texas Towers').<sup>37</sup>

These projects were accelerated in August 1953 when the world learned that the Soviets had tested their first thermonuclear weapon. American press hysteria was communicated to the Cabinet in Canada while the members deliberated air defence matters. The CUSMSG recommended that MCL construction begin, as it would provide at least two hours warning and it could be in place before the Distant Early Warning (DEW) Line, which would take longer to build. Cabinet approval was given for MCL construction in November 1953.<sup>38</sup>

#### Canadian Reaction to the "New Look": 1953-1954

The announcement of the Eisenhower administration's 'New Look' policy (NSC 162/2) in October 1953 was no surprise to Charles Foulkes. Foulkes had developed a close relationship with General Omar Bradley's replacement, Admiral Arthur W. Radford, the new Chairman of the US JCS. Radford eventually met with Foulkes more times than any other allied military leader while he was Chairman of the JCS. Radford and Foulkes on

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37. Schaffel, p. 193.

38. DGHIST 73/1223 file 1330, 6 Oct 53, Cabinet Defence Committee 95th meeting; 3 Nov 53, Cabinet Defence Committee 96th meeting; NAC RG 2 vol 2651, 4 Nov 53, Cabinet Conclusions. See also Declassified Documents Reference System microfilm, [hereafter DDRS] 1978, frame 153 A and B, 20 Oct 53, JCS, "Decision on JCS 1899/69, Interim Report By the Canadian-US Military Study Group."

many occasions smoothed the way between both nations' foreign policy representatives, particularly on matters relating to continental defence.<sup>39</sup>

An example occurred in October 1953. Radford was under pressure to accelerate the American continental defence effort, and the perceived slow pace of the Canadian defence policymaking process frustrated his attempts to show American policymakers (and the media) that there was in fact progress. Foulkes arranged a meeting which included the Director of Central Intelligence (and then Undersecretary of State), General Bedell Smith, Admiral Radford, Canadian Ambassador to the United States A.D.P. Heeney (he hated being called Arnold), and others, including George Ignatieff from External Affairs. The aim was to clear the air. Some restrictions on nuclear and intelligence information were informally lifted for the purposes of the meeting. In a frank discussion, both parties examined the progress of the Soviet thermonuclear programme, delivery systems, intent, and potential methods of limiting damage to North America if attacked. The objective of the meeting, from the American point of view, was:

to achieve in a rapid and orderly manner and to maintain, in collaboration with Canada, a readiness and capability which will give us a reasonable assurance of:

- (a) contributing to deterring Soviet aggression
- (b) preventing devastating attack that might threaten our national survival
- (c) minimizing the effect of any Soviet attack so as to permit our successful prosecution of the war
- (d) guarding against Soviet inspired subversive activities

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39. U.S. Navy Operational Archive [hereafter USN OA], The Arthur W. Radford Papers, "Personal Log," USNARA RG 218 file 381-Continental Defense (1953-1954), letter MCC to Radford, "Status of Canada-US Force Requirements Planning," 20 Oct 53; memo Radford to SECDEF, 17 Oct 53; memo Radford to Service Chiefs, "Continental Defense," 16 Oct 53.

- (e) preventing the threat of atomic destruction from discouraging freedom of action or weakening national morale.<sup>40</sup>

Canadian participation, the group agreed, was essential if the deterrent system was to be effective.

The second example was a paper informally passed to Foulkes in December 1953 by an American officer serving with the NATO Standing Group. Passed on to the three Canadian chiefs, this paper laid out preliminary American thinking on the place of nuclear weapons in NATO strategy. The Lisbon goals could not be met. Therefore, battlefield nuclear weapons would augment conventional forces. Tactical nuclear weapons "have been given high priority", but they would be useless without knowing what the "empirical effects" were. Though the data remained subject to restrictive American laws, SHAPE and SACLANT would initiate a training programme for NATO members as soon as feasible. In the Standing Group's view, "atomic and other new weapons will not... obviate the need for standard battle-tested weapons".<sup>41</sup>

The paper emphasized the need for an efficient communications and alerting system. This was "a grave problem, largely political in nature." The largest problem was that "even short delays in granting Commanders the authority to initiate retaliatory operations might lead to a serious disintegration of our military position." There was no immediate answer to this problem. As for nuclear force structure, a mix of aircraft-delivered

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40. USNARA RG 59 box 3174, 711.5611/10-2253, "Informal Views on and actions of the United States relative to Continental Defence Missions," 21 Oct 53.

41. DGHIST, Raymont Collection, uncatalogued, 4 Jan 54, memo Foulkes to Chiefs, "Statement by the U.S. Representative at the December 1953 Meeting of the NATO Military Committee."

bombs, missiles, and artillery was necessary given the weather and other operational factors on the field. Missiles were adequate against fixed targets, but aircraft were needed for targets of opportunity. Nuclear-armed air defence missiles were vitally necessary once the Soviets developed a nuclear strike force.<sup>42</sup>

With the October 1953 meeting and December 1953 paper as background, the New Look policy caused some concern in Ottawa. Canadian policymakers were split as to what impact the New Look would have on NATO and the continental defence system and, specifically, Canada's participation in both areas. The most important tenets of NSC 162/2 were communicated to the media and thus via the Canadian Embassy to Ottawa. These included the central role of nuclear weapons in counterbalancing Soviet power; the renewed emphasis on strategic striking power; the use of nuclear weapons to support conventional NATO forces in Europe and elsewhere; and the fact that nuclear weapons information must be shared with the Allies so that their forces would be more effective.<sup>43</sup>

However, the message received in Ottawa was garbled during media transmission, which was compounded by John Foster Dulles' explication of the latest policy. In essential terms, an Alliance debate (conducted primarily through the media) broke out over where and under what circumstances the United States would use "prompt retaliation" with

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42. Ibid.

43. For a discussion of NSC 162/2, see Robert Allen Wampler, "Ambiguous Legacy: The United States, Great Britain, and the Foundations of NATO Strategy, 1948-1957", (unpublished PhD Dissertation, Harvard University, 1991), pp. 519-522. Note that NSC 151/2 dealt with nuclear information sharing. This will be handled in more detail in Chapter 3.

nuclear weapons at places of its choosing.<sup>44</sup> The Americans were alarmed at the debate. Radford knew that some NATO nations sought Canadian views on such matters, and he was anxious to get Canadian support. Radford secretly informed Foulkes that the phrase 'prompt retaliation' was inserted "mainly for propaganda purposes and would not be applied without consultation with allies."<sup>45</sup>

Canadian diplomatic personnel and policymakers were not overly concerned. A.D.P. Heeney correctly concluded in January 1954 that the most likely effect of the New Look on Canadian defence policy would probably involve "increased attention to continental defence in co-operation with Canada to protect the main base of the striking power of the free world".<sup>46</sup>

An early Joint Planning Committee (JPC) study indicated that the New Look would affect the Canadian defence programme materially, to include extending the early warning system out to sea and dramatically increasing air defence forces. The JPC planners thought that it might prompt Canada to acquire BOMARC or Nike, build more interceptor aircraft, and base American fighters in Canada, probably leading to the complete integration of both nations' air defence commands. In terms of Canadian commitments in Europe, the JPC noted that there was some concern that the American forces might reduce or withdraw from Europe because they were currently deploying nuclear weapons there. The fact that the

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44. NAC RG 25 vol 4903 file 50115-P-40 pt. 2, 24 Mar 54, memo from W.H. Wershof to the Minister, "United States Defence Policy."

45. NAC RG 25 vol 4903 file 50115-P-40 pt. 2, 8 Mar 54, "Extract of notes by General Foulkes on Conversations held in Washington on March 8, 1954."

46. NAC RG 25 vol 4903 file 50115-P-40 pt. 2, 22 Jan 54, Heeney to Pearson, "United States Defence Policy."

conventional forces had not been drawn down indicated that they would probably stay. Consequently, withdrawing Canadian forces from Europe would be precipitous. The JPC also noted that American nuclear weapons policy was "obscure" and that it was "difficult to determine at this time what the possible implications to Canada" were.<sup>47</sup>

On the other hand, Canada's ambassador to NATO, Dana Wilgress, thought that:

...the protection of this retaliatory power will assume progressively greater importance and, in the end, it will become inseparable from the power itself....the United States and the North American Continent will become a fortress as well as the power house of Western ability to deter and defeat aggression. the strength and invulnerability of the fortress will be essential elements of NATO security....A few years hence, the main front may shift from Europe and centre in the armament competition between the offensive-defensive capacity of the Soviet Bloc and the American Continent. The race will not only involve better weapons but also a redeployment of those weapons. Unless we can reduce our commitments outside the American Continent, our defence bill in future years may therefore be higher.<sup>48</sup>

This theme would generate problems in defining Canadian strategy later in 1954.

The JPC was tasked to report in more detail on the possible impact of the New Look as more information became available from American sources. The JPC paper, "United States Defence Policy and the Possible Implications for Canadian Defence Policy", provided a Canadian

47. NAC RG 25 vol 4903 file 50115-P-40 pt. 2, 9 Feb 54, JPC, "A Study of Recent Changes and Trends in United States Defence Policy and the Implications it might have on Canadian Defence Policy."

48. NAC RG 25 vol 4903 file 50115-P-40 pt. 2, 5 Feb 54, memo Wilgress to Pearson, "Implications of United States Strategy."

interpretation of what the New Look meant and anticipated what areas Canada might have to alter in future defence programmes as a result. The JPC concluded that the New Look was motivated by economic and domestic political factors and more importantly, the projected availability of "tactical and strategic atomic and thermonuclear weapons" which "constituted the real strength of the power to deter aggression." In addition, "The realization that the Soviet Union had developed thermonuclear weapons and the capacity to strike any target in North America, gave the Eisenhower Administration the basis on which to divert more resources to the strengthening of American air power and of continental air defence". The JPC also concluded that atomic and thermonuclear weapons might not necessarily be used, "but they are now considered a part of the United States' conventional military strength".<sup>49</sup>

With regard to the Canadian defence programme, the JPC noted that NATO and the defence of the Atlantic area remained a high American priority. The new emphasis on the continental system, however, revolved around protecting the main deterrent force, SAC, as much as the protection of Canada and the United States as socio-economic entities. In effect, "The Canadian government may be faced with requirements for additional radar systems, interceptor forces, anti-aircraft and guided missile installations, further integration of air defences into one command and generally closer measures of cooperation in planning and defence commands...demands on

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49.DGHIST file 112.3M2.009 (D260), 15 Jun 54, JPC, "United States Defence Policy and the Possible Implications for Canadian Defence Policy."

Canadian resources--financial, physical and manpower--are likely to be substantially heavier.<sup>50</sup>

Mike Pearson was concerned that Canadian policymakers might use the New Look to withdraw from the European commitment, perhaps citing cost. Pearson's counterbalance concept would be irrevocably altered if this new 'continentalism' took root. The aim was to influence the Americans through the NATO medium. Fully committing Canada to continental defence would dramatically reduce her ability to influence the other NATO allies in the diplomatic forums. Canadian and certainly American withdrawal would even be interpreted by the allies (and certainly by the Soviets) as a weakening of the Alliance itself. Canada, therefore, must use her diplomatic capital in Washington and Paris to ensure that spats caused by the New Look announcement remained just that and did not erupt into divisive debate. In a memorandum to the Prime Minister, Pearson concluded that

Canadian defence policy has been firmly and rightly, founded on NATO, and we should do everything we can to keep this foundation strong. On the other hand, it is not going to be easy, politically, to maintain at full and unimpaired strength our forces overseas, if our neighbours begin to reduce their commitments through "new decisions" and new strategic concepts. It may be that the American Administration will not be the only ones who will, before long, have to make an "agonizing reappraisal" of foreign policy.<sup>51</sup>

This debate was reflected in the Chiefs of Staff Committee. Simonds, the Chief of the General Staff, did not believe that the Soviets would use the bulk

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50. Ibid.

51. NAC RG 25 vol 4903 file 50115-P-40 pt. 2, 2 Feb 54, memo to the Prime Minister from Pearson, "United States Defence Policy."

of their nuclear stockpile against North American targets. He thought that the primary Soviet aim was to secure Western Europe and in particular the United Kingdom. What if the Soviets did not use nuclear weapons in a conflict at all and relied on their conventional strength in Europe? It would put the moral onus on the West regarding nuclear use. Air Chief Marshal Roy Slement disagreed. He thought that SAC bases in North America would be the primary targets. What good would securing Europe be without 'taking out' the main threat against the Soviet homeland? Foulkes had to intercede. Canada had to be able to contribute to meeting both threats in a flexible manner. The new Soviet Type 37 jet bomber (or M-4 BISON) was an indicator of Soviet intentions, Foulkes stated, but the indications were also strong that the Soviets believed they could cut Europe off in the Atlantic and attain victory in Europe.<sup>52</sup> Canada, therefore, needed to contribute forward defence forces in Europe, forces at sea, and air defence forces in Canada.

Foulkes was influenced by developments in Europe. General Gruenther had established a New Approach Group (NAG) at SHAPE earlier in 1954. The NAG's purpose was to develop a strategic policy without US JCS or NATO Standing Group interference. In addition to the bureaucratic inefficiency which existed within the Standing Group, other NATO members were not happy about having a committee consisting of American, British, and French military leaders vetting the deliberations of the Military Committee.<sup>53</sup> As Deputy Minister Bud Drury put in a note to Foulkes: "I see that the basic plans of NATO are subject to review and

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52. DGHIST, Raymont Collection, file 1308, 9 Jul 54, COSC, minutes of the 565th meeting.

53. Wampler, p. 522; DGHIST, Raymont Collection, uncatalogued, 5 May 54, message Canadian delegation to NATO Paris to Undersecretary of State for External Affairs, "Meeting of Council with Standing Group."

comment by the... [Chiefs of Staff] of [the] U.S., U.K., and France and that it is the function of the ...[Standing Group] to reconcile such views before they are passed on to lesser breeds.<sup>54</sup>

Specifically, the NAG was to "(1) determine the effect of the introduction of new weapons on the size of the forces that would be needed by 1957; (2) to see what effect new weapons would have on the composition of national forces (land, sea, and air) and (3) to try to determine what effect the new weapons would have on the balance as between regular and reserve forces."<sup>55</sup> The NAG operated on several assumptions. First, war would be of a short duration and the decisive phase would come early. This in turn was dependent on the effective delivery of nuclear weapons, instead of a reinforcement/replacement build-up over the long term. The emphasis, then, was on forces in being which might consist of a conventional-tactical nuclear shield to hold the line in Europe for up to 30 days. Nuclear weapons would be used from the outset. The NAG submitted its reports in July 1954 to the Standing Group.<sup>56</sup>

In effect, the NAG reports went directly to the Standing Group without going through the Military Committee. Foulkes found out and was not impressed. He pushed for and got a meeting with the Standing Group on 7 June 1954. Foulkes was adamant. Any implementation of New Approach Group recommendations was

<sup>54.</sup> DGHIST, Raymont Collection, uncatalogued, 20 Apr 54, note Drury to Foulkes.

<sup>55.</sup> NAC RG 25 vol 4533 file 50030-AB-40 pt. 4, 25 Mar 54, message from the Wilgress to Pearson, "Briefing at SHAPE."

<sup>56.</sup> Wampler, pp. 609-618.

...a subject of vital NATO military policy which must be decided on equal terms by all of the fourteen Chiefs of Staff and we cannot agree with the Standing Group countries making up their minds, the other eleven countries being expected to accept the stand taken by the three national governments. This position is unacceptable to the Canadian Chiefs of Staff and the Canadian Government....<sup>57</sup>

This was unacceptable for several reasons, but most importantly:

As this may involve financial and other policy matters of the Canadian Government, the Government will require the Canadian Chiefs of Staff to be in accord with the recommendations, and decisions on policy must be arrived at as equal partners any time they involve Canadian participation.<sup>58</sup>

Foulkes was then pulled aside by the American member, General Whiteley, who attempted to convince him that the other NATO members could not really participate because of the high security relating to nuclear weapons planning and capabilities. Foulkes told Whiteley that "this argument did not hold water at all." SACEUR, General Gruenther, already knew what the limits were and had not exceeded them in the production of the NAG studies. Foulkes knew this to be the case because of his relationship with Gruenther. Foulkes then pointedly told Whiteley that "it is common knowledge that the worst security in NATO is in a country which is represented on the Standing Group" and he "could not accept the fact

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57. DGHIST, Raymont Collection, uncatalogued, "Brief for Discussions with General Whiteley, 7-8 Jun 54."

58. Ibid.

that anything which could be seen by France could not be seen by Canada...."<sup>59</sup>

Whiteley then tried to convince Foulkes that political (as opposed to military) security was another reason the Military Committee should be avoided. In Whiteley's view, "there was a possibility that this paper would reveal that we would not be able to defend Denmark and part of Holland...." Foulkes again "pointed out that this was no secret." Foulkes was "not at all convinced that the Standing Group" could solve any security problem, military or political.<sup>60</sup>

Foulkes won, and the Standing Group agreed to incorporate the Military Committee into the process.<sup>61</sup> It is possible that if this had not occurred, MC 48 might not have existed as a Military Committee-vetted strategic concept.

Shortly afterwards, Gruenther came to Ottawa to brief the Cabinet Defence Committee in June 1954. This meeting was arranged by Foulkes.<sup>62</sup> Gruenther discussed the activities of the SHAPE New Approach Group, and noted that SHAPE planned on the assumption that atomic bombs would be available and used. Gruenther believed that the decision to use atomic weapons would be at the highest political level, while the SHAPE staff decided how they would be employed; targeting would focus on enemy airfields. SACEUR concluded by asking that Canada not withdraw fighters

59. DGHIST, Raymont Collection, uncatalogued, "Report of General Foulkes on his discussion with the Standing Group on 7 Jun 54."

60. Ibid.

61. DGHIST, Raymont Collection, uncatalogued, 30 Jun 54, letter Foulkes to MacKay.

62. DDEL, Gruenther Papers, 'Foulkes, Charles' folder, 15 Jun 54, letter Gruenther to Foulkes.

from 1 Air Division in Europe for continental air defence in North America; this would open a serious gap in SACEUR's air defences. Nor should Canada withdraw from its divisional commitment to the Central Region, asserting that the Canadian contribution to the forces under his command were "magnificent" and "would be very hard to replace."<sup>63</sup> Canada, Gruenthaler said, "had an influence far out of proportion to its 15 million people and could do much to remove the ill feeling that existed between friendly countries. Canadians ...were not viewed as having any specific axe to grind....much could be done to improve relations between France and the United States."<sup>64</sup>

SACLANT, Admiral Jerauld Wright, also had his turn to address the Cabinet Defence Committee and the Panel. Too many policymakers, in his view, neglected the fact that the Atlantic Ocean was a major factor in the defence of NATO and as far as he was concerned, continental defence was inseparable from the defence of Europe. After making reference to the magnitude of an emerging future missile-launching submarine threat in the North Atlantic, Wright emphasized that Canada contributed significantly to ASW forces previously and it was welcomed by SACLANT. Wright told Cabinet that "atomic and thermonuclear weapons would play just as big a role in naval as in other forms of warfare and were just as useful against naval targets ...includ(ing) Soviet submarine bases and airfields from which maritime operations could be launched.... SACLANT had made plans to use these weapons and established liaison

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63. DGHIST Raymont Collection file 1330, Cabinet Defence Committee special meeting 10 June 54.

64. Ibid.

arrangements with those agencies capable of delivering them.<sup>65</sup> Wright wanted to believe that these weapons would "do the job", but personally "he was quite sure that more conventional forms of armament would [also] be required."<sup>66</sup> Intelligence on the Soviet submarine fleet indicated there were about 400 submarines, of which 80 were of a long-range type, 130 for intermediate distances, and the rest dedicated to coastal operations. Wright also briefed Cabinet on the American nuclear submarine programme. In sum, Canada retained its vantage point on Atlantic issues and was, later on, able to factor this information into the Canadian defence programme.

An example was the maritime equivalent of Project LINCOLN; Project LAMPLIGHT. Established by the Secretary of the Navy in September 1954, the MIT Summer Study Group once again brought Canadian and American continental defence experts together. LAMPLIGHT explored the possibility of extending the radar early warning system out to sea from Newfoundland to the Azores in the Atlantic and from Alaska to Hawaii in the Pacific. These "sea wings" would theoretically consist of radar picket destroyers (DER), Super Constellation AEW aircraft, and B-47 bombers armed with clusters of Sparrow air-to-air missiles. The RCN briefly toyed with the idea of converting its Prestonian-class ocean escorts into DER's in support of this plan, but withdrew since these ships were SACLANT-tasked in war and there was not enough money for new construction to replace

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65. DGHIST Raymont Collection file 1330, Cabinet Defence Committee special meeting 13 Oct 54. Notably, Wright also talked about the USN nuclear submarine programme and the problems that it faced.

66. Ibid.

them.<sup>67</sup> Clearly, though, naval forces would have to adapt to the new threat environment.

There was one major change in July 1954. Brooke Claxton stepped down as Minister of National Defence. He was replaced by Ralph Campney. Campney was from Picton, Ontario and was a Queen's University graduate. Like many of his colleagues, he served in the First World War in a hospital unit, then with an infantry battalion in France and finally with the Royal Flying Corps. A lawyer with strong Liberal connections (he had been King's secretary in the 1930s), Campney was assistant to Brooke Claxton in 1951 before taking over the defence portfolio in July 1954.<sup>68</sup> The relationship between Foulkes and Ralph Campney was a cooperative but unremarkable one. Campney "seemed content to adopt a low profile and preferred to react to recommendations of the Chiefs of Staff in implementing defence policy rather than the initiation of new measures and policy."<sup>69</sup>

As 1954 progressed, Canadian planners were receiving better information regarding Soviet intentions and capabilities. Why exactly this was the case is difficult to determine. One possibility is that the informal personal channels between the Canadian and American scientists and policymakers were producing a more fruitful exchange. Perhaps Canadian technical methods improved, or perhaps the Canadian intelligence

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67. DGHIST file 193.013 (D13), 23 Aug 54, JPC, "MIT Summer Study Group"; DGHIST, Naval Board Minutes, 30 Dec 54, Special Meeting; see also the unnecessarily severed file from NAC, RG 24 vol 21429 file 1855-9, "Continental Air Defence of North America: LAMPLIGHT."

68. J.W. Pickersgill, My Years With St Laurent (Toronto: University of Toronto Press, 1975) p. 217; The Canadian Who's Who Vol. X 1964-1966, p. 161.

69. DGHIST, Raymont Study, pp. 164.

community improved its organizational structure to move information more efficiently. Whatever the reason, the Defence Research Board and the newly inaugurated Joint Special Weapons Policy Committee (JSWPC) were tasked to report to the JPC what the projected enemy intentions and capabilities were.<sup>70</sup> After a semi-annual review of intelligence in the fall of 1954, the JPC concluded that the Soviets were displaying more flexible tactics in dealing with the West, though there was no relaxation of control over Eastern European nations. The Soviet economy had improved significantly, as had its military capabilities. A significant indicator was the fact that "the international Communist movement continues to attempt to undermine governmental authorities wherever opportunities arise throughout the world."<sup>71</sup>

Canadian understanding of the Soviet Union's capability to threaten North America was refined. The estimate stated that the Soviets would probably possess 34 boosted uranium or plutonium weapons in the 1000-kt yield range and 125 60-kt weapons by mid-1955. That said, the JPC also concluded that "a true ballistic-type missile of the requisite range [that is, to North America] will be in service use before 1960-63. An intercontinental missile of the aircraft type might, however, be available by 1957-60."<sup>72</sup>

Weapons effects information was coming in from open sources. Worldwide public outcry in 1954 over the BRAVO test and the "Lucky Dragon" episode in the Pacific raised public consciousness about radioactive fallout and scientists scrambled to understand the

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70. DGHIST, Raymont Collection file 1330, Chiefs of Staff Committee minutes 30 Jul 54.

71. DGHIST file 193.013 (D13), 27 Oct 54, JPC "Semi-Annual Review of Intelligence".

72. Ibid.

phenomenon.<sup>73</sup> The JPC was eventually asked to report on what effect megaton-yield nuclear weapons would have for the Canadian defence programme. This report was a significant step in the formulation of Canadian nuclear weapons policy.

The paper took a month to draft. This delay was due to the continuation of the continental defence versus European commitment debate, which became evident when the planners attempted to clearly phrase Canadian defence priorities. The RCAF members wanted the following paragraph removed, while the Army and Navy members wanted it left in:

Our current defence programme is geared to the concept of defending Canada as far away from this country as possible, and to assist in preventing enemy forces from overrunning Europe during the initial war period. To this end we have provided forces overseas.<sup>74</sup>

It was left in the final version.

The potential effects of MT-yield nuclear weapons staggered the JPC. In their view:

...the use of megaton nuclear weapons could be so devastating to mankind that the primary aim must be, in both the political and military field, to prevent their use....It is considered that the use of any form of tactical nuclear weapon would lead to the eventual use of megaton weapons and, therefore, the possibility of a war involving tactical nuclear weapons only, is unrealistic.<sup>75</sup>

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73. Allan M. Winkler, Life Under A Cloud: American Anxiety About the Atom (New York: Oxford University Press, 1993) pp. 93-96.

74. DGHIST file 193.013 (D13), JPC meeting 19/54, 25 Oct 54, Draft: "Implications to the Canadian Defence Programme of a Possible Enemy Use of Megaton Nuclear Weapons".

75. DGHIST file 193.013(D13), 27 Oct 54, JPC, "Implications to the Canadian Defence Programme of a Possible Enemy Use of Megaton Nuclear Weapons".

Furthermore:

...a very few enemy aircraft penetrating to the vital areas of Canada and the United States could create such havoc that it might become virtually impossible for either country to continue the war. Therefore, an adequate defence against this threat is of vital importance to North America....an attack by submarine is a less likely form of attack than by air but it cannot be discounted. Submarine attack could be by two means-

- (a) By use of guided missiles or rockets
- (b) By submarine mining (including the off-shore detonation of megaton weapons

[consequently] the detection and destruction of enemy submarines assumes greater importance.<sup>76</sup>

Thus:

Because present defence do not give adequate protection, nor provide sufficient deterrence to such an attack. The only military measure which will prevent the initiation of the use of nuclear weapons in war is the threat of retaliation. The retaliatory forces, therefore, become not only a deterrent, but North America's first line of defence. Now, more than ever, the defence of these forces [must] be given the highest priority in the overall defence programme.<sup>77</sup>

The JPC planners argued that the complete air defence of North America was not possible in 1954 but until there was some form of interception, early warning was still useful and vital. ICBM's would be available in the 1960-65 time frame and money should be put into developing countermeasures against them. The entire civil defence system would require reassessment, as would the role of reserve forces.

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76.Ibid.

77.Ibid.

Canadian forces serving in Europe were not ignored in this appraisal:

SACEUR's concept of defence in Europe is based on the unrestricted use of nuclear weapons. Without these, the forces now in Europe would be inadequate and the Soviets, using its preponderance of manpower, could quickly overrun Western Europe. It becomes apparent, therefore, that under such circumstances SACEUR forces in Western Europe would have to be strengthened.<sup>78</sup>

The JPC paper thus reflected a compromise between the two positions. Though the air and sea defence of North America was a priority, land and air forces would remain part of the NATO shield in Europe.

In a follow on discussion, the DRB recommended to COSC that "steps should be taken to obtain some types of US weapons for use by the Canadian Forces."<sup>79</sup> The lack of a medium to acquire information on weapons blocked any further discussion of the issue in 1954, as Foulkes told Solandt: "You should not forward to the Chiefs of Staff any recommendations regarding atomic weapons for Canadian use until a more appropriate time than the present."<sup>80</sup>

Canada started to forge a closer relationship with SAC in the late in 1954. The first part was to confirm that the MCL and DEW lines, once operational, had the primary role of alerting intercept aircraft to protect SAC bases in North America. The Air Staff assumed that enemy bombers had SAC bases as their primary target. The secondary task was to alert the civil defence organizations in both countries. Until the MCL and DEW

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78. Ibid.

79. NAC RG 24 acc 83-84/49 vol. 4175 file 1930-106-1 pt. 1, 11 Sep 56, memo DWD, "Canadian Army Requirements for Nuclear Weapons."

80. Ibid.

systems were up and running, SAC had to rely on the existing PINETREE line which had spotty coverage and could not guarantee two to three hours warning.<sup>81</sup>

More and more SAC training was conducted in Canadian airspace. The RCAF greatly appreciated the long-range SAC flights attempting to penetrate ADC's cover around St. Hubert (some of the SAC flights lasted 20 hours). This allowed CF-100 all-weather interceptor crews to participate in extremely realistic training exercises. SAC was, according to the RCAF, "the greatest deterrent force in existence on the side of the Western democracies and it would be undesirable to impose restrictions which would limit its effectiveness." There was some confusion on the part of the civilian policymakers. Did the training flights in fact carry nuclear weapons? The RCAF thought not, though the issue was not addressed in this specific MOU. The bombers probably carried practice nuclear shapes but not components or bombs minus the physics package.<sup>82</sup>

External Affairs raised the issue of future USAF (and thus SAC) basing. A media leak in the United States noted that the USAF would soon request more fighter and bomber bases in Canada which prompted further discussion.<sup>83</sup> In addition to the special nuclear storage arrangement established in 1950, the US JCS also established (with Canadian agreement) a unified command for American units handling the Northeastern

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81. DGHIST, Raymont Collection, file 1330, Cabinet Defence Committee 100th meeting, 25 June 1954; The Raymont Collection file 1308, COSC, 564th meeting, 28 June 1954.

82. DGHIST, Raymont Collection, file 1330, Cabinet Defence Committee, 101st meeting, 12 Nov 1954.

83. NAC RG 25 vol 4903 file 5011-P-40 pt. 3, 2 Jul 54, despatch to ADP Heeney from Pearson, "United States Defence Policy and Possible Implications for Canadian Defence Policy."

Approaches to North America. These interceptor units would come under Canadian operational control in the event of war.<sup>84</sup> The first unit to arrive was the 59th Fighter Interceptor Squadron (FIS) with its F-94B Starfire interceptors. It was based at Goose Bay, with a detachment in Thule, Greenland. The 61st FIS was located at Ernest Harmon AFB (Stephenville, Newfoundland) in 1953. It also had F-94B Starfires. Both units were in the process of converting to F89D Scorpions and considerations were being made regarding dispersal airfields.<sup>85</sup> SAC was interested in basing bombers and tankers out of Torbay, Newfoundland; Churchill, Manitoba; and Edmonton, Alberta. Detailed arrangements for the use of these areas were delayed and will be examined in Chapter 8.

The RCAF's enthusiasm to support SAC touched off another row in the JPC. There were not enough air defence resources in 1954 to cover every potential target in Canada. The RCAF sought to create a target protection priority list to govern the deployment of RCAF and Army air defence resources.<sup>86</sup> Montreal, Toronto, and Ottawa all were priority one targets, while Goose Bay, Halifax, and Vancouver were priority two. RCAF ADC, in conjunction with USAF ADC, concurred (no one quite sure who initiated the discussion in the first place) that the air defence of North America should be considered a single air defence problem. Thus, first priority for

84. JCS Joint History Office, The History of the Unified Command Plan 1946-1993 pp. 16-17.

85. Lydus H. Buss, "CONAD Historical Reference Paper No. 1: U.S. Air Defence in the Northeast 1940-1957", (Ent AFB Colorado: HQ Air Defense Command, 1957) pp. 16-18.

86. Note that the Army possessed several 90mm anti-aircraft gun batteries. These were deployed under the CUSRPG commitment, particularly around the locks at Sault St. Marie.

the air defence forces should be given to SAC main operating and SAC refueling bases.<sup>87</sup>

Other JPC members were appalled. This plan meant that Goose Bay, a USAF SAC base, was to be given a higher priority than the capital of Canada and all of her largest cities. The members concluded that "the RCAF recommendation, under brief, is designed to establish the highest priority for Goose Bay in order to substantiate a further recommendation concerning air defence forces at this base." In other words, the RCAF wanted to use the plan to garner more air defence resources, perhaps at the expense of the other services. The JPC members pointed out that a USAF squadron already defended the base.<sup>88</sup>

In the end, the JPC headed this one off at the pass. They believed that it was ADC's responsibility to defend Canadian targets and that "the population or the Government would not accept anything else." In other words, if the Americans wanted it, they could request it directly and it would be considered at the Government level. Policy was not to be made by the RCAF ADC on such a matter.<sup>89</sup>

The accelerated air defence requirements produced equally accelerated analyses of what weapons systems would fulfill those requirements. The RCAF had been sparring with the Army throughout 1954 over who would acquire what surface-to-air missile system and who would control it.

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87. DGHIST file 193.013 (D16), 27 Oct 54, memo to COSC from Air Marshal Slement, Chief of the Air Staff, "Air Defence Planning Policy."

88. DGHIST file 193.013 (D16), 9 Nov 54, 21/54 meeting of the JPC, "Air Defence Planning Policy: First Priority Target System for Air Defence."

89. DGHIST file 193.013 (D16), 23 Nov 54, 22/54 meeting of the JPC, "Air Defence Planning Policy: First Priority Target System for Air Defence;" 23/54 meeting of the JPC, "Air Defence Planning Policy: First Priority Target System for Air Defence."

The RCAF report "Guided Missiles as a Part of the Air Defence Weapons System," briefed to the Chiefs of Staff in November 1954, was a clear indication of RCAF thinking and set the ground for future missile developments which in turn would then produce a number of political problems in the 1960s.<sup>90</sup>

The RCAF's air defence plan was based on the prevention of war through the West's ability to conduct an effective counterattack against the Soviet Union with thermonuclear weapons. An effective and overwhelming threat to this capability would produce instability in the deterrent. The Soviets would not be in a position to produce this effective threat until 1957. There was, therefore, still time to develop effective countermeasures against the future threat.<sup>91</sup> (see Figure 3)

The RCAF identified SAC bases as the priority targets that required defence. In compromise with the problems noted by the JPC, RCAF planners noted that the 34 SAC bases and the vital industrialized areas of North America formed the same target system and could be defended. Other isolated areas would require special handling. Goose Bay was one of these and the planners did not think it was defensible at all. Early warning was still critical, particularly for SAC. Two or three hours was necessary so that SAC aircraft could disperse. This warning should come from strategic warning sources (that is, SIGINT) as well as the DEW Line and MCL.<sup>92</sup>

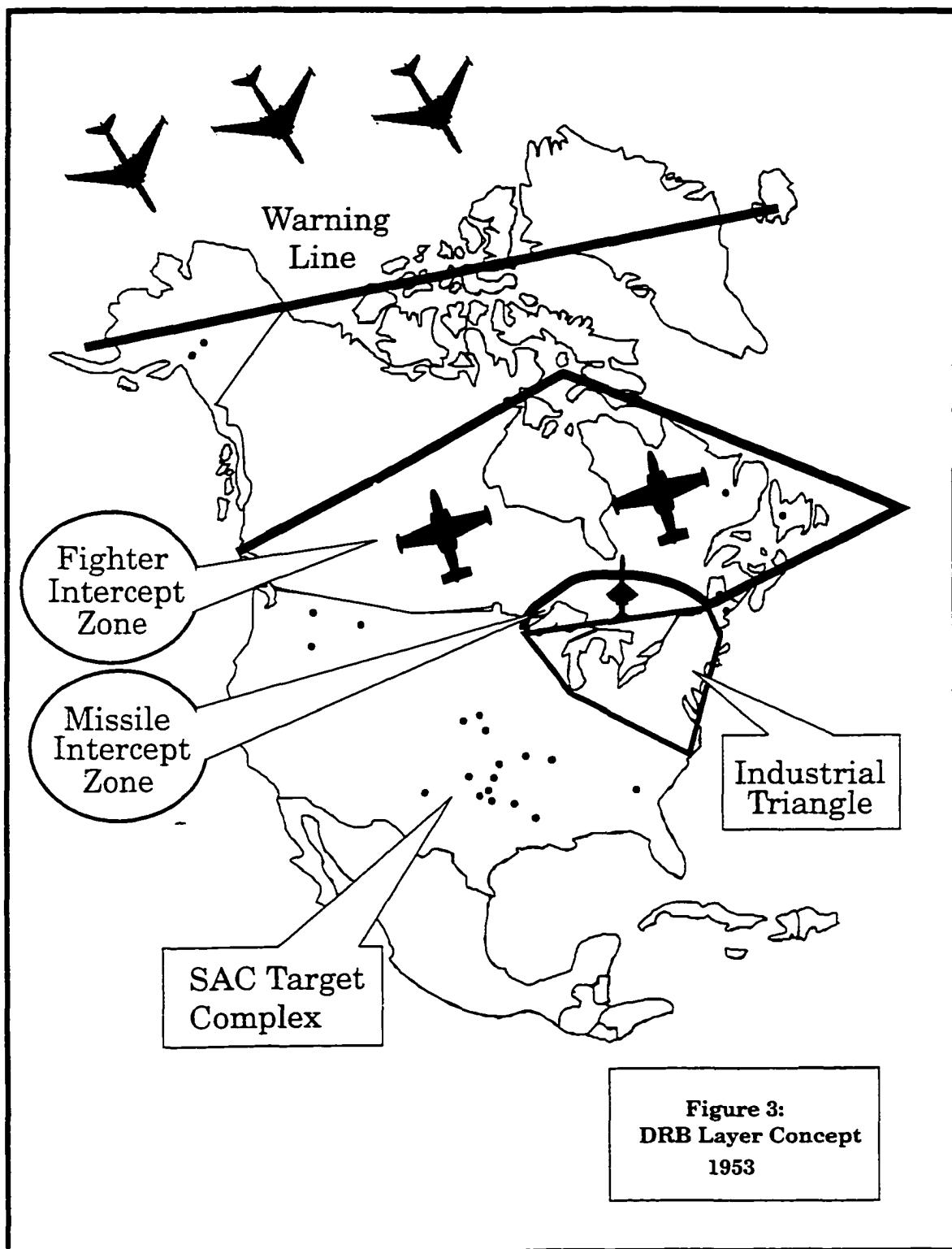
The Army's quest to acquire the conventionally-armed Nike point defence system was given short shrift by the RCAF. Megaton yield weapons,

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90. DGHIST, Raymont Collection, file 1308, COSC, 569th meeting, 3 November 1954.

91. Ibid.

92. Ibid.



argued the DRB, negated point defence systems if these were sited too close to the targets themselves:

Even if the vehicle carrying the bomb is destroyed in the vicinity of the target and the bomb still explodes, very little real defence has been achieved. We understand that, unless the bomb itself is struck by a fragment, the bomb's barometric fuze will almost certainly be set to detonate in the event that the carrier is shot down. Thus the area in which the carriers are destroyed becomes a matter of very great concern....Short range weapons sited near the target will no longer protect it.<sup>93</sup>

The RCAF saw the air defence system progressing in three phases. In Phase I (1955-58), the main threat was the TU-4 BULL and the Type 39 (probably the TU-16 BADGER), and submarine-launched cruise missiles. The aircraft would be operating from bases in the Murmansk and Chukotski areas. Canada would have CF-100 and CF-96 interceptors, the CF-100's would be armed with Sparrow II air-to-air missiles. They could stop a small-scale raid but would be unable to dramatically attrit an attacking force if it consisted of Type 39 aircraft.<sup>94</sup>

Phase II (1958-61) was assessed as a "very dangerous" period. The threat would consist of the Type 37 heavy bomber (probably the Mya-4 BISON) and Snark-like cruise missiles. The RCAF anticipated that the air defence forces would be equipped with CF-100's with Sparrow and CF-105 Arrows equipped with an undetermined air-to-air missile type. The manned aircraft would be supplemented with a surface-to surface missile similar to the BOMARC "A". The aim was to have a 94% kill rate against a mass raid.

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93. Ibid.

94. Ibid.

This would require either 600 BOMARC "A's" or 900 Nike missiles. More would be required to defend all of North America, as this was only enough to minimally defend the industrialized northeast United States, southern Quebec and southern Ontario. Radar cover south of the MCL and DEW lines would have to be increased so that intercept operations could be conducted. BOMARC would be used against high-speed cruise missiles (air or sea-launched). Phase III (1961+) posited a similar threat estimate and response. The exception was that the enemy would supplement his forces with a supersonic cruise missile similar to the Navaho.<sup>95</sup>

The RCAF rated the planned surface-to-surface missile systems. Not surprisingly, BOMARC "B" was the most effective, followed by BOMARC "A", Talos, Nike "B", Nike, and finally a British system called RED SHOES. One BOMARC "B" was the equivalent of 26 Nike, 4 BOMARC "A's", or 12 Nike "B's". The problem was, which data was the RCAF basing its report on? Was it reliable enough to base a multi-billion dollar decision on? The Chiefs of Staff Committee chose to consider the question at an undetermined point in the future.<sup>96</sup>

The Cabinet Defence Committee met in November 1954 to discuss the progress of the defence programme in light of the past year's events. It was at this point the matter of a North American emphasis versus a European emphasis came to a head. Ralph Campney was adamant that there was a distinct relationship between the two:

There was a conflict between the requirements for the continental defence of North America and the defence of Europe. The United

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95. Ibid.

96. Ibid.

States had made a greater contribution to the defence of Europe than Canada. For a large scale U.S. contribution to continue, it would be necessary to have the support of the U.S. public and that required defences of North America considered adequate by the U.S. public. Canada was not willing to let the U.S. government establish defences here ...without regard to Canadian sovereign interests and we had to avoid giving the Canadian public the impression that the U.S. had vested rights in the northern half of the continent...[in order to meet these two requirements] Canada had to contribute to the development of the overall warning system. This might mean that the Canadian contribution to European defence would not be as great as might otherwise have been the case but it would mean that if the United States were satisfied that it was properly protected, it would continue to carry a large share of the burden of defending Europe...<sup>97</sup>

In addition to contributing to the air defence of North America, Canadian forces serving in Europe, the brigade group and 1 Air Division, were still needed and eventually would require upgrading. In this way, Canada still remained committed to both areas, and the link between them was slowly forged.

#### A New Strategy: Canada and MC 48

To sum up to this point: Canadian strategic planners formulated their approach to future war based on a number of sources and events. The first was the British Global Strategy Paper which provided the basis for NATO thinking in terms of the pattern of future war, that is, the primacy of nuclear weapons in the opening phases. Second, American interest in air defence technologies (SAGE, BOMARC, MB-1, DEW Line), coupled with Canadian interest in the geographical sovereignty imperative and the

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97. DGHIST, Raymont Collection, file 1329 Cabinet Defence Committee meeting, 12 Nov 54.

increased Soviet ability to attack North America, produced a new relationship. The American New Look, which placed primacy on the nuclear deterrent, gave dimension to this relationship. In addition to this, the new problem of thermonuclear weapons, produced tension as to where Canada should place her primary military effort given scarce resources: How much Canadian defence effort should be given to protecting SAC, and how much to protecting NATO in Europe and in the Atlantic?

The link between the Canadian continental and European systems was the new NATO strategic concept MC 48, formally adopted in November 1954. The recognition that MC 48 was this link, however, was not made in an explicit fashion in the same way that NSC 162/2 became identified as the New Look. Rather, Canada's acceptance of MC 48 defined her national strategy and became a *deus ex machina* of sorts. Almost all defence projects prior to 1964 were defined in terms of their relationship to MC 48 and its successor concept MC 14/2. (MC 14/2 will be examined in more detail in Chapter 5). Consequently, a detailed description of MC 48 and Canadian reaction to it is warranted in this section.

As noted earlier in this chapter, MC 48 was the result of an exhaustive NATO strategy process. Gruenther's New Approach Group studies were sent to the Standing Group in July 1954. The Standing Group report on the NAG studies, SG 241/3, was revised in October 1954, when it was sent to the Military Committee under the designation IPT 178/15. It was then released as "Decision on MC 48: A Report by the Military Committee on The Most Effective Pattern of NATO Military Strength for the Next Few Years" on 22 November 1954.<sup>98</sup>

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98. Wampler, pp. 619-622.

What, then, was MC 48? The document states that NATO's aim is defensive in nature. This defence will be provided by presenting a major deterrent to aggression, presenting a credible forward defence of Europe, and demonstrating a "high measure of confidence."<sup>99</sup> Thus, NATO must convince the Soviet Union that Europe cannot be overrun quickly and in the event that they try, "they will be subjected immediately to devastating counter-attack employing atomic weapons." Notably, NATO ruled out preventative war, placing the onus of aggression on the Soviet Union or by miscalculation. The only hope the Soviets would have of winning a war would be to suddenly destroy NATO's ability to "counterattack immediately and decisively with atomic weapons." Even if the Soviets attacked conventionally, NATO would use nuclear weapons in response. Consequently, a future war would have two phases similar to those envisioned in the British Global Strategy Paper of 1952. There would be "an intensive initial phase of operations--approximately thirty days or less-- in which each side would strive to deliver a large proportion" of its nuclear weapons "as rapidly and effectively as possible in an effort to neutralize the opponent's atomic delivery capability." While this atomic assault was in progress, naval, land, and air forces would be initiating operations "to achieve strategic advantage and to be prepared to conduct continued operations."<sup>100</sup>

In the second phase, assuming that one side had not surrendered, "there would be a subsequent period of readjustment and follow up, the exact

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99. Document released by SHAPE Historian, North Atlantic Military Committee, 22 Nov 54, "Decision on MC 48: A Report by the Military Committee on The Most Effective Pattern of NATO Military Strength for the Next Few Years."

100. Ibid.

nature of which would largely depend on the outcome of the initial phase." NATO's ability to defeat the enemy was dependent on its "ability to survive and gain superiority in the initial phase." As a result, "our peacetime force pattern must be designed primarily to achieve success during this initial phase and emphasis must be placed upon development of the forces which can participate more effectively in these operations."<sup>101</sup>

To accomplish its aims, NATO had to develop a better intelligence system and to "ensure to the maximum extent possible the security of [the] vitally important strategic air forces and atomic striking forces in Europe", which included the development of an alert and communications system, passive air defence measures, and dispersion. NATO forces also had to be able to "initiate immediate defensive and retaliatory operations including the use of atomic weapons." NATO forces in Europe were to prevent the overrunning of Western Europe from the outset and preserve the integrity of the NATO area. The state of anti-air forces in Allied Command Europe (ACE) was poor, and therefore "the counter-air offensive is the most important factor in air defence. The only presently feasible way of stopping an enemy from delivering atomic weapons against selected targets in Europe is to destroy his means of delivery at source."<sup>102</sup>

In terms of the threat, Soviet forces would conduct a surprise attack against NATO nuclear delivery means, followed by "widespread attacks by the Soviet army and tactical air forces against Europe." Attacks would also be made against NATO naval forces, bases, and merchant shipping in order to isolate Europe. The control of sea communications was important

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101. Ibid.

102. Ibid.

in MC 48. Traditional naval tasks did not change dramatically since "NATO naval commanders are to control and exploit the seas for NATO purposes and to deny their use to the enemy." NATO naval forces in being had to be able to conduct "powerful offensive preparations" against enemy targets," and they were to form part of the deterrent in peacetime. Convoy operations required further study.<sup>103</sup>

How did MC 48 differ from previous concepts? Unlike MC 14 and MC 14/1, there was no area planning guidance included. This absence bedeviled those who wanted a clear statement asserting that protecting the deterrent was more important than forward defence in Europe. Both were co-equal in MC 48. Though MC 14/1 assumed limited nuclear use (that is, limited by the numbers of weapons available to NATO), MC 48 called for a build-up of nuclear forces to supplement the conventional forces in Europe and for those forces already in Europe to develop means of passive defence in the face of nuclear weapons. The aim was to deter Soviet action by having the means to repel attacks against the NATO area and the means to strike at the Soviet Union directly. Notably, the naval mission did not change dramatically.

Foulkes, who relinquished his position as Chairman of the NATO Military Committee in 1953, was still Canada's representative to that body while he was Chairman of the Canadian Chiefs of Staff Committee. He was thus able to monitor MC 48's progress throughout 1954. He was able to get a copy of IPT 178/15 which he passed on to the COSC late in October 1954. The Chiefs' remarks were far-sighted.

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103. Ibid.

Air Marshal Slemon was concerned because there was "tendency to assess the damage potential of the new weapons as being simply larger than the old weapons. The effects of 'fall out' has not been considered." He was also concerned that "the papers seem to be written primarily for European eyes. The fact that a successful atomic attack on North America could be disastrous to NATO as a whole is not brought out."<sup>104</sup>

Chief of the General Staff Guy Simonds prophetically noted that:

SACEUR's plans for the defence of Western Europe are built around the use by both sides of nuclear weapons. The Soviet knows this and the Chief of the General Staff is of the opinion that the Soviets may, therefore, use only conventional weapons, thus placing the West in the position of having to initiate the nuclear war. As the relative size of Soviet and NATO stocks of nuclear weapons and delivery capabilities begin to balance, there may be great reluctance on the part of the West to initiate the use of nuclear weapons. This would result in a conventional war in which the Soviets would have a huge advantage...and as a result it may become necessary for NATO nations to create larger forces in being....insufficient weight is given in these papers to force requirements which may be necessary to avoid defeat in the ensuing phases.<sup>105</sup>

Admiral Mainguy noted that the enemy submarine force would have to be a priority target in the initial phase of the war, or it could wreak havoc in attempts to reinforce Europe in the second phase.

These comments were not passed on in a formal way to the Standing Group: To Simonds' chagrin, Foulkes did not even make use of them for the Military Committee meeting in November. He believed that there was too much talk about the second phase and forces for it:

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104. DGHIST, Raymont Collection, uncatalogued, 5 Nov 54, "Service Comments-SACEUR and SACLANT Capabilities Studies and IPT Reports."

105. Ibid.

It appears to me that the greatest danger to NATO is that we might get defeated in the first stage and if we get defeated in the initial stage, we won't have to worry about the subsequent stage...one of the greatest difficulties we are going to face with this paper in taking it to our political masters is to convince them of the necessary measures that have to be taken to ensure that we can win, or not lose, this initial phase because the steps which we have to take to ensure that we will not succumb to the initial phase are questions which are very difficult for democracies to take.<sup>106</sup>

These questions involved the transition from peace to war, the relationship of launching forces in response to alerts, and the problems of getting the politicians to agree to immediate nuclear weapons use:

The only way in which the Soviet Union has an opportunity of defeating NATO is by a sudden blow. The initiative will always rest with the Soviet Union it will not rest with us. Therefore, it is going to be frightfully difficult for us to plan to meet this initial onslaught unless we get sufficient priority in putting this forward to our political masters....[a war of attrition] doesn't worry me so much because [we] can win.... [the Soviets] are in a position, or may be in a year or two, to strike a sudden disastrous blow and if we aren't ready we haven't taken the measures which have been recommended that we should take, we may not survive the first phase and I would appeal to you that when explaining this to our masters this is the point which is going to be most difficult, the point of getting them to agree to be in a position to withstand this first terrible blow.<sup>107</sup>

While Foulkes addressed the Military Committee, a heated discussion on MC 48 broke out a North Atlantic Council luncheon. Almost all present were concerned about the implications of immediate nuclear weapons use by NATO. Did NAC acceptance of MC 48 imply that approval had been given for NATO military authorities to plan on the basis "that atomic and thermo-

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106. DGHIST, Raymont Collection, uncatalogued, 24 Nov 54, message Raymont to Cooper.

107. Ibid.

nuclear weapons may be used in the future war?" The American representative noted that planning should continue and that the NAC could withhold authority to actually use the weapons. This assurance calmed the representatives down temporarily. Pearson was informed of this exchange immediatly.<sup>108</sup>

Foulkes then forwarded MC 48 and a record of the Military Committee meeting to Ralph Campney at the end of November along with a second MC 48 copy, which was forwarded to Secretary of State for External Affairs Mike Pearson. Campney also passed on Foulkes' covering letter in which Foulkes noted that there were some changes from the original. NATO ministers "would no longer be asked to approve the use of mass destruction weapons, but rather to approve the authorization for NATO military authorities to plan [for their use on the onset of hostilities]."<sup>109</sup>

At least three participants in the Military Committee discussion over MC 48 expressed concern. These were Admiral Jerauld Wright (SACLANT), Admiral Sir Rhoderick McGrigor (Royal Navy), and General B.R.M Hasselman (Netherlands). Their problems with MC 48 were minor and basicly amounted to what they saw as a lack of detailed explanation about the transition from the initial phase of the war (nuclear phase) to the subsequent (non-nuclear) phase. They believed that naval operations were not handled well within the MC 48 framework, since there would be continuity of action at sea which transcended the two phases. Naval forces were required for both phases and there was some concern that the

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108. DGHIST, Raymont Collection, uncatalogued, 24 Nov 54, message Permanent Representative to NATO to Secretary of State for External Affairs, "The New Look."

109. DGHIST, Raymont Collection, uncatalogued, 29 Nov 54, memo Foulkes to Campney.

proponents of strategic airpower would use MC 48's emphasis on the first phase to attack the utility of navies in future war. Foulkes reiterated his previous views on the need to be ready for the first phase and most importantly, to appear ready, since the Soviets held the initiative. Admiral Radford, the US JCS Chairman fully agreed, as did Air Marshal Dawson (RAF) who represented SACEUR at the meeting.<sup>110</sup>

Though unrelated to MC 48, the Military Committee also discussed the problems of the wartime coordination of NATO-dedicated national forces and those national forces which were not earmarked for NATO. A paper had been put forward for discussion of air defence in the NATO area. This paper made no reference to air defence in North America. Foulkes expressed surprise at this omission and pointedly noted that MC 48 recognized the relationship between air defence and protecting the strategic deterrent forces (SAC) which directly benefitted NATO. Foulkes noted that "the Canada-US Regional Planning Group was part of NATO and he felt sometimes this was forgotten.... The purpose was not to defend North America for North Americans but to ensure the effective defence of the retaliatory capability of North America which would provide the greatest deterrent to war."<sup>111</sup> The Committee agreed to an additional paragraph recognizing this contribution. This confusion over how 'NATO' the North American air defence system was would re-assert itself in the future and is discussed in Chapter 7.

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<sup>110.</sup> DGHIST, Raymont Collection, uncatalogued, 22 Nov 54, "Report by the Chairman of the Chiefs of Staff Committee on the Main Items Discussed at the Meeting of the Military Committee of the North Atlantic Treaty Organization."

<sup>111.</sup> Ibid.

The British Government had serious internal reservations about MC 48.

These reservations were transmitted to Foulkes by Pearson along with a note stating that "You may wish to show this to Mr. Campney." In essence, the British thought that "it would therefore be possible for SACEUR to begin a thermo-nuclear war in certain eventualities without reference to governments. We are sure that public opinion in the west would not, in general, be willing to accept this situation."<sup>112</sup>

The British were trying to foster a NATO resolution which would allow SACEUR to respond with nuclear weapons if attacked by them but require him to refer all other situations to the 'governments' for a decision. This move was probably done as a manouvre to leverage the preponderance of influence in NATO out of American hands. In other words, the British were creating their own counterweight but were not going about it in a subtle fashion. Note that the British had over the years lost out to the Americans on several instances over issues like who controlled NATO naval operations in the Atlantic and Mediterranean. Foulkes underlined "governments" and placed "President" next to it, indicating he knew that this was an unrealistic proposition at this time given American laws and their proclivity to maintain a nuclear monopoly. This problem would also arise again and again in the future.<sup>113</sup>

The British position then leaked to The Times of London prior to the December NATO meetings. Despite General Gruenther's masterful

112. DGHIST, Raymont Collection, uncatalogued, 6 Dec 54, memo Rogers to Foulkes; 4 Dec 54, message High Commissioner for the United Kingdom, Ottawa from The Secretary of State for Commonwealth Relations.

113. Ibid.

briefing to the NAC, the perceived problem of nuclear weapons release continued to dog MC 48's acceptance by that body.<sup>114</sup>

This situation was extremely serious in all respects. NATO military authorities had taken almost 18 months to reach a consensus on a strategic concept which was a necessary precondition to creating a force structure to carry out NATO's prime function, which was deterring the Soviet Union. This concept was predicated on immediate nuclear weapons use both to deter the enemy from attacking in the first place and then to offset the massive Soviet manpower and material advantage during a war. Western governments did not have the money to maintain huge conventional forces in being and remain stable and prosperous democracies. Pearson and Foulkes had to work together to find a solution that was acceptable in the NAC, or NATO would be incapable of presenting an effective deterrent.

Foulkes produced a history of the issue for Pearson's use in Paris. The original MC 48 redraft discussed in October 1954 included the problematic statement: "In the event of war involving NATO, it is militarily essential that the NATO forces should be able to use atomic and thermonuclear weapons in their defence from the outset." Foulkes had, at the time, indicated to the Military Committee that there would be "some political difficulty here in getting authority to use [nuclear weapons]." In discussions with the American representatives, Generals J. Lawton Collins and Whiteley, the Military Committee agreed that political guidance issues alongside MC 14/1 in 1952 constituted such authority: this authority was for SACEUR "to arrest and counter as soon as practicable the enemy offensive

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114. DGHIST, Raymont Collection, uncatalogued, 12 Dec 54, "British Seek Check on Atom Warfare," London Times, 6 Dec 54, message Permanent representative to the NAC to Secretary of State for External Affairs.

against the North Atlantic Treaty powers by all means necessary." The final draft of MC 48 altered the original wording, replacing "should be able to use to plan for the use of.<sup>115</sup>

NATO had no alert system, though the need for one had been raised in the Military Committee earlier in 1954. In his planning, Gruenthal thought that he had to have the NAC's authority to call an alert before he could deploy his forces, that is, a one-stage alert system, yes or no. He now wanted to have pre-delegated authority to call an alert if there was no time to contact the NAC and his forces were in danger of being overrun. This was a separate issue from MC 48 but was now intertwined with it. Foulkes was alarmed and thought "There are grave dangers in a discussion on the restriction on the use of atomic weapons" in the NAC. In his view, "Any idea of restricting the use of these weapons would seriously reduce the value of the atomic weapon as a deterrent and would create an advantage for the Soviet Union if they attempted to take Western Europe without using atomic weapons in the hope that we would not retaliate with mass destruction weapons." Finally, Foulkes noted: "Any discussion of this nature would be bound to leak into the press and provide the greatest possible propaganda value to the Soviet Union."<sup>116</sup>

Pearson then approached John Foster Dulles, US Secretary of State, who told Pearson he had to talk to Eisenhower since the President had his own views on the situation. Eisenhower was "most reluctant to see this matter the subject of formal action by the ...[NAC]." The President thought that MC

<sup>115.</sup> DGHIST, Raymont Collection, uncatalogued, 9 Dec 54, Charles Foulkes, "Notes for Discussions on MC 48 Final."

<sup>116.</sup> Ibid.

48 was a planning paper and not authorization for nuclear use, since, if the time came, "circumstances rather than any formal procedure would dictate the manners in which the authority to SACEUR was given." The Americans wanted some form of informal understanding, something that would not constrain. They had the perception that most of the other NATO members did not care one way or another: It was only Canada and France that expressed reservations. Dulles then informed Pearson that he had also "toyed with the idea of including in a resolution some provision enabling SACEUR to use atomic weapons automatically if the other side used them first." Eisenhower had shot this one down, though.<sup>117</sup>

Pearson was frustrated. Wishing the problem away was not acceptable in the NAC arena. It was Foulkes' turn. Campney, Pearson, and Foulkes met to coordinate the effort to stave off the issue before it was brought before the NAC. Foulkes contacted Radford and was able to persuade him to back having the MC 48 draft modified before presentation. This modification amounted to adding more ambiguous language ("should", "may") into the troublesome section as opposed to eliminating the section outright.<sup>118</sup>

The debate over ambiguous words continued for another 24 hours as Foulkes, Radford, and Gruenther tried to get Air Marshal Dickson (the British representative) on side. In discussions with Dickson, Radford noted that he had "strict instructions" from the President, that he was in no way to indicate that the United States had any intention of giving any commander the authority "to start a war or authority in advance to use

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117. DGHIST, Raymont Collection, uncatalogued, 11 Dec 54, message Secretary of State for External Affairs to CANAC, "Action to be Taken on MC 48."

118. DGHIST, Raymont Collection, uncatalogued, 12 Dec 54, message CANAC Paris to CCOS.

thermonuclear weapons." Foulkes noted that "in the course of our discussion it was quite obvious that this subject was really academic as the President could authorize the use of thermonuclear weapons by [SAC] even though NATO nations might decide that they would not allow their use in Western Europe; this would present a most ridiculous situation and could contribute to the loss of Europe."<sup>119</sup> Eventually, French General Jean Valluey was brought in, and all finally agreed that MC 48 would be presented to the NAC as "the first of a series of planning papers and not an authority for the use of mass destruction weapons."<sup>120</sup>

Pearson understood the need to keep the issue out of the NAC. He proposed a meeting with Dulles and Anthony Eden before the NAC meeting to ensure that the British would not move on it. Pearson's objective was to get the NAC to accept MC 48 as it stood, with the ambiguous language so that the force structure could be created. Authority to release nuclear weapons could be the subject of future meetings.<sup>121</sup> This informal meeting was held among Dulles, Eden, and Pearson in London on 13 December 1954. Pearson was still concerned because "the report could still be misunderstood by the public who would think that it had committed wholesale to the use of hydrogen weapons."<sup>122</sup> Fortunately, he noted, the final MC 48 draft was ambiguous enough, and it would "take several years

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<sup>119.</sup> DGHIST, Raymont Collection, uncatalogued, 22 Dec 54, "Note on Negotiations for Approval of MC 48."

<sup>120.</sup> DGHIST, Raymont Collection, uncatalogued, 13 Dec 54, message CANAC Paris to CCOS Ottawa.

<sup>121.</sup> DGHIST, Raymont Collection, uncatalogued, 13 Dec 54, "Brief for the Ministerial Meeting of the North Atlantic Council, Paris, December 1954."

<sup>122.</sup> Ibid.

to carry out the plans during which we could study further the political question."<sup>123</sup>

The Military Committee meeting of 14 December 1954 produced no discussion of the authorization issue. The policymakers did not want to deal with it publicly. and with good reason. A damaging leak to The New York Times by an "informed source" claimed that France was leading other European powers in opposing the use of all nuclear weapons in the NATO area without reference to the North Atlantic Council. In the end, the British relented, and the issue was not given great exposure in the NAC in 1954.<sup>124</sup>

Canadian participation in the MC 48 process demonstrated that Canada could influence aspects of the NATO strategy process. It was not the first nor was it the last time Canadian national security policymakers would do so to protect Canadian interests.

In January, Dr. Omond Solandt of the DRB approached Foulkes and complained that the lack of a realistic long-term Canadian defence policy was inhibiting his staff's ability to provide long-term defence research policies. Could the COSC produce a paper outlining the nature of a future war and what the Canadian armed forces' roles would be in it? Foulkes told Solandt that:

...as the whole of the Canadian defence effort was devoted to NATO...the nature of a future war and the roles of the Canadian forces were worked out within NATO (Military Committee Strategic Guidance Report MC 48 and Supreme Commanders Capability Plans) in which Canada contributed in the development of

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123. Ibid.

124. DGHIST, Raymont Collection, uncatalogued, 14 Dec 54, message Secretary of State For External Affairs to CANAC; 14 Dec 54, "Statement by General Charles Foulkes at Second Session NATO Military Committee;" 15 Dec 54, message Secretary of State for External Affairs to CANAC."

Appreciations and Studies through our JIC and JPC, which were discussed and agreed [to] at the Chiefs of Staff Committee. He also reminded [Dr. Solandt] of the unfortunate delay in being able to have meaningful discussions with the US...until the US was able to release to Canada their relevant atomic information.<sup>125</sup>

Foulkes then passed a copy of MC 48 to the DRB along with a cover letter reiterating Canadian defence commitments in Europe, the North Atlantic, and North America.<sup>126</sup>

Pearson commissioned an External Affairs study on MC 48's implications. The draft, "The Strategic Concept of the Nuclear Deterrent", was a detailed and insightful assessment not only of nuclear deterrence: It presaged the future flow of and future problems with Canadian defence policy in a number of areas.<sup>127</sup>

The authors noted that MC 48 formally inaugurated nuclear deterrence as NATO strategy. It was implicit in previous concepts, but was explicit now. This "raised the stakes involved in the East-West conflict," and it had three implications for NATO: First, it restricted Soviet freedom of action. Second, a consequence of this was that the Soviets would resort to other methods to achieve their objectives, probably methods which "will not provoke nuclear retaliation." Third, it restricted the West's response in that

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125. DGHIST, Raymont Study, pp. 134-135.

126. DGHIST, Raymont Collection, uncatalogued, 11 Jan 55, letter Foulkes to Solandt.

127. See DGHIST file 87/47, "The Evolution of the Structure of the Department of National Defence, 1945-68: Report to the Task Force on Review of Unification of the Canadian Armed Forces- 30 November 1979" by R.L. Raymont; NAC RG 25 vol 4495 file 50030-E-1-40 Pt. 1, 26 Mar 55, "The Strategic Concept of the Nuclear Deterrent."

the West could not miscalculate, or it would be obligated to use nuclear weapons to retain credibility.<sup>128</sup>

What did this concept mean for Canada? The drafters thought that continental defence planning was indistinguishable from NATO planning, since the nuclear deterrent and its defence framework served NATO ends. Therefore, a new NATO command, a North American Air Defence Command, should replace the CUSRPG and perhaps other bi-lateral Canadian-American arrangements. With regard to the continental versus European focus, the report stated that:

To judge the extent of Canadian participation which is necessary or desirable, it is necessary to strike a balance between the demands of Western European defence and North American defence on Canadian resources. Both are vulnerable to Soviet nuclear retaliation, but both come under the umbrella of United States nuclear deterrent power...since it must be assumed that one of the aims of the Soviet Union is to isolate North America from its Western European partners and thus disrupt NATO, the military threat cannot be divorced from the important political consideration of maintaining the unity of the Alliance which is itself an important element of the deterrent.<sup>129</sup>

Canada would be asked to provide increased support to SAC, and that support should be freely given, but her forces in Europe should be maintained.

The authors were skeptical about the distinction between tactical and strategic nuclear weapons and were also concerned that the "United States and United Kingdom governments will be restrained by moral and spiritual

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128. NAC RG 25 vol 4495 file 50030-E-1-40 Pt. 1, 26 Mar 55, "The Strategic Concept of the Nuclear Deterrent."

129. Ibid.

conviction brought to bear by their public opinion from initiating nuclear or any other kind of war, except in retaliation."<sup>130</sup>

MC 48 was ambiguous when it came to wars outside the NATO area and in dealing with sub-limited conflict within the area. Consequently, the External Affairs authors thought that Canada could play a significant role:

If...the risks of all-out or nuclear war are not justified, and yet important interests of the free world are involved, it is essential that the Western Powers should be prepared to deal with limited wars with limited means and within limited objectives, Canada itself would not participate in such limited or local wars unless by a decision of the United Nations which it had accepted....Allied strategy must therefore combine political and economic rather than military measures to deter the indirect threats which may be posed by the Communists in an effort to outflank the nuclear deterrent.<sup>131</sup>

Thus, Canada was an integral part of a multinational deterrent system. There was no serious thought given to extracting herself from her substantial commitments. Still, some Canadian leaders were concerned about the possible over-reliance on nuclear weapons. Cabinet Secretary Robert Bryce expressed his views to Foulkes prior to a COSC meeting in February 1955. Bryce did not like NATO's emphasis on immediate nuclear use but agreed that nuclear weapons use was probable in a general war with the Soviet Union. He thought that:

...there was still a probability that they would not be used due to the increasing realization of the truly catastrophic damage that would result.... As this realization grew and spread it was possible that the United States and United Kingdom might come to the conclusion that it would be better to suffer defeat ...[in Europe] and the Middle East than suffer the consequence of a nuclear exchange. ...Public opinion

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130. Ibid.

131. Ibid.

...might so develop that the USSR might feel that there was a good chance that atomic weapons would not be utilized ...they might come to believe it sufficiently to take a chance on invading Western Europe and the Middle East. It would appear important, therefore, for the Western World to be prepared for war without nuclear weapons.<sup>132</sup>

It may appear odd that the Secretary to the Cabinet was involved in defence policy making. Known by some as the Universal Joint, Bryce was a senior civil service Mandarin who, in his position, coordinated Cabinet meetings, the agenda, and the distribution of papers (he had been working at senior government levels since 1935). Therefore, if the COSC wanted to present a paper to Cabinet, they had to go through Bryce. Foulkes, of course, would not allow Bryce to modify papers, but Bryce was a senior advisor and it was good to have his understanding to facilitate policy coordination with Finance.<sup>133</sup>

Foulkes agreed with Bryce, but the facts were these. The West had the bulk of the world's nuclear capability. It was too expensive to maintain conventional forces. Eisenhower had given instructions for American forces to plan on the unrestricted use of nuclear weapons. NATO agreed that nuclear weapons would be used from the outset. Canada had to plan on this basis, now. Things would change in the future, yes, but the situation they had to deal with had to be dealt with today.<sup>134</sup>

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132. DGHIST, Raymont Collection, file 1308A, COSC, Special Meeting 18 February 1955.

133. For the best work on the senior civil servants from the period, see J.L. Granatstein's The Ottawa Men: The Civil Service Mandarins, 1935-1957 (Toronto: Oxford University Press, 1982).

134. DGHIST, Raymont Collection, file 1308A, COSC, Special Meeting 18 Feb 1955.

Looking to the future, the COSC's External Affairs observer, R.A. Mackay, mused that: "If a state of equality in holdings of atomic weapons and the means of delivering them was arrived at between the USSR and the United States, a stalemate might ensue and the possibility of war be averted."<sup>135</sup>

The COSC took note of this view.

MC 48 was accepted as the basis for Canada's strategic outlook and force structure to support it after 1954.<sup>136</sup> Minister of National Defence Campney instructed Chairman of the Chiefs of Staff Committee General Foulkes in March 1955:

At the Council meeting in December 1954, MC 48(Final) was approved and represents Canadian Government policy. This policy provides that priority must be given to the provision of forces in being capable of effectively contributing to success in the initial phase. Other forces are required to contribute to subsequent operations, but in view of the importance of the initial phase and taking into account the limited resources which it is anticipated will be available, the build up of these forces must be given a lower priority. Budgetary considerations and the plans of other countries in relation to the build up of forces described as having a lower priority will make it difficult for Canada to proceed with the implementation of plans for forces other than those capable of effectively contributing to success in the initial phase.<sup>137</sup>

MC 48 therefore became Canada's strategy. Deputy Minister Bud Drury noted, however, that:

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135. Ibid.

136. NAC RG 25 vol 4499 file 50030-K-40 pt. 4, (n/d) Panel on the Economic Aspects of Defence Questions [hereafter, 'Panel'], ED 6-56, "Memorandum on the Canadian Reply to ARQ(56)."

137. NAC RG 25 vol 4499 file 50030-K-40 Pt. 3, 23 Nov 55, memo to Panel on Economic Aspects of Defence Questions from Foulkes, "Priorities Within NATO."

There will, of course, be very considerable resistance to a recognition of the realities of the situation and the taking of decisions to act in accordance with this reality. Because of this resistance and the desirability of overcoming it in an orderly and mannerly way, the changed situation is likely to be reached as an evolutionary process rather than suddenly and in a clear-cut fashion.<sup>138</sup>

Acceptance of MC 48 as the national strategic concept was confirmed later in 1955 by Canadian policymakers in two ways: First, by noting them in the public defence estimates for the 1955-56 period, and second by Canadian acceptance of MC 48/1.

The 1955 annual report on Canada's defence programme noted that: "We are convinced that the best way to avoid a war of annihilation is to make plain to any potential aggressor that collectively we have the strength to defend ourselves and that we value our freedoms sufficiently to fight for them." Noting that the main problem now was finding the correct balance between conventional and nuclear forces, the report stated that: "Canada will continue to make such adjustments in her defence programme." These adjustments included "new weapons, new tactics, and strategic concepts," as well as a new sense of vigilance. In a special section entitled "Nuclear Bombs and the Future," the report stated that Canada was directly threatened and that fallout was a serious problem for military personnel and civilians alike. Any future war would be a war for national survival. As such, the priority for defence expenditures would be on air defence efforts in

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138. DGHIST, Raymont Collection, uncatalogued, 15 Apr 55, memo Drury to Foulkes.

North America. Canada would, however, continue to maintain her NATO commitments at the same levels.<sup>139</sup>

The announced policy was also accompanied by a modest increase in the defence budget for 1955, followed by a larger one the year after. For comparative purposes Canada spent CAN\$ 1 882 418 467 in 1952-53, followed by CAN\$ 1 805 914 922 in 1953-54. Though this figure dropped to CAN\$ 1 665 968, 960 in 1954-55, it rose to CAN\$ 1 775 000 000 in 1955-56. It would peak in 1956-57 at 1 806 934 000 000 before steadily dropping during the Diefenbaker Government's reign.<sup>140</sup>

Amplification of MC 48 called MC 48/1 or "The Most Effective Pattern of NATO Military Strength for the Next Few Years-Report No. 2" was tabled and agreed to by NATO members by December 1955. Though SACEUR and SACLANT both championed MC 48's emphasis on nuclear weapons use as being critical to the deterrent and the survival of NATO should war break out, the accession of Germany to NATO in 1955 posed a new problem.

Germany could now no longer be sacrificed to protect the rest of NATO. True forward defence was now a political necessity, in addition to nuclear deterrence. NATO forces, in addition to fighting Phase I with nuclear weapons, also had to have the ability to preserve the NATO area as far forward as possible on land, at sea, and in the air. Deliberately sacrificing NATO territory was out of the question. Conventional and nuclear forces assigned to NATO had to be available and ready in peacetime and deployed

139. See Department of National Defence, Canada's Defence Programme 1955-56 (Ottawa: Queen's Printer, 1955).

140. See Department of National Defence, Canada's Defence Programme 1955-56 (Ottawa: Queen's Printer, 1955) and Vernon Kronenberg, All Together Now: The Organization of the Department of National Defence in Canada 1964-1972 (Toronto: Canadian Institute of International Affairs, 1973) p. 23.

as far forward as possible, particularly in Europe. An alert system to preserve them was required, since there would be increasingly less time because of technological and geographical factors. This in turn lead to a requirement for an early warning system and better air defence forces in the NATO area. The need for mobilization was less than before but was still encouraged for Phase II.<sup>141</sup>

Campney agreed and stated that: "The best way to prevent war was to ensure that NATO was sufficiently strong to deter any possible aggressor." Since the mainspring of this effort was SAC and RAF Bomber Command, "It was therefore essential to have an effective early warning system to enable bombers to get off the ground." In his view, "Canada-US regional air defence plans were not for the purpose of making North America safe for North Americans but to protect the Strategic Air Command, which was of vital importance to NATO...."<sup>142</sup>

The only hint of a problem regarding Canada and MC 48/1 came from the Americans, who were concerned that, in connection with Britain's desire to reduce her forces in Germany for budgetary reasons, Canada might also want to withdraw her European forces and base her argument on the belief that North American air defence was the only way Canada could contribute to NATO.<sup>143</sup> American fears were unfounded. Canada, of

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141. NAC RG 25 vol 4499 file 50030-K-40 Pt. 3, 23 Nov 55, memo to Panel on Economic Aspects of Defence Questions [hereafter POEADQ] from Foulkes, "Priorities Within NATO;" (11 Oct 55) Extracts from Summary record of a meeting of the North Atlantic Council, held on the subject of future NATO common infrastructure policy."

142. NAC RG 25 vol 4499 file 50030-K-40 Pt. 3, 11 Oct 55, Extracts from Summary Record of a meeting of the North Atlantic Council, held on the subject of future NATO common infrastructure policy."

143. USN OA SPD box 317 file A-14, memo Director SPD to CNO, "Implications of British Emphasis on Civil Defense," 14 Nov 55.

course, had no plans to or even indicated that it might withdraw the brigade group and 1 Air Division from Europe. Canadian policy makers were more concerned about how to allocate money to support both continental defence and European defence commitments, and they favoured a strategic reassessment as soon as possible to ensure NATO was on the right track (this assessment, conducted throughout 1956, would result in a new NATO Strategic Concept in 1957 called MC 14/2, which will be discussed in Chapter 5).<sup>144</sup>

## Conclusion

The first strategic question raised during the 1952-1955 period was: Where should the main emphasis on Canadian national security policy be placed: in protecting North America or defending Europe? With Canada already committed to NATO in Europe, and with Mike Pearson actively using Canadian participation in NATO to counterbalance the preponderance of American influence within the Alliance and in North America, the answer was to do both. This fit within the framework of Canadian strategic tradition: forward defence and alliance warfare. Without a massive increase in resources, however, Canadian continental defence planners then wanted an answer to the next question: Should the continental defence effort protect the American deterrent forces (SAC) or the population and industrial centres? The answer was to place primary emphasis on protecting SAC, since it was the mainspring of the entire

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144. NAC RG 25 vol 4499 file 50030-K-40 Pt. 3, POEADQ, 38th Meeting, 15 November 1955.

NATO defence effort. Though originally created to handle the European situation, the NATO strategic concept, MC 48, was the culminating point of this debate process in 1954. It solved the North America versus Europe and SAC versus population problems and subsequently served as the basis for Canadian national strategy.

MC 48 was not imposed on Canada by her allies: The need for such a strategic concept was imposed by the massive Soviet conventional and emerging nuclear capability which directly threatened Canada and her allies. Canada was not a helpless bystander: She was consulted and had input into the formulation of alliance strategy. The British passed their groundbreaking Global Strategy Paper to Canada before implementing it themselves. The early NATO strategic concept MC 14/1 was modified to conform to Canadian wishes. Foulkes ensured that the New Approach Group reports were examined by the NATO Military Committee instead of just the Standing Group. Canadian policymakers were kept informed about the details of American strategic policy changes during the New Look period, which in turn allowed Canada to adjust her strategic policy in advance to ensure that Canadian national interests were protected. Finally, a potentially dangerous and divisive debate over NATO nuclear weapons release policy was averted through Canadian efforts. It should be noted, however, that the temporary conciliation on this matter generated by the efforts of Pearson, Foulkes, and others produced long standing debates within NATO for years to come.

All of this served multiple purposes. First, it confirmed that the third pillar of Canadian strategic tradition, relative military autonomy, was important in the nuclear age. Throughout the entire process which produced MC 48, Charles Foulkes ensured that Canadian interests (which

included prestige as well as command and control aspects) were protected. Canadian policymakers would not be pushed into doing something they chose not to do. Second, it provided Pearson the forum to perform his counterweight activities.

Finally, Canada possessed quality forces, technology, and geography. It is precisely these elements which allowed all other things to happen. The next challenge was ensuring that Canadian forces were kept up to date both technologically and doctrinally. The problems inherent to these requirements are the subjects of Chapters 3 and 4. Canada now had to implement MC 48 and MC 48/1, and information was the key.

CHAPTER 3  
INFORMATION IS POWER: CANADA AND NUCLEAR WEAPONS  
INFORMATION

### Introduction

Admiral Arthur Radford, the Chairman of the US Joint Chiefs of Staff, was anxious that Canada have access to American nuclear weapons information so that the continental defence programme could proceed smoothly. His predecessor, General Omar Bradley, felt the same way. Successive SACEURs Generals Ridgway and Gruenther wanted nuclear information released to NATO so that realistic planning could occur. The main block was a piece of American legislation, the Atomic Energy Act of 1946, also known as the McMahon Act for Brian McMahon, the Connecticut Senator who sponsored and drafted it. This law basically stated that any information regarding nuclear weapons could not be transferred to a foreign government. Generated by the hysteria surrounding the discovery of the atom bomb spy ring, which was in turn prompted by the Canadian security services' acquisition of Igor Gouzenko (a cipher clerk from the Soviet embassy in Ottawa) as a source, the McMahon Act seriously inhibited nuclear planning coordination in the West until 1954, when it was replaced with new legislation generated by the New Look.

If a national force structure was to adapt to a battlefield in which nuclear weapons were used, it had to understand what the nature of those weapons' effects were not only on terrain and weather but on equipment, communications, and most importantly, people. The side possessing such

information not only would have a force structure attuned to the new environment; it would also possess an advantage over its enemy, since the enemy would not be prepared to deal with nuclear weapons employment.

Nuclear weapons were not merely a larger explosive device. The electromagnetic and radiation effects could function as directional 'death rays' if employed properly. Underwater bursts might be employed to use the sea and its surrounding environment against a target as much as blast or heat. Thus, if Canadian forces were to function as an integral and vital part of the continental and European defence arrangements, they had to be able to fight in a nuclear environment, and this meant knowing what the weapons were capable of both on an enemy and if used against themselves. Canadian planners employed a wide variety of formal and informal information gathering activities so that the Canadian forces were trained and equipped to fight a nuclear war.

The aim of the entire effort was to ensure that Canadian forces were of a high enough quality so they could participate effectively in deterring the Soviet Union as part of the alliance, maintain Canada's forward defence principle, and thus retain relative military autonomy within NATO. The secondary offshoot was influential. Canadian military contributions were small relative to larger allies. If they were ineffective and given operational roles which were in the rear or on the periphery as a consequence, Canadian policymakers could not claim any right to influence alliance proceedings and thus lacked the ability to counterbalance the United States.

## Chance and Happenstance: Nuclear Cooperation to 1953

There was more than a modicum of cooperation in nuclear weapons research between Canada, the United Kingdom, and the United States during the Second World War. The wartime atomic bomb programme was a tripartite project from its inception. Canada had a representative on the six-man (three US, two British) Combined Policy Committee established in 1943 after the Quebec conference. Canada also provided heavy water from a facility at Trail, British Columbia, and uranium from the Eldorado mines in the North West Territories. A joint British-Canadian laboratory was established at Montreal. It was tasked with developing a heavy water-moderated nuclear reactor, in contrast to the American facilities at Oak Ridge and Hanford, which used graphite as a moderator. (Oak Ridge was air-cooled, while Hanford was water-cooled).<sup>1</sup>

For a variety of reasons related to Anglo-American nuclear policy disputes, the Montreal lab partially disassociated itself from the American nuclear weapons programme. In 1944, construction began on the Zero Energy Experimental Pile (ZEEP) at Chalk River, Ontario. It was the first successful nuclear reactor outside of the United States. The British had pressed for the construction of an Anglo-Canadian plutonium production facility for their nuclear weapons programme during the war. Even though the King Government declared that Canada would not build her own nuclear weapons in 1945, work started on the NRX reactor at Chalk River.

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1. There are two superb books on Canada's nuclear energy and research efforts: Robert Bothwell's Eldorado: Canada's National Uranium Company (Toronto: University of Toronto Press, 1984) and Nucleus: The History of Atomic Energy of Canada, Limited (Toronto: University of Toronto Press, 1988). This information is drawn from both works.

Building on the work conducted at Montreal and the ZEEP, NRX came online in 1947. It would serve as the basis for future energy producing reactors. In sum, Canada was in the forefront of nuclear energy research in the late 1940s.<sup>2</sup>

There were two important Canadian scientists whose work contributed directly to the production of the information required to modify the Canadian force structure. The first was Dr. Omand McKillop Solandt. During the Second World War, Solandt represented Canada in a tripartite armoured fighting vehicles operations research team in England. The intimate contacts that he developed with his British counterparts prompted Defence Minister Brooke Claxton (prompted by Foulkes) to name Solandt as Canada's representative to the various tripartite scientific endeavours in 1946. Eventually, the Defence Research Board was legislated and formed in 1947. Solandt, at age 37, became its Chairman.<sup>3</sup>

Solandt made his contribution to Canadian strategic policy in many ways. In 1945 he was selected to participate as part of the British delegation to the Strategic Bombing Survey; specifically, that portion of the survey dealing with nuclear weapons use against Japan. Led by Professor W.N. Thomas, representatives of the Civil Defence Department of the Home Office (British) along with Solandt and an Indian representative, left for Japan in

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2. Ibid.

3. D.J. Goodspeed, DRB: A History of the Defence Research Board of Canada (Ottawa: Queen's Printer, 1958) pp. 45-68. There is a short privately published biography on Dr. Solandt. However, Dr. George Lindsey informed me that he had edited it to remove any discussion of Solandt's involvement in nuclear research. This was done because Dr. Lindsey "did not want the media to portray Dr. Solandt as a 'nuclear monster' after his death." (author's brief conversation with Dr. Lindsey in September, 1995 in Toronto).

October 1945.<sup>4</sup> Solandt was instructed by the British Chiefs of Staff "not [to] make any inquiries, constructional or operational aspects of atomic bombing that are outside the scope of the USSBS terms of reference."<sup>5</sup> The group was restricted to gathering information on the immediate effects of the bomb (heat and blast) including 'special effects' ("radio-active or electrical" and contamination). They were particularly interested in the effects of weather and terrain, but the most important aspect was the effects on personnel.<sup>6</sup>

The joint survey team was allowed access to the "Rikken Group" report, which was a Japanese study conducted immediately after the bombings. This group focused almost exclusively on weapons effects on people and was incorporated into the joint study. Solandt also conducted his own investigations. This information, communicated back to Canada, formed the basis of the first Canadian military doctrinal pamphlet dealing with nuclear weapons and warfare, Medical Aspects of Atomic Warfare, published in 1948. Other information derived from the Japan survey was integral in producing the civil defence pamphlet, "The Effects of an Atomic Bomb Explosion on Structures and Personnel," which came out in 1951.<sup>7</sup>

<sup>4</sup>. University of Toronto Archive [hereafter U of T Archive] The O.M. Solandt papers, file B91-0015/011, 26 Sep 85, "The Atomic Bomb." Solandt's own observations make for interesting reading and should be published as a stand alone piece in the future.

<sup>5</sup>. U of T Archive, Solandt Papers, file B91-0015/011, (n/d) "Directive to Solandt from A/VM T.M. Wilbon."

<sup>6</sup>. U of T Archive, Solandt Papers, file B91-0015/011, (n/d) "Joint Terms of Reference of the Air Staff (Weapon requirements) and MAP (Research and Development) representatives on the Atomic Bomb Survey Mission."

<sup>7</sup>. U of T Archive, Solandt Papers, file B91-0015/011, 10 Nov 45, G-2 USSBS, "Intelligence Memorandum: Japanese Survey of Atomic Bombing of Hiroshima and Nagasaki"; (Nov 1945) Solandt study, "Casualties Due to the Atomic Bomb at Hiroshima and Nagasaki"; March 1951, Health and Welfare Canada, "The Effects of an Atomic Bomb Explosion on

Solandt, in his capacity as the DRB Chairman, commissioned a detailed study examining the effects of nuclear weapons and their relationship to Canadian cities. Part of this study contributed to the aforementioned document, "The Effects of an Atomic Bomb Explosion on Structures and Personnel;" but the staff was hampered by the fact that "the Atomic Energy Act prohibits the divulging of any information on the military aspects of atomic energy to a foreign power...[I]t was not until March 17 [1950] that the Branch received the authority to discuss the subject with the writer and the resulting discussion was only in the most general terms."<sup>8</sup> The study members were able to get access to the USSBS studies on Hiroshima and Nagasaki. They were also able to get access to two British studies dealing with the "Physical Aspects of Atomic Bombs- Damage to Ships by Under Water Explosion of Atomic Bombs."<sup>9</sup>

The second Canadian was Louis Slotin. Slotin was a 35-year-old scientist working in Los Alamos as a researcher in the Manhattan Project. Working with a multi-national team of scientists, Slotin tested the cores of each "gadget" to ensure that the proper reaction would take place between the components. In a procedure known as "tickling the Dragon's tail," Slotin mounted the two reactive halves of a gun-type weapon on a framework and progressively moved them towards each other so that the reaction could be measured by recording devices. Slotin usually used a screwdriver to ensure that the halves did not come too close and cause a reaction. Unfortunately,

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Structures and Personnel"; See also DGHIST Library, Edmond Cloutier, Medical Aspects of Atomic Warfare (Ottawa: King's Printers, 1948).

8. NAC RG 24 vol. 4197 file 266-04-3311 Pt. 1, 29 Mar 50, Director of Scientific Intelligence, "Vulnerability Study: Visit to Washington."

9. Ibid.

when Slotin and his team were testing the cores destined for the CROSSROADS tests at Bikini in 1946, the "Dragon" turned on him and he had to separate physically the spheres with his hands. His body blocked most of the radiation emitted by the brief blue burst, and he took a lethal dose. Instructing the other members to stand still, he measured their distance to the device so that accurate radiation effects measurements could be taken for them in order to determine their exposure dosage. Slotin died in agony several days later, but not until the effects on his body could be studied in detail by the Los Alamos staff and researchers flown in from Chicago. This information eventually found its way into weapons effects data used during training in the 1950s.<sup>10</sup>

Canada undertook its own programme to collect the by-products of the first Soviet nuclear test in 1949. Without allied prompting, Solandt initiated a collection system:

We had not made any advance preparation for airborne sampling but had all the facilities to mount a very competent programme extremely quickly. The chemical warfare lab in Ottawa had the equipment and skills to design suitable filters for continuous airborne sampling....The RCAF were ready and willing to fly on a moment's notice and Canadian scientists were at the forefront of mass spectrography....What Canada totally lacked was the knowledge to translate the results...into useful information. DRB very quickly has a series of flights underway from the West Indies to the Arctic....[Canada passed them to the Americans and the British] the AEC and the US intelligence discovered that our results were far better than theirs. They subsequently came to depend heavily on our

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<sup>10</sup>. See John May, The Greenpeace Book of the Nuclear Age: The Hidden History, The Human Cost (New York: Pantheon Books, 1989) pp. 63-73. See also Jonathan M. Weisgall, Operation CROSSROADS: The Atomic Tests at Bikini Atoll (Annapolis: Naval Institute Press, 1994) pp. 138-140.

filters...[T]here is no question that we received an ample return of information from them.<sup>11</sup>

The Royal Canadian Navy was the first Canadian service to use nuclear weapons effects information for a practical purpose. The RCN announced the construction of seven new anti-submarine vessels in 1948, the DE 205-class (better known as the St Laurent-class). The design team included Constructor Captain Rowland Baker of the Royal Navy on loan to Canada for the project, who had access to British thinking on nuclear warfare at sea and its impact on ship construction.<sup>12</sup>

The St Laurent design team had access to the Operation CROSSROADS data relating to the effects of tests ABLE and BAKER on the diverse 'ghost fleet' which was sunk or damaged during the tests. RCN Captain Horatio Nelson Lay, Director of Operations, had led a small Canadian observation team to Bikini in 1946 (a team which included future RCAF Chief of the Air Staff, Air Marshal Larry Dunlap) and had concluded that the main impact of nuclear weapons was shock out to 2000 yards, followed by radiation. If ships were properly dispersed and had the means of clearing off radioactive water, they could operate in a nuclear environment.<sup>13</sup>

The St Laurents (and the follow on Restigouche, Annapolis, and Tribal classes) all incorporated passive nuclear, biological, and chemical defences

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11. U of T, Solandt papers, file B91-0015/011, 21 Feb 87, Omond Solandt unpublished paper, "Canadian Involvement with Nuclear Weapons, 1946 to 1956."

12. J.H.W. Knox, "An RCN Engineer's Outline of RCN History: Part II," in James A. Boutillier (ed) The RCN in Retrospect, 1910-1968 (Vancouver: University of British Columbia Press, 1982) pp. 217-333; Letter from Keith P. Farrell to Sean Maloney, 7 Dec 1995.

13. Tony German, The Sea Is At Our Gates: The History of the Canadian Navy (Toronto: Maclelland and Stewart, Inc., 1991) p. 205.

(NBbcd) into their designs. The actual hull structures were designed to dissipate shock, and each sub-assembly unit in the hull consisted of an 'egg box' system of longitudinal and transverse members made from "T" bars. This construction made for a strong but flexible hull able to take the air and underwater shock of a nuclear explosion, albeit at range. There were a minimum of fittings to the weatherdecks, since these would cause spray and hinder the clearance of radioactive wastes. The ships possessed a distinctive curved 'turtledeck' bow, which was originally designed to improve the sea keeping qualities of the ship. It actually provided an efficient means to keep contamination off the weatherdecks. All deck edges were rounded and the anchor wells faired over.<sup>14</sup>

The ships also possessed a washdown system, which sprayed contamination off the upper surfaces of the ship. The St Laurents also were the first ships in NATO to utilize the Citadel concept. The DE 205's and their follow on ships were capable of airtight operation. Once certain rapid close-down hatches were activated, the central part of the ship used the beefed-up air conditioning system to filter out contaminants using 'Porton' carbon filters. The Citadel concept, however, could not be extended to the machinery spaces since these required great volumes of air to operate. The first St Laurent was launched in 1950, but because of a variety of production delays, the first three were not ready until 1955.<sup>15</sup>

<sup>14</sup>. unpublished article submitted by Capt(N) K.P. Farrell for the Naval Technical History Project entitled "The St. Laurent Class: The First Canadian Designed Destroyers: An Exercise in Damage Control," April 1993; Letter from Keith P. Farrell to Sean Maloney, 7 Dec 1995.

<sup>15</sup>.Letter from Keith P. Farrell to Sean Maloney, 7 Dec 1995. See also Michael A. Hennessy, "The Rise and Fall of a Canadian Maritime Policy, 1939-1965: A Study of Industry, Navalism, and the State," (unpublished PhD Dissertation, University of New Brunswick, 1995) pp. 230-250 for a discussion of St Laurent construction politics.

Another important benchmark in the Canadian information gathering effort occurred during the war in Korea. As the reader will recall, the Canadian Army deployed 25 Canadian Infantry Brigade Group to Korea as part of the UN effort there. 25 CIBG was part of a Commonwealth Division consisting of British, Australian, and New Zealand troops. The formation was under American command. For some reason, Headquarters 25 CIBG forwarded copies of eight U.S. Army training directives to the Chief of the General Staff in Ottawa in November 1953. These directives, probably given to the British divisional headquarters by a higher American headquarters, related to the tactical employment of nuclear weapons and methods by which forces in the field could protect themselves from weapons effects. The receipt of this information did not appear to distress the Army Staff to any great degree.<sup>16</sup>

25 CIBG eventually incorporated NBCD techniques into its training programme while in the field in Korea. It requested and received guidance from the CGS on NBCD training and equipment scales. The Army Staff, with some rapidity, also forwarded the results of an Army study (Exercise FORWARD ON held in August 1953) to the 25 CIBG staff in mid-November 1953. This study, "The Protection of Men and Equipment Against Atomic Weapons," used the nominal 20 kt bomb paradigm for weapons effects developed in the United States as a training aid. FORWARD ON stated that a formation could expect 100% casualties in 24 hours if all of its forces were in the open within 2 000 yards of ground zero. Most importantly, FORWARD ON noted that nuclear weapons would have a debilitating effect on

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16. DGHIST file 410 B25.019 (D 021), 19 Nov 53, DCGS to HQ 25 CIBG, "Atomic, Biological, and Chemical Defence: Equipment and Training."

communications in that high-frequency traffic would be impaired for two hours and that VHF traffic would be usable.<sup>17</sup>

The second part of the study, delivered to 25 CIBG in early 1953, was called "The Tactical Use of Atomic Weapons." It stated that there were three weapons effects: heat, blast, and radiation (Note that, unlike the FORWARD ON study, electromagnetic phenomena are not included). These effects would be limited by the weather and terrain. The weapon would be delivered by aircraft or missile against an enemy airfield, logistical complex, or in the close support of ground forces.<sup>18</sup> In terms of defensive operations, ground forces had to be strong enough to prevent defeat by enemy conventional forces. They had to disperse to prevent an enemy attack against a concentrated target. A mobile reserve was required to repel an enemy counterattack trying to exploit gaps made by the atomic attack.<sup>19</sup>

It is exactly this type of information that was denied to NATO planners up to 1954, as discussed in Chapter 2. Why would 25 CIBG in Korea and the Army Staff have access to it? The obvious conclusion is that the UN forces in Korea were preparing for possible nuclear weapons use and wanted their personnel trained for such an eventuality. In fact, nuclear weapons annexes were incorporated in American plans from 1952 onward in Korea. These were based on a U.S. Army study, HUDSON HARBOR, which contemplated the use of nuclear weapons to develop gaps in the Communist front so that UN forces could exploit them. By 1953, the Eisenhower

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17. DGHIST file 410 B25.019 (D 021), 5 Dec 53, HQ 25 CIBG to distribution list, "Atomic Weapons."

18. Ibid.

19. Ibid.

administration threatened nuclear use if North Korea did not subscribe to a armistice. Thus, the measures taken by 25 CIBG were prudent given the situation. The information also stimulated Canadian Army thinking in nuclear warfare, which will be handled in more detail in Chapter Four.<sup>20</sup> Clearly, informal methods proved useful in gathering information of this nature so that the Canadian armed forces could adapt.

In addition to the DRB, there were two important Canadian organizations involved in gathering nuclear weapons information. The first was the Joint Special Weapons Committee (JSWC) which reported to Chiefs of Staff Committee. The second was No. 1 Radiation Detection Unit, Royal Canadian Engineers (1 RDU).

The JSWC was formed around 1948 and had tri-service and DRB representation. Its purpose was to coordinate research and disseminate information to the armed forces on nuclear, biological, and chemical weapons matters. The bulk of the JSWC's work prior to 1952 focused on biological and chemical weapons, two areas in which Canada held the lead in the West in developing state of the art weapons and defensive measures.<sup>21</sup> The JSWC shifted its priorities to nuclear effects by 1952. It developed an emphasis on producing and testing personal protective

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20. There is no mention of nuclear weapons plans or training in the official history of the Canadian Army in Korea, Herbert Fairlie Wood's Strange Battleground (Ottawa: Queen's Printer, 1966). For a full examination of American nuclear weapons though during Korea, see Rosemary Foot's The Wrong War: American Policy and the Dimensions of the Korean Conflict, 1950-1953 (Ithaca, New York: Cornell University Press, 1985).

21. See RG 24 vol 21171 file 1439-2 vol. 1 for the minutes and supporting data for the first sixteen meetings of the JSWC. For the best work so far on Canada's biological weapons programme, see John Bryden, Deadly Allies: Canada's Secret War 1937-1947 (Toronto: McClelland and Stewart Publishers, 1989).

measures (NBCD suits, respirators) and unit radiation detection devices (known as RADIAC devices) for the three services.<sup>22</sup>

By 1954, the JSWC expanded its mandate to function as the clearing house for data collected by the formal and informal methods discussed earlier in this chapter. The Committee also handled the security arrangements and standards for information provided by the US and the UK. This, in addition to the increased cooperation produced by the information sharing agreements, dictated a change in the organization and mandate of the JSWC. It was re-named the Joint Special Weapons Policy Committee (JSWPC). The JSWPC was responsible for:

- 1) Service participation in nuclear tests.
- 2) Offensive and defensive special weapons use policy.
- 3) Special weapons equipment requirements.
- 4) Security classification guides for information.
- 5) Coordination of DND requests for classified atomic information, eg: USA Restricted Data and UK Atomic Information.
- 6) Interservice military characteristics for equipment.<sup>23</sup>

The Chiefs of Staff Committee also created the ZED List, which was a special list of Canadians who had access to atomic information. Those personnel who were "Zedded" were carefully screened. Documents themselves were "Zedded" and given a Zed List control number.

1 RDU (RCE) was a tri-service (or 'joint') unit consisting of five officers and twenty-one men (this was later increased to more than sixty), divided into a Radiation Calibration Laboratory and a Ground Detection Troop of six mobile Monitor Teams. Formed in March 1950, 1 RDU was to assess

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22. See RG 24 vol 21171 file 1439-2 vol. 1 and vol. 2 for the minutes and supporting data of the JSWC.

23. DGHIST, Raymont Study pp. 151-152.

radiological hazards for field commanders; function as a nucleus reconnaissance and field radiological lab; and calibrate RADIAC equipment. In peacetime, the unit was to test and evaluate equipment under nuclear test conditions.<sup>24</sup> It also assisted in the clean up of nuclear disasters in Canada. 1 RDU was involved with Exercise CHARITY I at the Chalk River reactor in December 1952. The unit conducted a radiation survey after the NRX reactor was 'scrammed' and one million gallons of radioactive water were dumped by the cooling system into the basement of the building. The reactor calandria and core were severely damaged and had to be removed and buried.<sup>25</sup>

With the exception of Operation CROSSROADS in 1946, Canada did not directly participate in American nuclear tests until Operation TEAPOT in 1955. Radford had recommended to the Secretary of Defense in December 1953 that "Canada be permitted to conduct a radiological defense field exercise" during the next scheduled test series in Nevada. This request was turned down with the excuse that the McMahon Act prohibited such participation.<sup>26</sup>

There was some Anglo-Canadian collaboration. The British were casting about for an Atomic Weapons Proving Ground between 1949 and 1950 and thought that the port of Churchill, Manitoba on Hudson's Bay should be

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24. RG 24 vol 21171 file 1439-2 vol. 2, 14 Sep 53, "Brief on No. 1 Radiation Detection Unit, RCE."

25. RG 24 vol 21171 file 1439-2 vol. 2, 30 Dec 52, "Announcement to JSWC regarding 1 RDU assistance to AECL Atomic Energy Project, Chalk River;" May, The Greenpeace Book of the Nuclear Age pp. 100-104. May reproduces verbatim the Bertini report on the accident.

26. DDRS 1979 frame 37A, JSPC to JCS, "Foreign Observers at Operation TEAPOT," 21 Jan 55.

surveyed. The British Atomic Weapons Research Establishment (AWRE) estimated that the site had to be able to accommodate twelve nuclear detonations over a number of years, with each test severely contaminating a 500 yard circle which could not be reused in later tests. The Canadian government was not keen on this, and AWRE surveyors went to Australia instead.<sup>27</sup>

The site picked for the first British nuclear weapons test (Operation HURRICANE) was the Monte Bello islands north west of Australia. Dr. William Penney, a British scientist who had worked at Los Alamos, was in charge of the test programme and was a friend of Solandt's. Solandt was invited along as a "Health Monitor" on HURRICANE in October 1952 (possibly because the HURRICANE device contained some Canadian Plutonium).<sup>28</sup> This test, rudimentary in nature, was an ocean surface burst which yielded about 25 kt. It was designed as a confirmatory test of British capability. It is unclear exactly what information Solandt brought back to Canada with him after this test, but whatever material he had was provided to the COSC and DRB.<sup>29</sup> It is equally unclear whether Solandt was an impromptu observer at the two Operation TOTEM shots held in October 1953

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27. U of T, Solandt papers, file B91-0015/011, 21 Feb 87, Omond Solandt unpublished paper, "Canadian Involvement with Nuclear Weapons, 1946 to 1956;" DGHIST file 94/121 (n/d) C.P. McNamara (DRB Canada) and W.G. Penney (Ministry of Supply UK), "The Technical Feasibility of Establishing An Atomic Weapons Proving Ground in the Churchill Area." Another six sites were surveyed, but there is no note of where they were. The DRB special weapons testing range at Suffield, Alberta was probably one of them.

28. Robert S. Norris et al., British, French, and Chinese Nuclear Weapons (Boulder, Colorado: Westview Press, 1994) p. 20.

29. DGHIST file 193.009 (D53), 29 Sep 53, memo Solandt to Foulkes; Canadian Op ANTLER documents acquired under ATI, 29 Apr 59, JSWPC to Joint Staff, "Reports;" 21 Sep 59, JSWPC to DRB, "AWRE Reports." Canada eventually received reports based on the air and ground shock instrumentation.

at Emu Field in Australia. The TOTEM shots, designed to test the composition of material needed for the RAF's BLUE DANUBE nuclear bomb, included test effects trials on Centurion tanks (vehicles, incidentally, also used by the Canadian Army) and other British Army equipment exposed in the open to the weapons. Operation HOT BOX featured a Canberra bomber flying through the radioactive clouds produced by the explosions so that the aircraft and crew could be tested on return. Canada was eventually supplied with the HOT BOX data, including the flight report.<sup>30</sup>

Solandt and Foulkes were concerned about the lack of detailed information on weapons effects and pushed the British for closer cooperation. In a letter to the British Chiefs of Staff (BCS), they thanked the BCS for the limited technical information given to Canada from the Monte Bello test but noted that "valuable as these reports will be, however, there will be specific Canadian problems which have not been investigated. In addition, reports cannot substitute for actual participation by Canadians in a test."<sup>31</sup>

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30. U of T, Solandt papers, file B91-0015/011, 21 Feb 87, Omond Solandt unpublished paper, "Canadian Involvement with Nuclear Weapons, 1946 to 1956;" see also Denys Blakeway and Sue Lloyd-Roberts, Fields of Thunder: Testing Britain's Bomb (London: George, Allen and Unwin Publishers, 1985) and Lorna Arnold, A Very Special Relationship: British Atomic Weapon Trials in Australia (London: Her Majesty's Stationery Office, 1987). Totem 1 and 2 yielded 10 and 8 kt respectively and were tower-mounted tests. See also Canadian Op ANTLER documents acquired under ATI, 29 Apr 59, JSWPC to Joint Staff, "Reports;" 21 Sep 59, JSWPC to DRB, "AWRE Reports;" Robert S. Norris et al., British, French, and Chinese Nuclear Weapons (Boulder, Colorado: Westview Press, 1994) p. 27. The British allowed two USAF B-29s to sample the clouds produced during TOTEM. In return, the RAF was allowed to deploy sampling aircraft to the American CASTLE test series.

31. DGHIST file 193.009 (D53), 29 Sep 53, memo Solandt to Foulkes, draft letter to British Chiefs of Staff.

The Canadian shopping list was comprehensive. Foulkes canvassed all three services as to their nuclear weapons information requirements and passed them on to the BCS. The Army was interested in weapons effects on all manner of equipment, obstacles, and personal movements. The RCN was interested in the impact of air, surface, and sub-surface bursts on ships and harbours, while the RCAF wanted to know about how radiation affected aircrew while they were flying and the impact of blast on air flow. The RCAF was especially interested in the adaptability of nuclear warheads for air-to-air missiles, anti-submarine weapons, and close support weapons. All wanted to know about the best procedures for decontamination.<sup>32</sup> Without this information, the Canadian armed forces would not be capable of protecting themselves in a future war involving nuclear weapons use, a type of war that Canada and her NATO allies had agreed was the most likely form of conflict.

Within the Chiefs of Staff Committee, Foulkes expressed concern that the information gathering programme not be based on a purely "defensive attitude" because:

...it was important that because of thermonuclear weapons we not be panicked into thinking only in terms of defence. Atomic and thermonuclear weapons must continue to be considered merely as a type of weapon. Regardless of enemy capabilities in the

32. Ibid., The information Canada wanted paralleled information the British wanted anyway. See PRO DEFE 7 file 1518, 21 Apr 53, MOD, "Target Requirements for Nuclear Testing;" 3 Mar 53, MOD Defence Research Policy Committee, "Army Requirements." Additional information the British wanted included the potential effect of nuclear weapons against submarine pens, oil storage, and radio propagation, and the ability of nuclear weapons to "tactically isolate the battlefield and deny tactical mobility in attack or defence."

thermonuclear field, we must still plan to carry out our assigned tasks.<sup>33</sup>

### Personal and Informal Relationships

One important nuclear information gathering method employed by Canada was the extensive use of personal contacts among Canadian, American, and British people involved in defence science, planning, and policy. It is, however, an extremely difficult area to document. In many cases, there is no written record. The fact that two men were friends, met frequently and corresponded does not always prove that there was some form of detailed information passage, particularly when it came to nuclear weapons, their construction, effects, and employment. On the other hand, some close friendships did develop. For example, James Forrestal, the American Secretary of Defense, actively corresponded with his Canadian counterpart Brooke Claxton, even to the point of Forrestal sending the 1949 American defence budget to Claxton while it was under debate.<sup>34</sup> The relationships among Foulkes, Gruenther, Radford, Smith, and Bradley were discussed in Chapter 2.

In intelligence matters, both Foulkes and A.D.P. Heeney, Canadian Ambassador to the United States, had a close relationship with Allen Dulles, the Director of Central Intelligence. Foulkes even referred to Dulles

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33. DGHIST The Raymont Collection file 1308, Minutes of the 567th meeting of the Chiefs of Staff Committee, 30 July 1954.

34. Princeton University, The J.V. Forrestal papers, box 83, Correspondance 1949 "C," letter Forrestal to Claxton, 11 Feb 49; Letter Forrestal to Claxton, 17 Feb 49.

as "our man in the CIA," while Heeney wrote to Dulles and noted that "You are aware of how much we have appreciated the frankness and confidence with which you and your officers in the CIA have treated us in Canada and the extent and cooperation and assistance we have received from you for a long time."<sup>35</sup> In fact, the CIA regularly provided Canadian policymakers in External Affairs with American National Intelligence Estimates (NIE's). Raw intelligence material was passed on throughout the 1950s and 1960s: American liaison officers noted that:

The Canadians were less interested in our evaluations than they were in the raw material on which these evaluations were based. This does not reflect a particularly flattering assessment of us but we were willing to go along with them if there was any possibility of our convincing them of our views.<sup>36</sup>

The diplomatic circuit provided information on a wide variety of topics, but hard information on nuclear topics outside of general policy was rarely transmitted.

Other forums for informal relationships included the PJBD, the MCC, CUSMSG, and CUSSAT, as well as affairs like the Lincoln Summer Study Group. Relationships that developed at this level tended to be long lasting. For example, Admiral George Anderson, who eventually was American Chief of Naval Operations from 1961 to 1963 (and who would play a role in requesting Canadian forces during the Cuban Missile Crisis in 1962), served on the PJBD between 1946 and 1948, was a member of the MCC at

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35. Princeton University, The Allen Dulles Papers, box 95, file "Heeney, ADP," Letter Heeney to Dulles, 5 Oct 61; Letter Dulles to Heeney, 15 Oct 61.

36. USNARA, RG 59 E 3077 250/62/30/3 Box 1, file: Ottawa 1962 1/a, memo Delmar Carson to Rufus Z. Smith, 11 May 62.

various times between 1948 and 1960, and was a SHAPE staff officer between 1950 and 1953. Through this medium he met General Andrew McNaughton, the Canadian member of the PJBD who handled the early air defence planning (and was later the go-between on many Canadian-American projects).<sup>37</sup>

On the NATO side, Anderson knew General Lauris Norstad well from the SHAPE period. Norstad eventually became SACEUR. Foulkes had arranged with Gruenther (and Norstad, who worked for Gruenther at the time) to have Air Vice Marshal Frank Miller become the SHAPE Air Deputy in 1954.<sup>38</sup> Miller worked with Norstad during this period and Miller eventually became Chairman of the Chiefs of Staff Committee in 1960. Norstad also was involved with placing Canadian Air Marshal Hugh Campbell as Deputy Chief of Staff Operations at SHAPE in 1957, followed by Air Vice Marshal Frank Dunlap. Both of these appointments were at Foulkes' behest.<sup>39</sup> Campbell was the first commander of 1 Air Division RCAF under Eisenhower when Eisenhower was SACEUR.<sup>40</sup> Anderson's predecessor in the CNO position, Arleigh Burke, had known Canadian Vice Admiral Harry De Wolfe, the Chief of the Naval Service between 1956 and 1960 (and head of the Canadian Joint Staff Mission to Washington before that), from the Second World War. De Wolfe was probably the first non-American naval officer to sail on an American nuclear submarine. Burke

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37. USN OA, Admiral George W. Anderson Jr., Oral History Vol. I, pp. 174-177, 219.

38. DDEL The Lauris Norstad Papers, file "F," Letter Gruenther to Foulkes, 18 May 54.

39. DDEL, Norstad Papers, file "F," Letter Norstad to Foulkes, 28 Mar 58.

40. DGHist, the Raymont Collection, file 497, 26 Jun 58, memo Foulkes to Pearkes, "Visit of the President of the United States and Mrs. Eisenhower."

invited De Wolfe and a small Canadian team (which included Omand Solandt's replacement, Dr. Adam Hartley Zimmerman of the DRB and Brigadier Jean Victor Allard, the Vice Chief of the General Staff and later Chief of the Defence Staff) to travel on board the nuclear-propelled USS Seawolf in 1957 after the Atomic Energy Act was amended.<sup>41</sup>

Clearly the entire web of informal personal relationships for every person who participated in the policy process is far beyond the scope of this study. It extended, at least on the Army side, extensively into the British Army because of the extremely close working relationship between the Canadian Brigade Group in NATO and the British Army of the Rhine (which will be discussed in later chapters). There were countless contacts at the operational and service levels. What these examples do provide is the extensive scope and interconnectedness of the personal contacts. Taken as a whole, the probability that they influenced or even facilitated in a positive manner the creation of Canadian policy is high.

Another extremely important informal information exchange mechanism that Canada possessed was the hunting and fishing lodge located at Eagle Lake in Labrador. Eagle Lake started out as a ramshackle fishing camp consisting of a number of tents located near a fish-laden lake within float plane distance of Goose Bay. The facilities became considerably more elaborate as time went on. Eagle Lake became the primary point of informal contact between the USAF and the RCAF at the highest levels. No notes (and no secretaries) were taken to Eagle Lake, and as such, there is no written record of the deliberations that went on there. Yet Generals Curtis

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41. NAC MG 30 E809 vol. 1, file "General Correspondance 1954-1964," 24 Dec 57, Letter De Wolfe to Burke; 15 Jan 58, Letter Burke to De Wolfe.

E. LeMay, Lauris Norstad, Earle Partridge (CinCCONAD) and others were frequent visitors. RCAF officers did not just catch fish at Eagle Lake.<sup>42</sup>

There was what appears to have been an accidental exchange of nuclear information. In 1952, the Joint Intelligence Bureau was involved in the previously-mentioned DRB vulnerability study. While the study was underway, the director requested a copy of an American study, "Capabilities of Atomic Weapons." After the vulnerability study was completed, the document arrived in Ottawa. The JIB was confused. The McMahon Act clearly applied to this paper. Was this release an accident, or did it indicate a new American attitude towards releasing it to Canada, perhaps on the "QT?" The Joint Special Weapons Committee did not really want to know and disseminated the document within DND and the armed forces. It is probable that the information in "Capabilities of Atomic Weapons" contributed to the FORWARD ON study and thus was part of the material sent to 25 CIBG in Korea in 1953.<sup>43</sup>

As noted earlier, there is little doubt that Dr. Solandt, as Chairman of the DRB, used his extensive contacts in the United Kingdom and the United States to acquire nuclear weapons information. There is little documentary evidence of what exactly he did acquire, however:

...nearly all the [nuclear] information was very highly classified and some of it came to us quite informally and partly because many of the interchanges were so informal that they were never recorded....I kept no personal diaries except in a very few special cases and deliberately did not record many discussions in which I was voluntarily given

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<sup>42</sup> See interview with LGen A. Chester Hull, 29 Dec 95, Trenton, Ontario.

<sup>43</sup>. NAC RG 24 file 1439. 2 vol. 1, 18 Aug 52, Minutes of the 16th Meeting of the Joint Special Weapons Committee.

access to highly classified information that was theoretically unavailable to Canadians.<sup>44</sup>

Finally, DRB possessed another resource: Dr. Alex Longair. Joining DRB in 1952-1953, Longair was a British scientist who was a liaison officer to the British Joint Staff Mission, Washington. Solandt brought him on board because "he had a real gift for acquiring information and as a result DRB soon was very connected through a combination of the contacts that I had made and the much more extensive network that Alex had built up."<sup>45</sup> These contacts would prove their worth later in the 1950s, when Canada participated in American and British nuclear weapons trials, which will be covered later in this chapter.

#### Share and Share Alike?: The Information Sharing Agreements

The development of a formal Canadian-American information sharing agreement in 1954 was an outgrowth of American overtures to meet the needs for NATO members to adapt their forces to deter Soviet aggression against NATO. Generals Eisenhower and Ridgway, in their capacities as SACEUR, had in the past requested information on American nuclear capability dedicated to NATO so that their nuclear targeting coordination people in SHAPE, the Special Air Staff, could plan for the effective use of nuclear weapons in the event of war with the Soviets. Some information,

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44. U of T, Solandt papers, file B91-0015/011, 21 Feb 87, Omund Solandt unpublished paper, "Canadian Involvement with Nuclear Weapons, 1946 to 1956."

45. Ibid.

specifically the numbers and types of delivery systems, was communicated, but the actual characteristics of the weapons themselves were not. Notably, the Special Air Staff's targeting section, Group Able, were all Americans, so information could be released to them and then they would coordinate with the United Kingdom.<sup>46</sup>

Ridgway pushed for releasing more information to the NATO staffs and also wanted to establish courses so that NATO staff people could be trained in weapons effects and defensive measures and weapon employment. Even though more information was released to SHAPE in 1953, it was not enough. The McMahon Act was far too restrictive, and there were limits as to how far American commanders would go using informal means.<sup>47</sup> SACLANT, Admiral Lynde McCormick, had gone as far as he thought he could. He recommended that "at this time [1954] only certain selected United Kingdom and Canadian officers (attached to my staff, the principle SACLANT subordinate commanders and their planning staffs) be given access to info...."<sup>48</sup> McCormick wanted the following information released:

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46. This organization was the predecessor to the Joint Strategic Target Planning Staff established in the 1960s. See Militargeschichtliches Forshungsaamt [hereafter MGFA] NATO Documents Collection unorganized files, 31 Jan 52, JCS, "Information For General Eisenhower on Availability of Atomic Weapons; UPS microfilm The JCS: Strategic Issues I reel 4, 0064-0065, memo by CNO to JCS, "Revision of Information for General Ridgway on Availability of Atomic Weapons," 16 May 53; see also Maloney, Securing Command of the Sea pp. 163-165.

47. UPS microfilm, The JCS: Strategic Issues I reel IV, frame 0015-0024, JCS, "Exercise PROPHECY," 13 Jan 53; frame 0029-0037, JCS, "Atomic Warfare Indoctrination Course for Allied High Commanders and Key Staff Officers," 13 Mar 53; frame 0038-0047 JCS JSPC, "Information for NATO Commands Concerning Atomic Weapons," 23 Mar 53. McMahon himself noted in later years that his legislation was not a good idea and constrained NATO far too much.

48. DDRS, 1976 frame 76 247C, message USLO SACLANT to JCS, 27 Feb 54.

- 1) The size, weight, and shape of those weapons already in the American stockpile
- 2) Approximate yield options
- 3) Fuzing options and penetrating capabilities
- 4) Nuclear safety procedures
- 5) Damage parameters
- 6) Delivery capabilities, techniques and accuracy
- 7) Escape parameters for delivery aircraft
- 8) Target intelligence
- 9) Logistics requirements and techniques.
- 10) Threat: Soviet weapons and techniques.<sup>49</sup>

This information was remarkably similar to what SACEUR wanted for his staff,<sup>50</sup> and one wonders as to the nature and extent of coordination between the two NATO commanders. In any event, this information would provide the form of the NATO-US information sharing agreement and the bi-lateral Canadian-American agreement in 1955.

Eisenhower was eventually able to convince American legislators to alter the terms of the McMahon Act. In 1954, Congress produced the Atomic Energy Act of 1954, with a special paragraph, 144b. This allowed for the establishment of multi-lateral (NATO) and bi-lateral (United States to specific nation) information sharing agreements to proceed on a case by case basis, as deemed necessary by the President of the United States.

The first formal agreement under the auspices of 144b, naturally, was the "Agreement Between the Parties to The North Atlantic Treaty for Co-operation Regarding Atomic Information." Drafts were passed on to Pearson and Foulkes in December 1954 in time for the NATO Ministerial Meeting held at that time. Both concurred that this was a very positive step

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49. Ibid.

50. UPS microfilm, The JCS: Strategic Issues 1 reel IV, frame 0077-0085, JSPC to JCS, "Nuclear Weapons Utilization Planning In NATO," 30 Mar 54.

and that Canada would support it. The only dissenters were the Netherlands and Norway and then only because of their need to consult on matters of constitutionality with their governments. The Canadian Cabinet gave approval for External Affairs to sign the agreement in February 1955.<sup>51</sup>

The actual agreement adopted by NATO in December 1954 stated that the United States would provide information to NATO military and civilian leaders for the purposes of:

- 1) The development of defence plans.
- 2) The training of personnel in the employment of and defence against atomic weapons and other military applications of atomic energy.
- 3) The evaluation of the capabilities of potential enemies in the employment of atomic weapons.
- 4) The development of delivery systems compatible with the atomic weapons which they carry.<sup>52</sup>

In addition to the main legal document, the agreement included a special annex, which basically reproduced the same list of information that SACLANT and SACEUR wanted so that they could conduct realistic planning. This annex also allowed for information exchange on the extent of interchangeability of nuclear weapons components, which weapons went on which delivery vehicles, and an estimation as to how the SAC air

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51. NAC RG 25 vol 5958 file 50219-AL-40, 8 Dec 54, memo to Pearson, "Agreement for the Cooperation between the United States and NATO Regarding Atomic Information;" memo Foulkes to Under Secretary of State for External Affairs, "Proposed NATO Agreement for Exchange of Atomic Information;" 14 Dec 54, message Wilgress to Pearson, "Proposed Agreement for Exchange of Atomic Information;" NAC RG 2 vol 2657 file 4 Jan-1 Mar 55, Cabinet Conclusions.

52. National Security Archive (n/d), "Agreement Between the Parties to the North Atlantic Treaty for Co-operation Regarding Atomic Information."

offensive would affect NATO planning.<sup>53</sup> It did not allow for the passage of nuclear weapons design or fabrication information. Both SACLANT and SACEUR established Atomic Warfare Indoctrination Courses for their NATO staff officers so that they could put this information to use. SACEUR organized the NATO School at Oberammergau, West Germany, while SACLANT created a course for this purpose in Norfolk, Virginia. Canadian staff officers enrolled in courses at both locations.<sup>54</sup>

The bi-lateral Canadian-American agreement on the use of atomic energy for mutual defence purposes was put together between March and July 1955, more or less simultaneously with a similar Anglo-American bi-lateral agreement, both under the auspices of the 144b portion of the Atomic Energy Act.<sup>55</sup> Initial work on the agreement actually preceded the NATO agreement,<sup>56</sup> but the Americans wanted the NATO agreement to come first, probably so that other NATO allies would not be offended by preferential treatment of Canada by the United States. The original draft was prepared by the Canadian Department of National Defence and sent to the JCS for

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<sup>53.</sup> NAC RG 25 vol 5958 file 50219-AL-40, 9 Dec 54, memo from Wilgress to Pearson, "Agreement fo Co-operation Regarding Atomic Information."

<sup>54.</sup> USN OA, "Semi-Annual Report of the Secretary of the Navy, 1 Jan-10 Jun 57;" interview with Capt David Holt, Canadian Army, Lahr, Germany, 12 Feb 93. Note that Ridgway had organized the Special Weapons Branch at the U.S. Army School in Oberammergau as early as January 1953 to train staff officers in atomic operations but courses were constrained by the lack of information. It came under the operational control of SACEUR in 1966. See The NATO School (SHAPE), "The NATO Military Guide, January 1990."

<sup>55.</sup> For the text of the UK-US agreement, see John Baylis, Anglo-American Defense Relations 1939-1984 (2nd Ed.) (New York St. martins Press, 1984) pp. 85-87. See also PRO DEFE 7 file 1517, 9 Jun 58, Foreign Office to the Atomic Energy Authority, draft history "The UK-US-Canadian Collaboration in the Field of Atomic Energy 1940-1957."

<sup>56.</sup> US NARA RG 59 file 877415-2503-3 FOIA request, memo Palmer to Merchant, "Initialling of Agreements with Canada and the United Kingdom for the Exchange of Atomic Information for Mutual Defense Purposes," 7 Jun 55.

modification and comment. The JCS strongly supported the agreement and even added an expanded annex at this point.<sup>57</sup>

The American legislative bodies had to first be convinced that the agreements were actually needed so that they would not interfere with the signing of them.<sup>58</sup> The appropriate committees had been briefed on and accepted without debate the necessity of the NATO agreement. Could the NATO agreement not convey the information required to Canada and the United Kingdom?

The bi-lateral agreement with Canada was, in some respects, different from the NATO agreement. The defence relationship between Canada and the United States was unlike that with Europe as a whole, according to Deputy Assistant Secretary of State C. Burke Elbrick:

You will recall that the United Kingdom and Canada are partners in the original development of nuclear weapons during the crucial period of the second world war [sic]. Indispensable supplies of uranium ore came from Canada, while the United Kingdom contributed vital information and techniques....As you are aware we have a network of indispensable arrangements with Canada by means which we hope to have warning of enemy attack hours earlier than if we were forced to depend on [our own facilities]....In fact the military planners realize more and more that the defense of the United States and Canada is one inseparable problem and must be approached as a virtual unity....<sup>59</sup>

57. US NARA RG 59 file 877415-2503-3 FOIA request, memo Smith to Yingling, "Agreement for Cooperation with Canada Under Atomic Energy Act of 1954," 1 Mar 55.

58. For an extended discussion, see Timothy J. Botti, The Long Wait: The Forging of the Anglo-American Nuclear Alliance, 1945-1958 (New York: Greenwood Press, 1987), particularly Chapter 18.

59. FOIA, Statement by Deputy Assistant Secretary of State Elbrick before the Subcommittee on Agreements for Cooperation of the Joint Committee on Atomic Energy, 11 Jul 55.

Vice Admiral Arthur C. Davis, the Deputy Assistant Secretary of Defense (International Security Affairs), elaborated on the specific differences:

...each agreement consists of three parts, an unclassified cover agreement, an annex classified as Secret which lists the types of atomic information to be exchanged subject to the limitations imposed by law, and a second annex, classified Confidential, containing the security arrangements [for the information itself]....Both texts are identical....[W]e visualize that these agreements will entail much more of a true exchange of information than was possible with NATO, they have been expanded to reflect a much greater degree of reciprocity....It will also permit Canada and the United Kingdom with U.S. concurrence to discuss, with NATO, information made available to NATO by the United States. It will not permit Canada or the United Kingdom to exchange with each other information made available by the United States unless this is authorized by the United States and the same information has been made available to both countries.<sup>60</sup>

The primary document, "Agreement Between the Government of the United States of America and the Government of Canada for Cooperation Regarding Atomic Information for Mutual Defence Purposes," thus was structured for exchange, not just dissemination. The three primary areas for information exchange included:

- 1) The development of defence plans.
- 2) The training of personnel in the employment of and defence against atomic weapons.
- 3) The evaluation of the capabilities of potential enemies in the employment of atomic weapons.<sup>61</sup>

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60. Ibid.

61. FOIA, (n/d), "Agreement Between the Government of The United States of America and the Government of Canada for Cooperation Regarding Atomic Information For Mutual Defence Purposes."

The annex detailing what specific information was to be transferred remains classified in 1997. It probably was similar to McCormick's 1954 list and probably did not include weapon design and fabrication information because of the 144b portion of the 1954 Atomic Energy Act, which forbade such disclosure. The annex originally contained as an item exchange of information on military nuclear reactors, since the United States planned to install nuclear reactors in the Arctic to power the DEW Line. This item was removed, as it was covered under a parallel civilian use agreement regarding reactor research. Further, this project was never fully implemented.<sup>62</sup> The Cabinet Defence Committee approved signature of the agreement in June 1955. An exchange of notes followed, and ADP Heeney initialed the agreement on 5 August 1955.<sup>63</sup> This agreement would form the basis for further Canadian-American nuclear information agreements in 1958 and 1964, which will be discussed in more detail in future chapters.

### In the Land Where the Giant Mushrooms Grow: Canada and Nuclear Weapons Tests

Canadian participation in nuclear testing was driven by the same needs as her other information gathering endeavors: The armed forces needed nuclear effects information so that the force structure could fight effectively

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62. FOIA, memo SECDEF to The President, 10 Jun 55; DGHIST The Raymont Collection, file 1329, Cabinet Defence Committee, 105th meeting, 7 Jun 55. Note that the United States did test an Arctic nuclear reactor in Greenland in 1960. The PM-3A reactor was constructed in tunnels under the icecap at Camp Century, an Arctic research base. See George J. Dufek, "Nuclear Power for the Polar Regions", National Geographic May 1962 pp. 712-730.

63. FOIA, Heeney to Dulles, "Exchange of Notes," 5 Aug 55.

in a nuclear environment. Under the terms of the new agreements, the JSWPC asked for and received American test data from the SNAPPER, BUSTER, and JANGLE test series held in Nevada in 1951 and 1952. The BUSTER series consisted of five air-dropped weapons of varying yields up to 31 kt. JANGLE featured shot UNCLE, a cratering demonstration with a 1.2 kt weapon, while SNAPPER dealt with more air-dropped weapons yielding 1 to 19 kt. The JSWPC was particularly interested in the effects of the weapons on animals, gamma radiation, thermal flash damage, and in the case of JANGLE, nuclear cratering.<sup>64</sup>

Foulkes and Radford arranged for two groups of Canadians to travel to Nevada for Operation TEAPOT in 1955.<sup>65</sup> The first was an observer group which the JSWPC suggested should consist of "those senior personnel whose influence on Canadian developments is likely to be greatest."<sup>66</sup> Some of the Canadian observers were Commodore Ken Dyer, Commodore Herbert Rayner (later Chief of the Naval Staff), both of the RCN; Major General Rockingham (formerly of 25 CIBG in Korea and later 1st Canadian Infantry Division commander), Brigadier Geoffrey Walsh (formerly of 27 CIBG in Germany and later CGS) both from the Army; and Air

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64. Canadian Op ANTLER documents acquired under ATI, 29 Apr 59, JSWPC to Joint Staff, "Reports;" 21 Sep 59, JSWPC to DRB, "AWRE Reports"; Department of Energy (January 1982) "Announced United States Nuclear Tests, July 1945 through December 1981."

65. NAC RG 24 acc 83-84/ 25 vol 225 file 2001-91-012 vol. 1, 31 Jan 55, Joint Staff to distribution list, "Exercise DESERT ROCK VI."

66. NAC RG 24 acc 83-84/ 25 vol 225 file 2001-91-012 vol. 1, 29 Oct 54, JSWPC to COSC, "Attendance of Canadian Observers at Exercise DESERT ROCK."

Commodore F.S. Carpenter of the RCAF.<sup>67</sup> The second group was 1 RDU, which, after training at Fort McClellan, Alabama, would deploy to Nevada for Exercise SAPLING, the Canadian code-name for 1 RDU operations during the TEAPOT series. The U.S. Department of Defense, Department of State, and Atomic Energy Commission all had to agree to Canadian participation. Once consent was given, General James M. Gavin, US Army Deputy Chief of Staff for Research and Development, informed the Canadian Joint Staff Mission Washington. 1 RDU was to observe Shot ZUCCHINI from trenches and then conduct a ground survey. The observer group would watch a Military Effects Test (MET) shot.<sup>68</sup>

Shot MET was a 500-foot tower detonation with an estimated yield of 22 kt. The observation party consisted of 12 British and 12 Canadian officers. They inadvertently observed Shot HA, with the Canadian observers estimating that it was airburst at 40 000 feet (the actual height was 36 620 feet).<sup>69</sup> While waiting for Shot MET, the party also saw Shot POST (2 kt), which was set off to prove technical data. MET was fired on 15 April 55 and yielded 22 kt. The observer party, with protective clothing, was allowed to look at the test equipment three hours after the detonation. Sampling drones had to be shot down for safety reasons while this was occurring. The party saw the effects of the weapon on a runway (the asphalt ignited); vehicles (badly damaged

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67. NAC RG 24 acc 83-84/ 25 vol 225 file 2001-91-012 vol. 1, 9 May 55, CJSMW to Foulkes, "Canadian Participation- Operation TEAPOT." In terms of r's of gamma radiation, Dyer took 2240; Rayner 2120; Rockingham 2270; Walsh 2320; Carpenter 2300.

68. NAC RG 24 acc 83-84/ 25 vol 225 file 2001-91-012 vol. 1, (n/d) HQ U.S. Army G-3, "Canadian Participation in Operation TEAPOT."

69. NAC RG 24 acc 83-84/ 25 vol 225 file 2001-91-012 vol. 1, (n/d) Brigadier G. Walsh, "Observations on Atomic Bomb Tests (7-16 Apr 55); Defense Nuclear Agency, 23 Nov 81, "Fact Sheet: TEAPOT Series."

and thrown about); and trenches (which survived, as did vehicles behind berms). Walsh noted that "there is no doubt that with the proper use of ground and protective measures, the effects of such weapons can be considerably reduced. The impression gained was that the weapon will always be more effective against base installations and civil population than an army in the field."<sup>70</sup>

1 RDU, accompanied by LCol R.A Klaehn, who would be instrumental in developing Canadian Army nuclear doctrine, participated in Shot APPLE TWO instead of ZUCCHINI. 1 RDU moved to trenches 3200 yards from ground zero on 5 May 55. In this exercise, an American armoured task force, Task Force RAZOR equipped with 55 M-48 tanks, moved to within 890 metres of ground zero eight minutes after detonation. The aim was to determine how well armoured units could operate after a nuclear explosion: Could they exploit a gap created by a nuclear blast? APPLE TWO yielded 29 kt. 1 RDU assisted in predicting the contamination pattern and conducting the ground radiation survey after the blast with their specially-equipped jeeps.<sup>71</sup>

Foulkes was also dealing with the British, gambling that if the Americans would not assent to Canadian participation in TEAPOT, the British might allow Canadians along in their next test, which was scheduled for 1955. But the Americans did allow Canadians to go to Nevada. The British programme encountered delays in 1955, and their next test

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70. NAC RG 24 acc 83-84/ 25 vol 225 file 2001-91-012 vol. 1, (n/d) Brigadier G. Walsh, "Observations on Atomic Bomb Tests (7-16 Apr 55)."

71. Defense Nuclear Agency, (23 Nov 81) "Fact Sheet: TEAPOT Series;" LCol R.A. Klaehn, "The Story of Exercise SAPLING," and H.E. Cameron, "Some Highlights of Exercise SAPLING," in Canadian Army Journal July 1955, pp. 2-17.

series was put off till 1956. Alex Longair acquired information regarding the forthcoming British BUFFALO test series from British sources. With the latter indicating that the information was not to be transmitted to the Americans, Longair's material was forwarded to the JSWPC, which then directed that plans be drawn up for Canadian participation while others lobbied the British to allow Canadians to go to Australia. Foulkes received the 'go' in April 1955: The bulk of 1 RDU, ten DRB scientists, nine staff officers and two administrative staff for a total of 50 people were permitted to attend.<sup>72</sup>

There appears to have been no Canadian participation in Operation MOSAIC. This British test series was held in May-June 1956, four months before BUFFALO. MOSAIC consisted of two shots, G-1 (15 kt) and G-2 (98 kt),<sup>73</sup> both fired off at Monte Bello. These shots were instrumental in the development of the British hydrogen bomb programme and perhaps the British were somewhat disinclined to allow "foreign" observers. Notably, Operation HOTSHOT FOXTROT occurred during G-1 and G-2. HMS Diana, a destroyer, sailed through a contaminated area to test passive shipboard NBCD measures. Britain did, however, pass on information regarding aircraft decontamination procedures.<sup>74</sup>

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72. NAC RG 24 acc 83-84/25 vol 1888.1 vol. 4, 22 Mar 55, memo Longair to Maclare, "Operation BUFFALO;" 4 Mar 55, JSWPC, "Participation in UK Trials: BUFFALO;" 18 Apr 55, Foulkes to CJSM London, "Canadian Participation in UK Atomic Trials."

73. Arnold gives an incorrect yield of 60 kt as does Blakeway. Note that May in The Greenpeace Book of the Nuclear Age gives a 98 kt yield to G-2 rather than 60, but he does not substantiate this figure. Robert S. Norris et al., British, French, and Chinese Nuclear Weapons (Boulder, Colorado: Westview Press, 1994) p. 33 does substantiate this. The yield of G-2 was deliberately under-reported by the British because its yield was far in excess of what had been planned and caused greater fallout across Australia.

74. Denys Blakeway and Sue Lloyd-Roberts, Fields of Thunder: Testing Britain's Bomb (London: George, Allen and Unwin Publishers, 1985) pp. 95-106; and Lorna Arnold, A Very Special Relationship: British Atomic Weapon Trials in Australia (London: HMSO, 1987) pp. 132-139. See also Canadian Op ANTLER documents acquired under

In a similar vein, Canada was not invited to Operation RED WING, an American test series conducted at Enewetak and Bikini between May and July 1956. RED WING was the fourth American hydrogen bomb test series, which included GREENHOUSE (1951), IVY (1952) and CASTLE (1954). RED WING tested advanced thermonuclear weapons designs which clearly were not for foreign eyes to see except perhaps through a surreptitious periscope. There were 17 shots, many of which had a megaton-range yield. Notably, Shot CHEROKEE was the first airdrop of an American thermonuclear weapon.<sup>75</sup> British observers and airborne sampling aircraft were allowed to participate in CASTLE, but there is no indication that specifics were directly passed on to Canada.<sup>76</sup>

In preparing the Canadian BUFFALO teams, the British Atomic Weapons Research Establishment (AWRE) forwarded many controlled documents to the JSWPC and DRB. Though the exact nature of the documents remains classified, JSWPC personnel were surprised as to the depth of the information and implied that the British were being generous

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ATI, 29 Apr 59, JSWPC to Joint Staff, "Reports;" 21 Sep 59, JSWPC to DRB, "AWRE Reports."

75. Hansen, US Nuclear Weapons pp. 71-74; Defense Nuclear Agency, 29 Jan 83, "Fact Sheet: Operation RED WING;" U.S. Department of Energy, Jan 1982, "Announced United States Nuclear Tests, July 1945 through December 1981."

76. Robert S. Norris et al., British, French, and Chinese Nuclear Weapons (Boulder, Colorado: Westview Press, 1994) p. 28.

with Canada beyond the bounds of the information exchange agreements.<sup>77</sup> Foulkes, with AWRE scientist Sir William Penney's help, was even able to get a Canadian engineer officer appointed to the AWRE itself. Captain H.E. Rankin of 1 RDU functioned as the Canadian liaison officer to AWRE and was tasked with "keeping the Canadian agencies ...fully informed on UK plans, proposals, requirements, and decisions concerning, or of interest to [Canada]"<sup>78</sup> There was even an attempt by Canada to get Canadian scientists permanently employed at AWRE, but this was an absolute no-go.<sup>79</sup>

The Army and the RCAF wanted to include a wide variety of military equipment for the tests. This equipment would be spread around in the vicinity of ground zero and scientifically monitored so that the weapons effects could be measured and the results incorporated into future weapons and equipment designs. The RCAF, on the other hand, wanted to bring an entire CF-100 interceptor, an Orenda jet engine, and a CF-100 prototype nose with a new fire control system. Unfortunately, the landing strip at the test

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77.NAC RG 24 acc 83-84/25 vol 1888.1 vol. 4, 20 Apr 55, Longair to DRB, "Reports From AWRE." A sampling of report titles includes: "Safety Levels for Contamination from Fall-Out from Atomic Weapons;" "On a Method of Estimating Atmospheric Diffusion;" "The Rise of a Cloud Produced by a Nuclear Explosion;" A Reanalysis of Fall-Out Data from TOTEM;" "Formula for the Dependence of Medium Range Fallout on the Yield and Height of Burst of an Atomic Weapon." See NAC RG 24 acc 83-84/25 vol 1888.1 vol. 1, 18 Apr 56, AVM Smith to JSWPC, "Operation BUFFALO: Transmittal of Documents to Mr. Hugh Cameron."

78.NAC RG 24 acc 83-84/25 vol 1888.1 vol. 4, 19 Jul 55, Foulkes to CJS London, "Canadian Participation in UK Atomic Trials."

79. NAC RG 24 acc 83-84/25 vol 1888.1 vol. 6, 15 Oct 55, message CJS London to Foulkes.

site itself could not take the CF-100, so portions were crated and brought in piecemeal along with comparable British aircraft.<sup>80</sup>

The British wanted Canadian participation in BUFFALO kept secret and Canadian planners concurred, stating that they would release only the fact that Canadians were in Australia if directly questioned by the press.

Eventually, the British downgraded the classification of the extent of Commonwealth participation but would confirm that other nations were participating only if directly asked. Even the United States was not to be informed initially, but this changed when Penney did so in November 1955:

"He did not invite the US to the trials. He did not mention Canadian participation [to the Americans]. He said that he hoped he would, for a change, have some information for the US as a result of these trials."<sup>81</sup>

Inexplicably, AWRE sent three sealed envelopes to three Canadian DRB scientists, Drs J.A. Carruthers, R.H. Johnston, and G. Luchak. These envelopes contained the estimated yields and types of weapons that were to be tested in the BUFFALO series. Longair apparently facilitated this, but for unknown reasons.<sup>82</sup>

The degree of trust is notable and in direct contrast to American behavior in the TEAPOT series. Circumstantial evidence suggests that Canadian scientists and military personnel were provided with actual weapons design data for the BUFFALO test weapons. Unlike previous British tests,

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80. NAC RG 24 acc 83-84/25 vol 1888.1 vol. 4, 19 Aug 55, DRB to JSWPC, "Operation BUFFALO: RCAF Equipment for Test."

81. NAC RG 24 acc 83-84/25 vol 1888.1 vol. 6, 22 Nov 55, handwritten note from JSWPC to Joint Staff.

82. NAC RG 24 acc 83-84/25 vol 1888.1 vol. 6, 3 Nov 55, AVM D.M. Smith to JSWPC, "Operation BUFFALO: Weapon Yields;" 8 Nov 55, Longair to DRB Chemical Lab Shirley Bay, "Operation BUFFALO."

BUFFALO dealt with working weapons as opposed to test devices. The elaborate security precautions were clearly transmitted to Canada so that any documentation that Canada possessed or received would be handled properly. For example, the British Top Secret/Guard level included the "specific nature and purpose of each weapon trial"; "design details of the weapons"; and "nuclear efficiency" (the physical process produced by the firing of the weapon). Secret/Guard documents related to experimental weapons yields, the types and methods of radiation detection and trial recording equipment, and the height of the detonation towers.<sup>83</sup>

The BUFFALO force had 1350 men total, including a 250-man Commonwealth Indoctrination Force which was structured to act as a training cadre for Commonwealth armies.<sup>84</sup> The Canadian BUFFALO contingent consisted of eleven officers and a staff sergeant; 1 RDU (20 Army, 5 RCAF); and twelve DRB scientists. These personnel were integrated into the British AWRE units at Maralinga. For example, there was a Target Response Group consisting of Ordnance, Explosive, Structures, Aircraft, Electronics, and Materials teams. There was a Decontamination Group, a Radiological Measurements Group, a Measurements Group (Gamma Survey), and a Health Physics Group. Arrangements were made to pass the

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83.NAC RG 24 acc 83-84/25 vol 1888.1 vol. 6, (n/d) "BUFFALO Administrative Notice No. 21: Operation BUFFALO Security Classifications."

84. Blakeway and Lloyd-Roberts assume Canadians were part of the Commonwealth Indoctrination Force, but Arnold mentions only Australian and British personnel. Canadian records do not show that Canadian officers participated in the CIF during BUFFALO.

final reports of these groups from AWRE to the DRB in Canada once the test series was concluded.<sup>85</sup>

The BUFFALO series consisted of four shots conducted between 22 September and 22 October 1956 at the Maralinga Atomic Weapons Test Range in southern Australia (Maralinga, in the Australian aboriginal language, means "Field of Thunder"). Shot ONE TREE was a tower detonation to test the 16 kt RED BEARD tactical nuclear bomb, which would later be employed on Canberra, Scimitar, and Buccaneer strike aircraft. MARCOO, fired during a rain storm, was a ground burst BLUE DANUBE aerial bomb with a small 1.5 kt core, while KITE was the first air drop of a BLUE DANUBE bomb by a Valiant strategic bomber. This was another low-yield version, topping out at 3 kt. The final test, BREAKAWAY, used a RED BEARD variant exploded from a 100-foot tower at midnight. Its yield was between 10 and 16 kt.<sup>86</sup> In effect, BUFFALO provided its observers with a cross-section of British operational nuclear weapons capabilities.

1 RDU was not happy with regard to the employment of its personnel preparing for the shots. There was no time for the highly-trained men to consolidate what they learned while on the ground at Maralinga and many wound up doing menial labour in preparation for ONE TREE and MARCOO. It was during the final event, BREAKAWAY, that 1 RDU shined. The unit conducted a detailed ground radiological survey wearing protective gear and driving jeeps during the day and at night, possibly the

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85. NAC RG 24 acc 83-84/25 vol 1888.1 vol. 3, Feb 1956, "Operations Order No. 1 for Operation BUFFALO;" 18 Nov 55, "Operation BUFFALO: Preliminary Statement of RDU Tasks When Integrated in UK Teams."

86. NAC RG 24 acc 83-84/25 vol 1888.1 vol. 3, 18 Feb 57, JSWPC to COSC, "Operational BUFFALO Canadian Participation-Final Report;" Arnold, Very Special Relationship pp. 140-170; Blakeway and Lloyd-Roberts, Fields of Thunder p. 132.

first time this was ever done. The unit experienced a number of phenomena including partial communications blackouts. All 1 RDU vehicles were heavily contaminated, and personnel developed new methods to decontaminate them in the field. The 1 RDU after action report noted that "the fall-out areas decayed very quickly and in about 3 or 4 days personnel could work in all areas except in the near vicinity of ground zero, in normal clothes, gloves and rubber boots, carrying a respirator to be worn if winds created a dust hazard."<sup>87</sup> A second important exercise involving 1 RDU simulated a brigade advance with two Australian battalions up and 1 RDU conducting the radiological survey in front with reconnaissance troops. This exercise was conducted in an already contaminated area. 1 RDU was able to test all versions of the experimental Canadian RADIAC monitoring equipment which would eventually be provided to almost all units, bases, ships, and aircraft in the Canadian armed forces. Many deficiencies in this equipment were noticed and corrected.<sup>88</sup>

RCAF personnel accompanied the British and Australian air survey teams and also assisted in aircraft decontamination procedures. An S-55 helicopter and a Varsity transport aircraft equipped with air sampling sensors flew weaving paths through the egg-shaped fallout pattern created by each of the four shots to determine the extent and flow of the radioactive material.<sup>89</sup>

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87.NAC RG 24 acc 83-84/25 vol 1888.1 vol. 3, 16 Apr 57, "Operation BUFFALO Final Report- 1 RDU."

88. Ibid.

89. Ibid.

There is no doubt that BUFFALO provided Canada with a unique opportunity to learn about nuclear warfare. On the whole, though, the British test programme was hurried and austere, and the base was ramshackle in the extreme. In the final measure, the Commanding Officer of the Canadian Contingent recommended that "1 RDU should not return to Maralinga if similar opportunities exist for training and indoctrination at Las Vegas."<sup>90</sup>

While Canadian defence policy dictated that the Canadian armed forces learn as much about nuclear weapons as possible, the Department of External Affairs was deeply involved in fruitless international nuclear disarmament negotiations throughout the 1950s.<sup>91</sup> Normally this did not directly intrude on defence policy, but there was the possibility that a proposed atmospheric test ban treaty could prevent Canada from getting the information she needed to provide her part of the deterrent system. External Affairs was concerned and sought Defence guidance on what Canada's requirements were so that negotiations would not interfere with information acquisition. The DRB informed External that Canadian military requirements for nuclear weapons included the need to "destroy a winged aircraft, manned or unmanned" with a relatively low yield weapon either to knock down the target or "render inoperative" the incoming nuclear weapon with radiation. ICBM interception would require a high-yield weapon: "It should not be assumed that these would be small

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90.NAC RG 24 acc 83-84/25 vol 1888.1 vol. 3, 18 Feb 57, JSWPC to COSC, "Operational BUFFALO Canadian Participation-Final Report."

91. See Joseph Levitt's Pearson and Canada's Role in Nuclear Disarmament and Arms Control Negotiations (Kingston: McGill-Queens University Press, 1995) for a full view of this topic from 1945 to 1957.

weapons, it depends on what the weapon is required for." DRB was against any test or weapons ban that placed limits on yields.<sup>92</sup>

External also queried Foulkes on this issue. On October 1956 he replied:

Inasmuch as the defence of the NATO Area is dependent on the use of atomic weapons, Canada should support the continuance of the minimum tests necessary to ensure that the use of these weapons will be effective....the annual world limit for atomic test explosions would be acceptable provided any such limit meets the defence requirement of NATO without endangering public health throughout the world.<sup>93</sup>

The testing continued.

Canadians were extensively involved in the American test series Operation PLUMBOOB held at the Nevada testing grounds between May and October 1957 and in the British series Operation ANTLER at Maralinga in September and October.

In the case of PLUMBOOB, the COSC approved a tri-service request for participation in an American test series in December 1956. Utilizing the bilateral agreement as a basis for the request, the Canadian Joint Staff Mission Washington approached the U.S. Armed Forces Special Weapons Project directly. Canada wanted to send 1 RDU to conduct ground surveys, RCAF and RCN teams to learn aircraft decontamination, and an infantry platoon to work with an American ground unit conducting operations. This would be the largest Canadian contingent involved in nuclear testing: 483 men. The AFSWP passed the request to General Gavin, who along with the

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92. NAC RG 24 acc 83-84/167 vol 4175 file 1930-106-1 pt. 1, 31 Aug 56, memo DRB to DEA, "Control of Tests of Atomic Weapons."

93. NAC RG 24 acc 83-84/167 vol 4175 file 1930-106-1 pt. 1, 5 Oct 56, memo Foulkes to Under Secretary of State for External Affairs, "Disarmament-Limitations of Atomic Tests."

Department of Defense, approved it in March 1957.<sup>94</sup> The Department of Defense was enthusiastic, noting that Canadian participation "is desirable to the maximum extent possible."<sup>95</sup>

The AFSWP also invited Canada to send senior military observers to a planned Principal Military Effects Shot. Canada concurred. All three services sent general officers or commodores involved in the technical, doctrinal, and operational aspects of military planning and equipment acquisition. Some notable observers were Commodore A.H.G. Storrs (the Assistant Chief of the Naval Staff [Warfare]); Commodore H.L. Quinn (Chief of Staff, Atlantic Command); Major General George Kitching (Vice CGS); Brigadier C.B. Ware (Director of Military Training); Brigadier D.C. Cameron (Commander, 4 Canadian Infantry Brigade); Brigadier J.V. Allard (future Chief of the Defence Staff); Air Vice Marshal Max Hendrick (Air Member for Technical Services and future commander of Air Defence Command); and Air Commodore G.G. Truscott (Chief of Armament Engineering and involved with making RCAF aircraft nuclear-capable).<sup>96</sup> All influenced Canadian armed forces nuclearization, as we will see in future chapters. The USAF approached the RCAF directly and asked if the RCAF would like to observe the first live test of the MB-1 Genie. The RCAF, naturally, sent a special "Air-To-Air Shot VIP Group" specifically for Shot

94. NAC RG 24 acc 83-84/125 vol 225 file 2001.91/016, 20 Mar 57, Director of Weapons and Development to Director of Military Training, "Participation in US Atomic Tests-1957;" 14 Mar 57, CJSMW to COSC, "Canadian Request for Atomic Information-Participation in US Atomic Tests-1957;" 22 Mar 57, JSWPC to Foulkes, "Canadian Request for Atomic Information: Canadian Participation in Operation PLUMBOB."

95. NAC RG 24 acc 83-84/125 vol 225 file 2001.91/016, (n/d) RAdm Horacio Rivero USN to CJSMW, "Canadian Participation in Operation PLUMBOB."

96. Canadian Op PLUMBOB documents acquired under ATI, 17 May 57, "List of Officers Nominated as being Available to Attend a Nuclear Weapons Test."

JOHN. Secretary of State Dulles even asked if External Affairs would like to send an observer as part of an international group separate from the military groups. Albert Edgar Ritchie, Canadian Ambassador to the United States, was nominated.<sup>97</sup>

Canadian participation in PLUMBOB was a tapestry of activity, with Army, RCAF, and RCN personnel involved with no less than ten separate shots out of the 24 total in the series. The Canadian Administrative Group (CAG) personnel apparently observed the odd shot beyond the ten, since they were on the ground all the time and had the opportunity to do so. There were, in effect, eleven different Canadian groups at PLUMBOB: the CAG, 1 RDU, the VIP Group, the Air to Air Group, two RCAF and one RCN Working Parties, three tri-service groups of observers (code-named BOBCAT I to III and consisting of Major to Lieutenant-Colonel equivalent grade officers, including many battalion and regimental commanders who eventually would command brigades in Europe or, in the case of J.A. Dextraze, become the Chief of Defence Staff), and 7 Platoon, 1st Battalion, Queen's Own Rifles of Canada (QOR of C), led by Lieutenant R. Bridgeman.<sup>98</sup>

PLUMBOB had multiple objectives, some of which Canadian planners were not aware of from the outset. The American operations order, not released to the Canadian contingent, stated that the PLUMBOB series was "designed to conduct experiments advancing technical understanding of

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97. USNARA RG 59 box 2878, Embassy Ottawa to Dept of State, "Canadian Acceptance of Invitation to Attend Nuclear Test Shot," 16 May 57; message Embassy Ottawa to Dept of State, "Canadian Acceptance of Invitation to Attend Nuclear Test Shot," 6 Aug 57.

98. Canadian Op PLUMBOB documents acquired under ATI, October 1957 "A Report on the Activities Connected with the Formation, Operation, and Close-out of the Canadian Administrative Group during Operation PLUMBOB 1 May 57-1 Oct 57," prepared by Wing Commander D.T. Bain, RCAF.

nuclear and thermonuclear weapons, to test prototypes and develop further information on their military and civil effects."<sup>99</sup>

Most tests involving Canadian observers or the QOR platoon were either weapons effects tests like PRISCILLA or troop trials like SMOKY. HOOD, however, was billed as a "clean" bomb test to other international observer groups, that is, a weapon theoretically capable of producing less radioactive fallout than earlier designs. The Canadian VIP Group and the BOBCAT I observer group were completely unaware at the time that they witnessed the only thermonuclear detonation to occur inside the continental United States, and since Canadians had not been allowed to observe at CASTLE or RED WING, they could well have been the first Canadians ever to witness a thermonuclear shot.<sup>100</sup> Shot HOOD yielded 74 kt and was the largest atmospheric weapon test exploded in Nevada. HOOD was a prototype enhanced radiation device, or a "Neutron Bomb" as Canadian documents refer to it as early as 1961.<sup>101</sup> It released an 'abnormal' amount of initial radiation, eventually inflicting long-term damage on some of the soldiers stationed at the three-mile mark (or closer) from ground zero.<sup>102</sup>

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99. Thomas H. Saffer and Orr Kelly, Countdown Zero: GI Victims of U.S. Atomic Testing (New York: Penguin Books, 1982) pp. 83-84.

100. Canadian Op PLUMBBOB documents acquired under ATI, 8 Jul 57, CAG to COSC, "Operation PLUMBBOB-BOBCAT ONE."

101. NAC RG 24 acc 83-84/49 vol 4175 file 1930-106-1 pt. 1, 10 Jul 61, J.C. Arnell to the CAS, "The Testing of Nuclear Weapons."

102. See Saffer and Kelley, Countdown Zero pp. 60, 82; DDRS 1979 frame 110B, memo to The President from the AEC, 7 Aug 57 . The pertinent portion reads: "Another shot recently added to the series is an experimental firing designed to assist in developing [deleted] tactical weapons." The word "clean" fits nicely into the deleted portion.

Albert Ritchie, the only Canadian diplomat present at PLUMBBOB, made some pertinent observations which are worth recounting here in detail.

Ritchie observed Shot SMOKY, which, he was informed, would yield between 40 and 45 kt (it was actually 44 kt). In his secret after action report to External Affairs (a report which was widely distributed within that organization) he provided a human account of what occurred:

As the count entered the last minute the excitement was high. It did not seem to matter much whether the observer was a military man, a foreign service officer or scientist. At least some of the suspense among the watching scientists when the first bomb was being tested at Alamagordo in 1945 was undoubtedly being experienced by those present on this occasion. As the count reached "...3...2...1..." and nothing but blackness could be seen through the goggles which everyone was then wearing, not quite knowing what to expect or whether in fact anything would really happen...

And then at "...ZERO..." or "...NOW..." (I cannot recall for certain which word was used), there was the most spectacular and brilliant burst of flame imaginable which even the goggles could hardly dim. The effect was greatly increased by the fact that simultaneously the whole hillside behind ground zero (which apparently was at a distance of a mile or two on the other side of the bomb site...) caught fire. In those first few seconds, one saw a massive ball of many coloured fire against the background of a flaming hillside. It would not be possible to say exactly what colours were in the fireball, but the most striking was a bright mauve or violet which seemed to be prominent around the outer edge of the ball at one stage. All of this was the more impressive and the more eerie since it was not accompanied by any sound at all....

When about four seconds had passed, the colonel shouted that goggles could be removed. I looked towards the ground before taking mine off, as I wanted to get my eyes accustomed to the light before facing the brilliant spectacle across the desert. Even at that distance I found that the sand around my feet was glowing with a golden hue apparently more brightly than in the middle of the day. Although by then the fireball had been transformed into the beginnings of the usual mushroom-shaped cloud, the desert was still covered by a bright light although the dawn had scarcely begun to appear in the sky. The sagebrush and cactus on the distant mountainside continued to burn.

It was weird to watch the illuminated smoke or vapour curling around and literally sucking up the dust and debris from the earth. The mushroom cloud when it was eventually formed reached high into the sky and one could see an ice cap forming at the top. According to our Colonel the height of the cloud when it reached mushroom form was about eight or nine miles...shortly after the rockets had passed through the cloud it was possible to see one or two aircraft skirting the top of the cloud and penetrating it slightly.

All of these things must have happened in the space of a minute or a minute and a half since it is my recollection that they preceded the arrival at our location of the shock and sound waves from the explosion...the progress of the shock wave across the desert could be clearly seen. When it reached us it seemed to take the form of a loud and deep noise accompanied by the sort of gust of wind that one experiences when standing behind an aircraft as the propellers are started.<sup>103</sup>

Ritchie also speculated as to American motives for inviting an international observer group beyond familiarizing friendly foreign nations with American policies and operations involving nuclear weapons. Ritchie thought that the real aim was to make an impression, not to provide information. The international observer group consisted of representatives from NATO, the South East Asia Treaty Organization, the Central Treaty Organization, and the Inter-American Defense Board, people who "may have been so impressed by the spectacle that they may have become all the more keen for their governments to acquire or develop such an excellent device."<sup>104</sup> Perhaps the observers were supposed to come away with a positive impression that "smaller nuclear weapons are relatively harmless and controllable and therefore might be safely employed in certain

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<sup>103</sup>.Canadian Op PLUMBBOB documents acquired under ATI, 4 Sep 57, A.E. Ritchie, "Report on Attendance at Nevada Nuclear Test Scheduled for September 1, 1957."

<sup>104</sup>. Ibid.

situations.<sup>105</sup> This, Ritchie thought, was unlikely after SMOKY. With regards to Canadian participation vis a vis the international observers, Ritchie also noted that:

There were some private comments on the fact that Canada seemed to have been especially favoured by being allowed to have troops participate in the project, and one or two observers thought it a little strange that their countries had not been offered the same facilities. More might have been heard of this alleged favouritism if there had not been a Canadian in the general group in the same position as other NATO observers. The apparently special position of Canada would then have been considerably more conspicuous.<sup>106</sup>

7 Platoon's experience is important since it was the only time that a Canadian combat unit was involved in the test series in the 1950s. 7 Platoon was incorporated into Task Force WARRIOR, which was the 1st Battle Group of the 12th Infantry Regiment, 4th Division stationed at Ft. Lewis, Washington. The 12th Infantry had been reorganized into one of the five Battle Groups in a Pentomic Division, part of the U.S. Army reorganization for tactical nuclear warfare in 1956-57. With a Pathfinder team from the 82nd Airborne Division, two transport helicopter squadrons, the 1st Battle Group and 7 Platoon conducted airmobile and ground operations during shots STOLES, SHASTA, and SMOKY. Two Canadian exchange officers were with the helicopter units. During SMOKY, the Pathfinder unit was inserted about 100 yards from ground zero fifteen minutes after the detonation, followed by the airmobile force one hour later.<sup>107</sup>

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105. Ibid.

106. Ibid.

107. Howard L. Rosenberg, Atomic Soldiers: American Victims of Nuclear Experiments (Boston: Beacon Press, 1980) pp. 90-124; Defense Nuclear Agency, 15 Sep 81, "Fact Sheet: PLUMBOB Series;" Canadian Op PLUMBOB documents acquired under ATI, October 1957, "A Report on the Activities Connected with the Formation, Operation, and

The RCAF sent twenty high-ranking observers to shot JOHN, the live MB-1 Genie test. Many were instrumental in RCAF nuclearization, like Air Marshal Roy Slement (Chief of the Air Staff and later, Deputy CinCNORAD); AVM C.R. Dunlap (Vice Chief and later Chief of the Air Staff); Air Commodore Claire Annis; AVM L.E. Wray (Air Defence Command); and Air Commodore D.A. Bradshaw (a future commander of 1 Air Division).<sup>108</sup> The F-89 Scorpion piloted by Captain Eric Hutchison USAF fired the 2 kt rocket and conducted a back-flip escape manouvre seconds before the weapon exploded in mid-air. Two more F-89's penetrated the cloud after the weapon was detonated so that the effects on the crew and aircraft could be measured. Six volunteer CONAD officers then raised a sign scrawled 'Ground Zero-Population 5' several thousand feet below on the ground.<sup>109</sup> One Canadian observer who looked directly at the blast saw spots for several days afterwards every time he closed his eyes.

Many PLUMBOB tests were not open to foreign observers. These included the weapons safety tests Projects 57 and 58, COULOMB A and B,

Close-out of the Canadian Administrative Group during Operation PLUMBOB 1 May 57-1 Oct 57" prepared by Wing Commander D.T. Bain, RCAF. I attempted to conduct interviews with members of 7 Platoon in the Summer of 1996. The ones I spoke with were suspicious and were unwilling to give me a narrative of what they did on the exercise or other pertinent information. Inclusion of 7 Platoon in PLUMBOB appears to have been opportunistic on the part of the Army or Foulkes. There is no evidence that 7 Platoon performed 'guinea pig' functions, at least with Canadian knowledge. They do not appear to have been subjected to the same sorts of psychological and physical tests that some American units were subjected to in other test events. In any event, other Canadian Army units did not participate in other tests, so any form of Canadian comparative study must be ruled out. It is unclear as to how extensively 7 Platoon was debriefed after its experience and what was then done with that information. On the other hand, many, many DRB files remain classified.

108. Canadian Op PLUMBOB documents acquired under ATI, 20 Jun 57, "JOHN Shot-Operation PLUMBOB, Information for RCAF Observers."

109. Rosenberg, Atomic Soldiers pp. 89-90; FOIA, SAI, "Radiation Dose Estimate, Project 53.5, Shot JOHN, Operation PLUMBOB," 15 Apr 83.

PASCAL A and B, and SATURN. The lack of Canadian scientific representation at the PLUMBOB series compared to, say, the BUFFALO tests, indicates that Canadian access to weapons design information was minimal. PLUMBOB was a 'military show' from a Canadian point of view. It certainly gave a wide variety of Canadian officers first-hand experience.

There is a possibility that at least two Canadian scientific observers were invited to the British GRAPPLE thermonuclear test series held between May and September 1957, but what they may have reported is unavailable.<sup>110</sup> The closest uniformed Canadians got to the new BLUE DANUBE's was when the test aircraft overflew Canada, something not recorded at the Cabinet level. Nine Valiants, twelve Canberras, and 28 transports and three Shackleton MPA's staged through Goose Bay and Namao (Edmonton) headed to Malden island in the Pacific. The aircraft spent 30 minutes on the ground at each site and five hours in transit, with practically no security precautions. The same operation was repeated in November for the GRAPPLE X shot. All four tests were thermonuclear weapons in BLUE DANUBE casings dropped from operational Valiant bomber aircraft.<sup>111</sup>

As a consolation prize, the British invited Canadians to the SAPPHIRE (originally VOLCANO and later changed to ANTLER) test series in Australia in the fall of 1957. Canadian participation was much more

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110. DGHIST The Raymont Collection file 1309A, Chiefs of Staff Committee Special Meeting 28 Jan 1957.

111. DGHIST 79/429 vol. 7B, 4 Jul 57, "Divisional Items of Interest;" Wilfred E. Oulton, Christmas Island Cracker (London: Thomas Harmsworth Publishers, 1987) p. 292. See also Kenneth Hubbard, Operation GRAPPLE: Testing Britain's First H-Bomb (London: Ian Allen Inc, 1985).

limited this time as the party included twelve DRB scientists, and two Army and three RCAF officers. The primary areas of interest were thermal and gamma measurements and decontamination techniques. The limited participation reflected a DRB-AWRE understanding that information collected and analyzed by AWRE would be made available to Canada through the normal channels.<sup>112</sup>

The objectives of Operation ANTLER included the development of "nuclear warheads, small in physical size and yield, for defensive use in surface-to-air guided weapons; to develop more efficient versions of the tactical aircraft bomb RED BEARD; and to increase scientific knowledge in order to produce smaller fission bombs as triggers for Megaton weapons."<sup>113</sup>

Once again, Maralinga was selected as the test site. There were three shots. The first, PIXIE, was a trigger for a thermonuclear bomb which had a yield of 1 kt. The second was a device called INDIGO HAMMER, which was designed for use in a SAM or as a thermonuclear weapon trigger. Fired from a tower, it yielded 6 kt. The finale, a balloon-suspended device, also a trigger, detonated at its expected 25 kt. Flying in S-55 Whirlwind helicopters, Canadian personnel assisted in the aerial survey portions of

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112. Canadian Op ANTLER documents acquired under ATI, 4 Jun 57, Foulkes to External Affairs, "Operation ANTLER;" 21 May 57, message DRB to CANRESEARCH London; 25 Mar 57, message CANRESEARCH London to DRB; 13 Mar 57, message CJSR to Joint Staff, "Canadian Participation in ANTLER and Assignment;" 8 Feb 57, COSC to CJSR, "Operation SAPPHIRE: Canadian Participation;" Arnold Very Special Relationship p. 173.

113. Arnold Very Special Relationship p. 174.

the tests.<sup>114</sup> In due course ANTLER test data was delivered to Canada and was distributed by the Joint Staff to its end users.<sup>115</sup>

ANTLER was not the last time Canadians would observe nuclear tests. General Charles Foulkes, the Chairman of the Canadian Chiefs of Staff Committee, would attend thermonuclear shots in the HARDTACK test series held at the Enewetak Proving Ground in 1958.<sup>116</sup> This, however, occurred after several developments and modifications to NATO strategy and information arrangements. These will be discussed in later chapters.

## Conclusion

It is clear that Canada undertook an extensive information gathering effort with the end being the production of up to date military forces. The data collected in all of the nuclear test events would be incorporated in some form or another into training, equipment production, and doctrine. The breadth of information gathered, utilizing both formal and informal methods, allowed Canadian defence planners to draw from American and British experience. Such experience would be critical in the event of war, since Canada would be operating closely with these two allies. Both the

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<sup>114.</sup> Arnold Very Special Relationship pp. 186-190; Canadian Op ANTLER documents acquired under ATI, 4 Dec 57, DArmE to JSWC, "Operation ANTLER-Aerial Survey Report."

<sup>115.</sup> Canadian Op ANTLER documents acquired under ATI, 29 Apr 59, JSWPC to Joint Staff, "Reports;" 21 Sep 59, JSWPC to DRB, "AWRE Reports."

<sup>116.</sup> USNARA, RG 218 box 79 file CCS 471.6 4-25-50 section 20, message to MOD (Canada) from USREP NATO MILCOMTE, Washington; 5 Apr 58; RG 218 box 79 file CCS 471.6 4-25-50 section 18, JSPC to JCS, "HARDTACK Observers," 7 Jan 58.

Americans and the British benefited by having Canadian personnel work alongside them in these dangerous experiments since they could see that their ally was capable of highly technical and intelligent collaboration. By participating in the tests, Canada continued to reinforce the notion that she was a reliable ally. The Canadian armed forces were able to rotate large numbers of field commanders, operational planners, and defence policymakers through the test sites. An entire generation of commanders experienced a nuclear blast, albeit at range. These experiences could not fail to affect their attitude over time towards nuclear strategy and its implementation. No other NATO nation, including the French at this point, had the same breadth and depth of experience that Canada had. For Canada, it would pay off both in the Canadian defence policymaking process and within NATO circles. When Canadian officers spoke about nuclear weapons effects, they did it with some authority. Now the armed services had to incorporate the new information into their force structure.

## CHAPTER 4

### NOW THRIVE THE ARMOURERS: THE FORCES ADAPT FOR NUCLEAR WARFARE

#### Introduction

The process by which the Canadian armed forces altered their force structure for fighting in a nuclear environment started with the design features built into the St Laurent-class destroyers and the training conducted by 25 Brigade in Korea. Efforts prior to 1954 were, as noted in previous chapters, limited by the lack of hard scientific information on nuclear weapons effects and by the lack of practical operational experience with nuclear weapons tests. Canadian planners made certain assumptions which in some cases inadvertently assisted in producing the new force structure. Doctrinal production organizations from all three services gathered what information they could through open, informal, and formal sources in attempts to come to grips with the new type of warfare. At one point in this process, the Army and the Defence Research Board even explored the feasibility of creating an independent Canadian nuclear weapons programme to provide Canada and some NATO allies with battlefield nuclear weapons.

Once better information was made available, exercises became more realistic, capital equipment programmes were undertaken, and closer coordination with coalition allies and integrated commands was possible. The aim was to provide effective Canadian forces so that Canada could contribute to the coalition deterrent system, which had to be as credible as

possible if nuclear war was to be averted and as capable as possible to limit direct damage to Canada. As we have seen, the first two stages were the acceptance of an overall strategic concept, followed by the acquisition of information. The third stage was the actual application of these two prerequisites to adapt the existing force structure to the new strategic imperatives and develop a command structure to ensure relative military autonomy over the Canadian contribution. This in turn opened the lid on the long-term problems of control over national forces in alliance in Europe and, in the case of North American air defence, the relationship of military forces to the imperative of maintaining sovereignty over Canadian territory. The RCAF quickly came to realize that it needed nuclear air defence weapons for two reasons. First, these weapons were needed so that an effective defence could be mounted against the threat. Second, Canada could not preserve sovereignty over her airspace if the Americans were allowed to dominate the air defence situation in North America. This situation would occur if Canada did not provide quality air defence forces.

Some readers may question the level of operational and technical detail included here. The existing discussions of Canadian national security policy generally omit such a discussion and assume that, because Canada merely commits forces, effectiveness is not important because of Canada's relatively small contribution. This perspective is erroneous, and since it is challenged by this dissertation, it is necessary to provide the reader with the requisite operational and technical background detail. Operating forces have political consequences, and political decisions affect operating forces.

## The Royal Canadian Navy

Prior to 1954, Canada's maritime force structure consisted of one ASW aircraft carrier, HMCS Magnificent with her complement of Sea Fury fighters and Avenger ASW patrol aircraft; two cruisers; eight destroyers; and nine frigates. Seven frigates and 27 coastal escorts and minesweepers were in reserve. All ships were constructed during the Second World War. The RCAF's Maritime Air Command consisted of three maritime reconnaissance squadrons equipped with Lancaster bombers. In wartime, under the rubric of MC 14/1, the carrier and six escorts would form an ASW hunter-killer group and operate in the eastern Atlantic either in support of convoy operations or as part of NATO's STRIKEFLEETLANT as that nuclear-armed carrier task force bombed Soviet bases on the Kola Peninsula and supported NATO ground operations. The remaining escorts would conduct convoy operations with allied forces across the Atlantic in the Canadian-; American-; and British-controlled sea lines of communications (SLOCs) against an estimated 80-250 ocean-going Soviet submarines. Some coastal escorts and the aircraft would handle inshore ASW and escort duties, while the two cruisers were to assist in countering any Soviet Sverdlov-class cruiser incursions into the NATO area.<sup>1</sup> Canadian maritime forces were, in the main, a highly specialized SLOC protection force.

In terms of NATO command arrangements, the RCN controlled the Canadian Atlantic Sub Area through its Canadian Commander, Atlantic

<sup>1</sup>. DGHIST, Naval Board Minutes, 425th meeting, 17 Sep 54; COSC Minutes, 543rd meeting, 15 Sep 53, "Deployment of HMC Ships Under SACLANT;" RG 24 vol 11133 file 114020-13-7 vol 1, 27 May 53, FOAC to Naval Service HQ, "Plan for the Protection of Coastal Waters."

(CANCOMLANT), who was subordinate to SACLANT in wartime. The CUSRPG functioned as a coordinating body for the American and Canadian coastal commands in the Atlantic, neither of which were officially subordinate to SACLANT though in reality the coastal commands reported to the same people who commanded SACLANT's sub areas in WESTLANT anyway. RCN forces could be 'chopped' (the NATO term is Transfer of Authority or TOA) to other NATO naval commanders in wartime, or allied forces could be chopped to Canadian command. An American hunter-killer group would be chopped to CANCOMLANT, or USN patrol aircraft stationed at Argentia would come under Canadian command. All of this required very close liaison and integrated command and control at Norfolk. The significant RCN and RCAF contribution to operations in the Atlantic permitted Canada to have staff positions in SACLANT's headquarters and thus representation and input into planning. In 1953, for example, the RCN and RCAF had officers in SACLANT's logistics, operations, intelligence, and administration sections.<sup>2</sup> This arrangement gave Canada some say in how her forces were used, even though Canadian forces in wartime worked for a British admiral (CinCEASTLANT) and an American admiral (CinCWESTLANT). These staff officers could influence the more operational details integral to higher-level planning and could feed information back to Canada so it could be considered by the Canadian Naval Staff. If disagreements arose, pressure could be applied at higher levels if necessary.

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2. NAC RG 25 vol 4494 file 50030-E-40 Pt. 1, 16 Jun 52, COSC, "Provision of Personnel for NATO Headquarters." For more NATO naval command structures, see Sean M. Maloney, Securing Command of the Sea: NATO Naval Planning 1948-1954 (Annapolis: Naval Institute Press, 1995).

As with the air defence situation discussed in Chapter 2, several things happened simultaneously in 1955 which altered the structure and missions of Canadian maritime forces, though the initial attention paid to them at the highest policymaking levels was less than that paid to the air defence effort. These factors included the threat, new technologies, new information, and the MC 48 concept. Again, as with the air defence situation, some of the relevant technologies and thinking preceded MC 48 but were brought under the concept's umbrella in 1955 and extrapolated after 1956.

The naval threat that the RCN focused on countering prior to 1955 was the Soviet submarine fleet. It was considered to be the most likely naval problem, though there was some concern about the Sverdlov-class cruisers that were then under construction. By 1956-57, planners estimated that the naval threat would shift to advanced submarine designs and long range aircraft. Both platforms would be equipped with 100-mile range nuclear cruise missiles. A 1954 estimate confirmed and amplified this conclusion, but argued that the main threat was to SLOCs, not North America. The missile-launching submarine threat was not a new theme for Canadian naval planners and their American counterparts on the Military Cooperation Committee, or in fact to the Canadian public. Joint intelligence estimates from 1949 and 1951 predicted that this new problem would emerge, while in 1951 Maclean's magazine ran an alarming story entitled "The Russian Subs on our Coastline" featuring a large picture of the United States Submarine Carbonero launching a Loon missile from its deck.<sup>3</sup>

3. NAC RG 24 vol 89 file 1270-78-1, 1954, "Concept of Anti-Submarine Operations in the North Atlantic"; RG 24 vol 21287 file csc 1652:1 pt. 3, 24 Jun 49, "American-Canadian Agreed Intelligence ACAI 5/2;" DG HIST file 193.009 (D53) 1 Mar 51, "ACAI 17;" Geral Anglin, "The Russian Subs on Our Coastline," Maclean's 1 April 1951, pp. 14-16, 24-25.

This situation did not spark overly-dramatic changes to the maritime force structure before 1957. Such changes were the result of a natural equipment replacement programme which, in the case of the patrol aircraft, was stimulated by SACLANT's force requirements. For example, the Lancasters were unsuitable for protracted ASW operations. Likewise the Avengers did not have the capacity to carry newer ASW weapons, nor did they have suitable range. The carrier Magnificent herself was getting on and did not have advanced landing systems. The seven St Laurent-class DDE's and its follow on classes, the Restigouches (7) and Mackenzies (4), were on the ways destined to replace the less capable war-built vessels. Thus Canada's acquisition of 25 P2V-7 Neptune RCAF maritime patrol aircraft in 1955 (and her plans to replace these interim aircraft with 50 future maritime patrol aircraft), 72 CS2F-2 Tracker carrier-based ASW planes (1957), and 30 F2H3 Banshee jet fighters (1955) for a planned replacement carrier (HMCS Bonaventure, acquired from Britain in 1957), should be considered evolutionary developments not necessarily driven by the 1954 strategic concept. The new St Laurents and the older war-built vessels were retrofitted with external radiation detection sensors (called RADIAC equipment).<sup>4</sup>

In addition, two technological developments would have long term effects on Canadian maritime forces and their strategic outlook before and after

#### MC 48: Low Frequency Analysis and Recording (LOFAR) submarine

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4. DGHIST vol 73/1223 file 1330. The Cabinet Defence Committee, 97th meeting, 2 Dec 1953; See J.D.F. Kealy and E.C. Russell, A History of Canadian Naval Aviation (Ottawa: Queen's Printers, 1965); R.W. Griffiths, "King Neptune", Sentinel July-August 1968 pp. 6-8; DGHIST file 85/427, "RCN Aviation Monthly States 1955-66;" Carl Mills, Banshees In the Royal Canadian Navy (Willowdale, Ontario: Banshee Publications, 1991); W.I. Clements, "The Evolution and Status of Maritime Air Command," Roundel October 1961, pp. 2-9; "The RCN Today," Crowsnest September 1960, p. 23; USN OA "Intelligence Briefs," ONI Review Vol. IX 1954, pp. 381-382.

detection systems and nuclear depth bombs. Both projects were driven by a 1951 MIT study, Project HARTWELL, which was conducted for the U.S. Navy in order to examine future methods of dealing with an increased Soviet submarine threat. HARTWELL concluded that "a nuclear-explosive anti-submarine weapon should be considered," as should "low frequency directional arrays."<sup>5</sup>

LOFAR is a technique by which low frequency sounds in the ocean are collected, examined, and categorized by a system consisting of passive listening devices, sound recorders, and specially-trained personnel. There were two main LOFAR venues. The first included dropping LOFAR listening buoys from patrol aircraft. The second was the use of underwater passive listening arrays. Underwater arrays called Harbour Defence Asdics (HDA's) had existed during the Second World War. Essentially, the 1950s Sound Surveillance System (SOSUS) connected improved versions of HDA's to shore-based recording equipment.

The first SOSUS project was the US Navy Project CAESAR. The first test array went into operation in May 1951 at Sandy Hook, New Jersey. A larger test array was constructed off the Caribbean island of Eleuthera in 1952. The USN conducted ASDEVEX 1-54 off the eastern seaboard in 1954 using several types of submarines and concluded that CAESAR was a viable programme and a complete SOSUS system should be built. Construction on 12 Atlantic SOSUS stations commenced by 1955, a chain extending from the Caribbean to Iceland. A seven station array, COLOSSUS, was also built on the Pacific coast and Hawaii at the same time. Considered a fully

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5. USN OA, R.F. Cross and Associates, 17 Feb 78, "Sea-Based Airborne Antisubmarine Warfare 1940-1977 Volume 1 1940-1960," pp 123-124; See also Joel J. Sokolsky, Seapower in the Nuclear Age: The United States Navy and NATO 1949-80 (Annapolis: Naval Institute Press, 1991) p. 65.

operational system in 1955, the CAESAR chain included station KING located at the USN naval air station at Argentia, Newfoundland.<sup>6</sup> Like Harmon AFB at Stephenville and other American bases in Newfoundland, Argentia was a leased base dating from the Second World War agreements between Britain and the United States.

The RCN received the ASDEVEX test results and was intrigued. The RCN even provided two research vessels, HMCS La Havre and HMCS Sackville, to assist the USN in surveying CAESAR sites. The USN, through the PJBD, approached the Canadian government about establishing a test station in Canada. This station would be incorporated into the CAESAR chain. The government agreed, but caveated the agreement by insisting that it be a joint station with the RCN. Station FOX went into operation at Shelburne Nova Scotia in 1955. It had a number of arrays laid in 100 fathoms of water about 100 miles off the coast, as did the Argentia station.<sup>7</sup>

Station FOX was an extremely secret facility, due in part to the vulnerability of a fixed shore establishment in the nuclear age. Consequently, the USN and RCN constructed a cover plan to preserve the full nature and extent of operations at Shelburne, which were classified as

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6. USN OA, R.F. Cross and Associates, 17 Feb 78, "Sea-Based Airborne Antisubmarine Warfare 1940-1977 Volume 1 1940-1960," pp. 132-134, 153; NAC RG 24 vol 11 275 file 1279-1 vol 3, 1 Aug 60, US Atlantic Fleet, Commander Oceanographic System to CO HMCS Shelburne, "COMOCEANSYSLANT Notice 5050;" USN OA, "Annual Report of the Commander in Chief U.S. Atlantic Fleet (supplementary) 12 April 1954 to 30 June 1954;" USN OA, "Annual Report of the Commander in Chief U.S. Atlantic Fleet 1 July 1955 to 30 June 1956."

7. NAC RG 24 acc 83-84/167 vol 11129 file ACT 11279-11, Minutes of the 11th Senior Officers Conference, 12-14 Mar 1954; J. Graeme Arbuckle, Badges of the Canadian Navy (Halifax: Nimbus Publishing, 1987) p. 194; DGHIST The Raymont Collection, file 184, (17 Nov 55) "A Paper on the Control and Operation of Helicopters in the Canadian Services;" USNARA RG 59 box 6, file PJBD, 2 Mar 56, "Record of Activites Leading Toward Establishment of Sound Surveillance Station on the East and West Coasts of Canada;" DGHIST The Raymont Collection, file 1087, 28 May 64, memo to Joint Staff, "Project CAESAR."

Secret. The public name of the facility was HMCS Shelburne or Joint RCN/USN Oceanographic Research Station. Its public purpose was to "provide detailed information on ocean currents, temperature, salinity and other factors...."<sup>8</sup> FOX reported administratively to the RCN's Flag Officer Atlantic Command (FOAC) and operationally to the USN's Commander Ocean Systems Atlantic (COMOCEANSYSLANT) in Norfolk, Virginia. COMOCEANSYSLANT had no objection to SOSUS information being transmitted to FOAC's command centre in Halifax from Shelburne and Argentia and this was done on a routine basis. Steps were taken to achieve full RCN manning of Shelburne late in 1958.<sup>9</sup>

The USN wanted to expand SOSUS in the Atlantic and the Pacific, probably to provide back up stations in the event of compromise, sabotage, or destruction during war. Two more stations located in Canada were proposed: a CAESAR station at Canso, Nova Scotia, and a COLOSSUS station at Cape Cook, Vancouver Island, British Columbia. Cost sharing arrangements continually delayed the Canso site and it was never completed.<sup>10</sup>

The RCN was in a position to observe British SOSUS developments as well. The RN developed an in-shore system called CORSAIR. Unlike CAESAR, which had a theoretical range of 1000 miles, CORSAIR was

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8. DGHIST 73/755 (n/d) FOAC Public Affairs, CBCN 5101 (S/5) "Classification and Release of Information Concerning Stations."

9. RG 24 vol 89 file 1270-78-1 v. 5, 24 Sep 58, Sea-Air Warfare Committee, "Brief on Emergency Defence Plan: Maritime Commander, Atlantic."

10. USN OA Strategic Plans Division box 296 file A5, 8 Jul 54, CNO to Distribution List, "Project CAESAR, Extention of;" DGHIST The Raymont Collection file 1329, Cabinet Defence Committee, 106th meeting, 27 September 1955; file 1331, Cabinet Defence Committee, 11th meeting, 13 August 1956; file 1308, COSC 585th meeting, 21 November 1955.

effective out to 100 miles. The British planned to establish a CORSAIR chain in their northern waters and in the Greenland-Iceland-UK (GIUK) gap.<sup>11</sup> CORSAIR and CAESAR were contemporary systems, and the research personnel of all three countries collaborated in one way or another on LOFAR developments to the extent that Minister of National Defence Ralph Campney commented: "Cooperation between the navies...in [the ASW] field was closer and apparently more productive than in most other defence research matters."<sup>12</sup> DRB was intimately involved in ocean research at its Naval Research Establishment at Halifax, Nova Scotia, and RCN planners indicated to the government that, if the USN had not provided LOFAR information to Canada, the RCN would have sunk a large amount of money into LOFAR research and development. Consequently, Canada could benefit by observing both systems and selecting the better one.<sup>13</sup>

The December 1954 LAMPLIGHT study group briefly discussed in Chapter 2 was another RCN information source as to the American views of future maritime warfare. LAMPLIGHT included at least one RCN member, Captain A.B. Fraser-Harris, who relayed LAMPLIGHT's deliberations to Naval Service Headquarters. LAMPLIGHT demonstrated the depth of American interest in designing a complete continental defence system for North America to include the integration of ASW and air defence activities and the centralization of information provided by both

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11. DGHIST Naval Board Minutes, 418th (special) meeting, 5 Oct 54; NAC RG 24 acc 83-84/167 vol 11129 file ACT 11279-11, Minutes of the 11th Senior Officers Conference, 12-14 Mar 54.

12. DGHIST, Raymont Collection file 1329, 27 Sep 1955, Cabinet Defence Committee, 106th meeting.

13. Goodspeed, DRB pp. 207-22; DGHIST, Raymont Collection file 1329, 27 Sep 55, Cabinet Defence Committee, 106th meeting.

systems. Thus, if the LAMPLIGHT presenters had their way, SOSUS, DEW Line, MCL, and other sensors information would be fed to a central command which would then allocate forces as necessary. Virtually no consideration was given to sovereignty issues, and no distinction was made between Canadian and American continental defence forces.<sup>14</sup>

While LAMPLIGHT was illuminating its participants in 1954, First Sea Lord Admiral of the Fleet Sir Rhoderick McGrigor, Royal Navy paid a visit to the COSC. McGrigor was at the time involved in drumming up support for GIUK barrier plans, which included CORSAIR equipment. The British were alarmed that the USN had re-allocated 44 of its ASW escorts from EASTLANT to WESTLANT. This action was taken partially in response to American concern over the possible vulnerability of its east coast SAC bases to missile launching submarines. This, the British believed, might be interpreted as an American abandonment of NATO and Europe, despite NATO STRIKEFLEETLANT plans to bombard Soviet submarine bases in the Kola Peninsula with nuclear weapons. The British were not convinced that there was a missile launching submarine threat, and thought the capabilities of the CAESAR system to be wildly exaggerated. In their view, a GIUK CORSAIR chain, along with the attack at source mission against the Kola Peninsula, would do the job.<sup>15</sup> The COSC took note of the British view

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14. DGHIST, Naval Board Minutes, 30 Dec 1954. Special Meeting; Raymont Collection file 1308, 6 Apr 55, COSC 580th Meeting; USN OA SPD box 300 file A16-1, Lockheed Military Operations Research Division, 30 Dec 53, "Notes on Discussions of Continental Defense Against Attack From Seaward Approaches." This study, in a later form, was briefed to the LAMPLIGHT participants and explains the integrated defence problem in some detail.

15. DGHIST, Naval Board Minutes, 9 Nov 54, Special Meeting; PRO ADM 205/102, 7 Jan 54, memo from Hughes-Hallett to First Sea Lord, "Submarines and Guided Missiles Against the United States;" 20 Jan 54, VCNS to First Sea Lord, "Submarines and Guided Missiles Against the United States."

and did not venture an opinion on this latest manifestation of the continental defence versus European defence problem.

Canadian naval developments up to this point did not take into account the MC 48 concept, nor could they do so in any real depth as the document was accepted by NATO only in November-December 1954. It took the RCN the better part of 1955 to actually assess MC 48's impact, and then only after better American nuclear weapons information became available after the information sharing agreements were signed in that year.

The first step in this process was the RCN's May 1955 Seaward Defence Report. This report brought together RCN technological and doctrinal developments from 1954 and 1955 and recommended that, until new information was available, the RCN would establish as first priority "to continue to fulfill our existing NATO commitments", that is, SLOC protection and STRIKFLEETLANT operations in the North Atlantic. Second priority was to protect Canadian coastal areas by acquiring CORSAIR and continue with CAESAR development for long range work. This did not just include building arrays. Each system would have allocated to it dedicated offensive support forces to prosecute targets. The second block of seven St Laurent-class DDE's would support Shelburne, while any further St Laurent construction would support additional stations. ASW helicopters would be purchased to support the CORSAIR stations. These helicopters would operate from shore establishments; from a second ASW carrier, perhaps HMCS Magnificent, and possibly from modified St Laurent DDE's. Bonaventure would operate CS2F Tracker ASW aircraft.<sup>16</sup> As with air

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16. DGHIST, Naval Board Minutes, 30 Dec 54, Special Meeting.

defence planning, there was some tension between continental North American emphasis and a European emphasis.

The second step was the USN's development of nuclear ASW weapons. An outgrowth of Project HARTWELL and a 1953 study, Project ALIEX, the nuclear depth bomb (NDB) Mk. 7/ALIAS BETTY began production in June 1955, right after the weapon was tested in Operation WIGWAM in May of that year. The ALIAS BETTY had a 30 kt yield and was based on Mk. 7 warhead. The WIGWAM test, held south west of San Francisco in the Pacific Ocean, featured a submerged ALIAS BETTY weapon detonated in proximity to a test array consisting of three submerged scale-model submarines constructed from modern materials. WIGWAM's primary purpose was to find out what the maximum damage radius of a nuclear ASW weapon was, specifically at what range away from the weapon did a submarine hull catastrophically rupture. Surprisingly, WIGWAM included no test of the effect of a nuclear ASW weapon on underwater sensor systems. This deficiency was corrected in 1962 during Operation DOMINIC, shot SWORDFISH, after SOSUS was up and running as an operational system. The ASROC burst at 650 to 700 feet underwater blanked out the LOFAR recording equipment for some time (the exact period remains classified but probably up to four hours depending on the ranges involved). This "blue-out" phenomenon would have posed serious problems for any force relying on SOSUS, unless there were methods of tuning the arrays to limit this effect.<sup>17</sup>

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17. USN OA SPD box 279 file A1, 23 Mar 53, BuOrd to CNO, "Project ALIEX"; Sokolsky, Seapower in the Nuclear Age p. 65; FOIA, 21 Apr 54, AFSWP, "Operation WIGWAM: Concept;" FOIA , (n/d) U.S. Navy Electronics Laboratory, "Operation DOMINIC, Shot SWORD FISH: Project Officers Report Project 1.3b, Effects of an Underwater Nuclear Explosiion on Hydroacoustic Systems."

The RCN was briefed on USN nuclear weapons developments up to 1955 and informed about WIGWAM, but specific test information not passed on immediately. ALIAS BETTY was an emergency capability project and led to a new version, the Mk. 90 BETTY, almost immediately. These were physically large weapons and significant modifications had to be made to USN Tracker ASW patrol aircraft so that they could be carried and used (the USN Neptune had a large enough bomb bay). The US Atlantic Fleet accepted the weapons into its force structure in 1956. The BETTY had a relatively large yield (30 kt), which posed problems for the delivery platform.<sup>18</sup>

The relationship among the RCN's roles, MC 48, SOSUS, and nuclear weapons was brought together in an October 1955 COSC meeting. The Chief of the Naval Staff, Vice Admiral "Rollo" Mainguy, announced that the primary naval threat had shifted emphasis from anti-NATO SLOC operations to operations designed to damage the war potential of North America. The threat would be manifested by nuclear missile-armed submarines with a 200-mile range and targets would be coastal cities, ports, and "in addition, over one-third of the SAC bases in North America were within submarine guided missile range....As the strength of the DEW Line and its supporting forces grew, the more the USSR would be looking for other means to deliver their initial nuclear attacks."<sup>19</sup> These submarines would attack in phase I of the MC 48 concept. However, should phase I end

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18. USNARA RG 59 box 2875 file 711.5611/5-955, message State to AMembassy Paris, 9 May 55; DGHIST The Naval Board, 7 Nov 54, 425th meeting; 7 Sep 55, 457th meeting; Hansen, US Nuclear Weapons p. 207; USN OA "Annual Report of the Commander in Chief U.S. Atlantic Fleet 1 July 1955 to 30 June 1956;" see also Jim Sullivan, S2F Tracker in Action (Carrollton, TX: Squadron-Signal Publications, 1990).

19. DGHIST The Raymont Collection, file 1308, 26 Oct 55, COSC Special Meeting.

indecisively, the substantial conventional Soviet underwater fleet would pose a serious threat to the European SLOC during phase II. Thus, there was significant overlap between the CUSRPG plans for coastal operations and SACLANT plans for Atlantic operations. If the war "started as a conventional war, or Canadian naval forces were required to fight a conventional war after an initial nuclear attack, the measures proposed in present and future Naval programs would be equally suitable in all circumstances."<sup>20</sup>

With regard to force structure, the RCN "had considered the implications of nuclear weapons in maritime warfare and as a result had eliminated from their program ships and weapons which would have marginal performance."<sup>21</sup> Coastal escorts would be replaced by more patrol aircraft and helicopters. More St Laurent DDEs and helicopters to fly off of them should be purchased, and the first ASW carrier, Magnificent, should remain in commission alongside the Bonaventure (though this did not happen in the long run). The SOSUS programme was critical, and production of its accompanying offensive support forces should be accelerated.<sup>22</sup>

Foulkes agreed with Mainguy and expanded on the problem of surprise missile attack launched from submarines. He believed that, even with strategic warning, the politicians would not exploit the information because

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20. Ibid.

21. Ibid.

22. Ibid.

of the "danger of provocation."<sup>23</sup> He was especially concerned that the Soviets might start a war under guise of a naval exercise. With regard to MC 48, Foulkes thought that RCN thinking was prudent since in his opinion the NATO Standing Group was having problems planning for Phase II. RCN thinking was correct in its assumptions that a SOSUS system and its accompanying offensive support forces were important components of the deterrent. Nuclear anti-submarine weapons to support SOSUS seemed necessary, since these weapons' reduced accuracy requirements due to their destructive power also reduced the need for absolute localization of the target submarine.<sup>24</sup>

It turned out that the CAESAR system was not initially capable of effectively detecting enemy submarines at 1000 miles. The actual range, after tests, was 300-400 miles depending on the water conditions and temperatures, sometimes less than 200 miles. Even then, the target had to be localized by a patrol aircraft using sonobouys or a ship with a hull-mounted sonar before it could be attacked accurately with conventional homing torpedoes or depth charges. Another drawback was that CAESAR detected conventional snorting submarines more efficiently than nuclear-propelled ones.<sup>25</sup> Thus, CAESAR was good for general detection and tracking like the DEW Line, but the offensive support forces still had to

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23. DGHIST, Naval Board Minutes, 26 Oct 55, memo to ACNS(P), "Briefing of the Chiefs of Staff Committee."

24. Ibid.

25. NAC RG 24 vol 89 acc 83-84/167 file 1270-78-1 v. 6, 12 Sep 60, Minutes of the Sea/Air Warfare Committee"; FOIA request to U.S. Navy, "Project NOBSKA: The Implications of Advanced Design on Undersea Warfare." Note that when the USS Scorpion sunk in 1968 that SOSUS array of the Azores had trouble locating the incident site and determining what happened. See FOIA, "Documents on the Court of Inquiry into the loss of USS Scorpion."

work to intercept the target and kill it. Time was a critical factor, particularly when dealing with missile-launching submarines. The target had to be completely destroyed, for if it was only damaged, it might be able to launch its nuclear missiles. Thus, the need for both CORSAIR and CAESAR was in doubt if CAESAR could do the job, and Canadian maritime forces needed a nuclear ASW capability.

RCN planners also noted that there was a growing air threat posed by long-range bomber aircraft equipped with stand-off nuclear missiles. This posed a threat both to task groups and convoys at sea and shore installations and ports. Again, as with the continental air defence problem, the missile or bomb carrier had to be completely destroyed to prevent detonation of the weapon and only a nuclear anti-aircraft missile could do this.<sup>26</sup> Thus, the RCN needed to explore a nuclear surface-to-air missile and acquire a nuclear ASW capability.

Vice Admiral Mainguy had his planners completely reassess the RCN's future plans based on all of these factors, and this reassessment used as its starting point MC 48 itself. Mobilization planning, particularly reserve ocean escorts to meet SACLANT's earlier SLOC protection requirements, was no longer realistic, since there would be no time to mobilize. SACLANT's future 1956 Emergency Defence Plan, which the Naval planners had access to through Canadian staff officers at SACLANT, did not anticipate convoy operations until Phase II, that is, 30 days after the start of the war. Canada's naval effort was generally confined to the Atlantic. With the deployment of Soviet missile launching submarines,

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26. DGHIST, The Naval Board, 13 Jul 55, "Report of the Committee on Air Defence of Shipping" as part of the 452nd meeting of the Naval Board, 13 July 1955.

some forces would have to be shifted to the Pacific Ocean to protect Canada's west coast.<sup>27</sup>

In the new reassessment, the future fleet had three tasks. It had to contribute positively to the deterrent system. It had to be able survive Phase I and, most importantly, it had to be ready in peacetime to fight with no augmentation or work ups. It also had to have a "small number of ships immediately available and at a high state of operational readiness in order to provide prompt participation in small wars...."<sup>28</sup> If a crisis situation escalated, the RCN was to be prepared to send ships to demonstrate Canadian and coalition resolve. If war started, the fleet had to have a significant number of forces at sea in Phase I to support SOSUS, specifically with the intention of combating missile launching submarines. Other units would disperse to prevent their destruction by nuclear attack. In Phase II, the RCN assumed that there would be no effective ships to be manned outside of the existing fleet. New shipbuilding "was a very long term proposition because of the damage inflicted on industry and communications in Phase I."<sup>29</sup> The future fleet structure had to be able to deter war by being prepared to fight, fight in a low intensity conventional war, fight in a nuclear war, and then conduct a medium-intensity SLOC protection operation.

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27.DGHIST, The Naval Board Minutes, 28 Nov 55, memo to the VCNS, "The Requirement for a Re-Appraisal of Current War Plans." CANFLAGPAC had planning problems: security restrictions prohibited transfer of the document from Ottawa to Esquimalt. CANFLAGPAC had to fly to Ottawa to look at it. See DGHIST, The Naval Board Minutes, 3 Feb 56, 479th meeting.

28. Ibid.

29. Ibid.

The RCN planning staffs continued to debate the dilemma posed by the new concept well into 1956. The new Chief of the Naval Staff, Vice Admiral Harry De Wolfe, believed that historically, a navy's role was to protect sea lines of communications, but he firmly believed that RCN plans had to be thoroughly integrated with SACLANT's plans. SACLANT 1956 Emergency Defence Plan had three tasks: to mount an attack against the USSR submarine bases, to prevent submarines from entering the Atlantic, and to destroy submarines escaping the first two before submarines get within firing range of North America to launch guided missiles.<sup>30</sup>

In producing Canadian plans and forces, there was some thought that Phase I might last only seven days instead of 30. In essence, the force structure discussed in the previous COSC meeting in October 1955 would generally be able to support these and other tasks. The RCN was to concentrate on the Phase I anti-missile submarine task in the Atlantic as opposed to operating with the STRIKEFLEETLANT or protecting the SLOC in Phase I.

The RCN was increasingly concerned about air defence, given intelligence reports that the Soviets would possess long range aircraft with standoff nuclear missiles and gravity bombs. Their preferred solution was a combination Tartar/Terrier surface-to-air missile system, then under development by the USN. Either weapon or a combination of the two was envisioned for the St Laurent follow-on class, the Restigouche. The Naval Staff thought that the USN or even Cabinet might block the RCN's acquisition of a modern SAM. They therefore contrived to place the

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<sup>30</sup>. DGHIST, The Naval Board Minutes, 23 May 56, 490th meeting.

acquisition under the umbrella of the MC 48 concept. The RCN thus needed nuclear-tipped SAMs to ensure the survival of the fleet in Phase I.<sup>31</sup>

Tartar had no nuclear capability. It was a naval point defence weapon with a 7.5 mile range.<sup>32</sup> Terrier, on the other hand, had a 20+ mile range and was dual-capable. It could carry a conventional or a nuclear warhead with a 1 kt yield. It was the first SAM in the U.S. Navy, entering service in 1955.<sup>33</sup> As we will see, the planned deployment of Tarter and Terrier in a St Laurent follow-on was eliminated from consideration in 1964.

In addition to conventional gun armament in the destroyer fleet, the RCN operated the F2H-3 Banshee jet fighter from its sole ASW carrier. These aircraft provided air protection to the carrier task group and also had a close support function. VF-870 pilots trained at NAS Jacksonville, Florida in 1955 and then ferried ex-USN F2H3's to HMCS Shearwater, Nova Scotia. The USN used the F2H-3 in a number of roles including fighter intercept, close air support, and nuclear strike. Fitted with the Mk. 7 nuclear weapon, the USN's F2H-3's operated from aircraft carriers assigned to NATO's STRIKEFLEETLANT and were tasked (along with

31. DGHIST, The Naval Board Minutes, 16 May 56, 489th meeting.

32. Norman Friedman, The Naval Institute Guide to World Naval Weapons Systems (Annapolis: Naval Institute Press, 1989) p. 243.

33. Hansen US Nuclear Weapons p. 183; Norman Polmar, The Ships and Aircraft of the U.S. Fleet 14th Ed (Annapolis: Naval Institute Press, 1987) p. 482; Thomas Cochrane et al, U.S. Nuclear Forces and Capabilities (New York: Ballinger Publishing Co., 1984) p. 273; Malcom Muir, Black Shoes and Blue Water: Surface Warfare in the United States Navy, 1945-1975 (Washington D.C.: Naval Historical Center, 1996), pp. 35-72.

AD4-B Skyraiders) with tactical nuclear support of NATO ground forces in AFNORTH and the northern part of AFCENT.<sup>34</sup>

There is no firm indication that the RCN's F2H-3's were destined to be used in Phase I as nuclear strike aircraft. RCN aviators were capable of learning the 'over-the-shoulder' manoeuvre used to deliver nuclear weapons from light jets (LABS or Low Altitude Bombing System). The aircraft were equipped with the appropriate wiring systems. The Mk. 7 was armed before take off by the support crew and not in the air, and thus the aircraft required minimal preparation. F2H-3 aviators were well-versed in close air support operations, having demonstrated this capability during joint exercises with the Army at Camp Gagetown. If the "Banjos" were nuclear-capable, it would only have been in an emergency capability, possibly a back up to other systems. There was no USN custodial detachment on board Bonaventure in peacetime during the late 1950s.<sup>35</sup>

Nuclear ASW continued to intrigue RCN planners throughout 1956-1957. The Sea/Air Warfare committee, a joint committee reporting to the COSC, acquired SACLANT's Future Capabilities Plan in January 1956. The Committee noted that there was a distinct increase in nuclear weapons employment planning and that SACLANT (Admiral Jerauld Wright) stated that nuclear depth bombs and delivery systems "should be in

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34. Sean M. Maloney, "Atomare Abschreckung zur See: Nuklearwaffen und die Anfaenge der NATO-Strike Fleet Atlantic in den funfziger Jahren", Militargeschichte Heft 4, Quartal 1994, 4. Jahrgange, pp. 63-67.

35. See Mills, Banshees in the Royal Canadian Navy; Jim Sullivan, Skyraider in Action (Carrollton, TX: Squadron Signal Publications, 1983) p. 28; Hansen, US Nuclear Weapons p. 140; Steve Ginter, McDonnell Banshee (1980: no publishing data) pp. 6, 58-60; "Banshees Over the Prairie," Crowsnest December 1958, pp. 22-23; "Exercise MORNING STAR," Canadian Army Journal October 1956, pp. 2-11; "Exercise MORNING STAR," Canadian Army Journal October 1955, pp. 4-15.

common supply.<sup>36</sup> The planners concluded that "the lack of nuclear ASW weapons will make Canadian forces less effective and if it is planned to introduce nuclear weapons into Canadian ASW forces by 1957, it is necessary to incorporate required design changes in aircraft and ships at an early date."<sup>37</sup> The delay was due to the lack of information flow from the Americans on the characteristics of planned as opposed to current nuclear ASW weapons.<sup>38</sup>

The Americans were still working this out for themselves in mid-1956. Project NOBSKA, convened by Admiral Arleigh Burke, the American Chief of Naval Operations, was designed to determine where the USN should go with its new and developing technologies. NOBSKA operated under the assumption that the threat would include deep diving, quiet submarines, probably nuclear powered, and equipped with a variety of nuclear weapons. SOSUS had its limitations, some of which were not readily surmountable yet. Noting that "radiological contamination of the ocean by ASW nuclear weapons does not present an important hazard," nuclear ASW weapons could make up for some limitations, but a conventional-nuclear weapons mix was preferable depending on the environmental conditions. NOBSKA favoured the development of the Mk. 90 BETTY follow-on, the Mk. 101 LULU, which the American planners believed to be a very effective weapon when used in conjunction with sound detection systems. To counter the deep diving submarines, NOBSKA recommended using LULU nuclear

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36. RG 24 vol 98 file 1270-78-1 v.3, 5 Jan 56, Minutes of the 20th meeting of the Sea/Air Warfare Committee.

37. Ibid.

38. Ibid.

components in a 21-inch homing torpedo as an interim measure until a purpose-built nuclear ASW torpedo could be built.<sup>39</sup>

Developed after the WIGWAM test in 1955 and based on weapons technology generated by TEAPOT, the Mk. 101 LULU was physically smaller than BETTY; USN S2F Trackers could carry two without extensive modification to the bomb bay. Its yield was probably half that of the Mk. 90, about 10 to 15 kt. It could be fused for surface as well as sub-surface burst. It took some time to train personnel and deploy the LULUs: They reached American units in the Atlantic Fleet by 1958. Limited information on LULU and the planned nuclear-tipped torpedoes filtered through to the RCN by early 1957 and the COSC determined that there was an immediate RCN and RCAF requirement for nuclear depth bombs.<sup>40</sup>

The most important manifestation of MC 48's impact on Canadian maritime thinking was the joint RCN/RCAF Concept of Maritime Operations (1957). Based on over a year's work and drawing on all information collected, this concept was designed to place Canadian maritime forces within the frame work established by SACLANT. Late in 1956, SACLANT's staff (including Canadian naval officers in Norfolk) produced a plan based on MC 48 entitled "The Pattern of Naval Forces for NATO Control of the Atlantic During the Next Decade." Its aim was to

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39. FOIA, 1 Dec 56, "Project NOBSKA: The Implications of Advanced Design on Undersea Warfare."

40. Hansen, US Nuclear Weapons p. 207; USN OA, "Commander in Chief U.S. Atlantic Fleet Annual Report 1 July 1958-30 June 1959;" DGHIST The Raymont Collection file 1309A, COSC 608th meeting, 19 March 1957.

serve as strategic guidance for those NATO navies contributing forces to SACLANT.<sup>41</sup>

The 1957 paper determined from the outset that Canadian defence policy was generally based on three objectives: (1) deter Soviet aggression (2) the immediate defence of Canada and North America from direct attack; and (3) implementation of any undertaking made by Canada under the Charter of the United Nations or under NATO or other collective security agreements.<sup>42</sup> MC 48 was the umbrella concept for the achievement of these objectives in the event of war. The 1957 concept paper reiterated the two-phase war framework, noting that "The Canadian Armed Forces have been directed to give priority to those forces which will make a contribution to the initial phase of a global war."<sup>43</sup>

Along with this assertion was a large caveat:

The deterrent to limited war depends on the United Nations determination to act against aggression in order to maintain or restore the 'status quo'. This requires the United Nations' members to possess forces capable of rapid deployment to areas where the situation demands. Although Canadian Government policy assigns first priority to... [forces for Phase I], forces for a limited war and police action are also required. The provision of such forces must be given a lower priority, and , where possible, initial global war forces should have a capability in an emergency of operating in support of UN actions.<sup>44</sup>

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41. DGHIST file 74/723, 2 Apr 57, "RCN/RCAF Concept of Maritime Operations."

42. Ibid.

43. Ibid.

44. Ibid.

This presumably reflected External Affairs' analysis of MC 48 and the recent Canadian experience with the United Nations Emergency Force (UNEF) in resolving the Suez Crisis in 1956. The RCN used the ASW carrier HMCS Magnificent to transport the Canadian UNEF contingent's vehicles and aircraft to Egypt, to the chagrin of SACLANT who saw one of "his" earmarked major ASW fleet units stripped of its weapons and sent to the Middle East. The insertion of the UNEF averted nuclear war, so Wright really had little to complain about.<sup>45</sup>

The 1957 concept argued that by 1960 the threat in the early stages of a conflict would consist of 31 submarines in the Atlantic and 17 in the Pacific. A small number of these perpetually on-station units would carry nuclear missiles with a 500 mile range (with command guidance out to 200 miles). The non-missile launching subs would have nuclear torpedoes and mines. Future Soviet surface forces, though not the priority threat, would also have a surface-to-surface nuclear capability. The planners were concerned about the use of enemy merchant vessels and aircraft to lay nuclear mines prior to the outbreak of war. Soviet patrol aircraft were assumed to be equipped with nuclear missiles.<sup>46</sup>

Enemy objectives were assumed to be the defence of the homeland from allied attacks, the isolation of North America from Europe, the support of ground forces, and the "reduction of allied industrial and war-making capacity and the will of the people to fight."<sup>47</sup> In operational terms, the

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<sup>45.</sup> See Sean M. Maloney, "First Time Unto The Breach: The Creation of United Nations Emergency Force I, November 1956-March 1957," in the forthcoming Internationale Krisen Jahr 1956 (Potsdam: MGFA).

<sup>46.</sup> DGHIST file 74/723, 2 Apr 57, "RCN/RCAF Concept of Maritime Operations."

<sup>47.</sup> Ibid

planners reckoned that 30% of the American war-making capacity (industrial installations and most particularly SAC) was within 100 miles of the coast and thus within reach of missile launching submarines in the Atlantic. The planners even listed what they thought the Soviets would attack first with submarine-launched missiles. (see Figure 4)

The Soviet surface threat was clearly secondary, and the priority was the destruction of the missile launchers.<sup>48</sup> Canadian maritime forces, then, had to be able to handle the submarine threat, an air threat, and two types of surface threat: clandestine bomb carriers and naval forces.

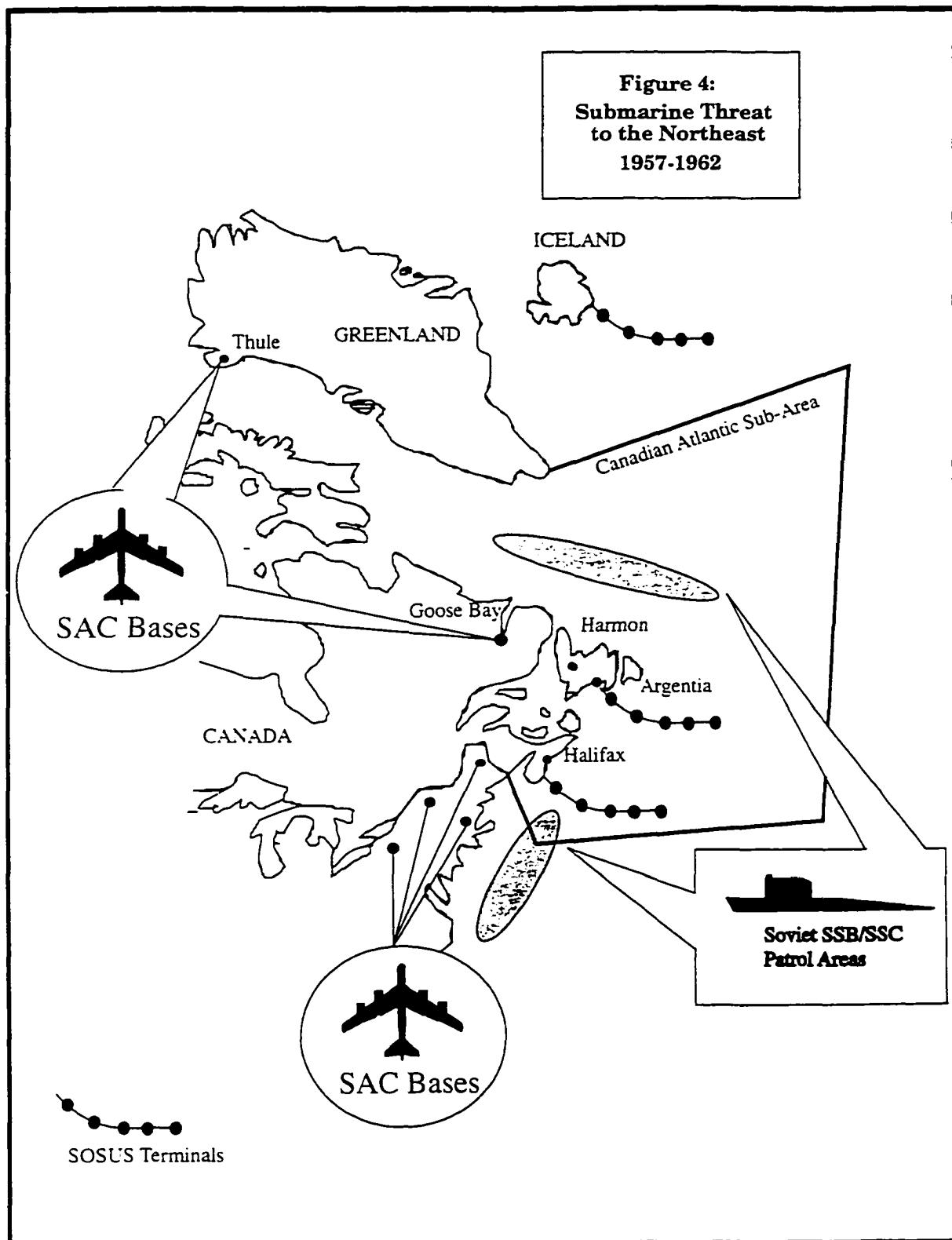
The Canadian concept took into account NATO plans to form a series of SOSUS/patrol aircraft/surface hunter-killer group barriers starting off northern Norway, down to the GIUK Gap. This barrier system, along with the anticipated STRIKEFLEETLANT attack at source, would take out a significant proportion of the Soviet submarine force as it transited once the war had started. If the Soviets deployed too many submarines in peacetime, this early warning complex would tip the Soviets' hand, and NATO forces could raise their peacetime alert levels appropriately to match them. As noted above, a proportion of forces would already be at sea, and these would have to be dealt with as the Soviets attempted to reinforce them through the Norwegian Sea.<sup>49</sup>

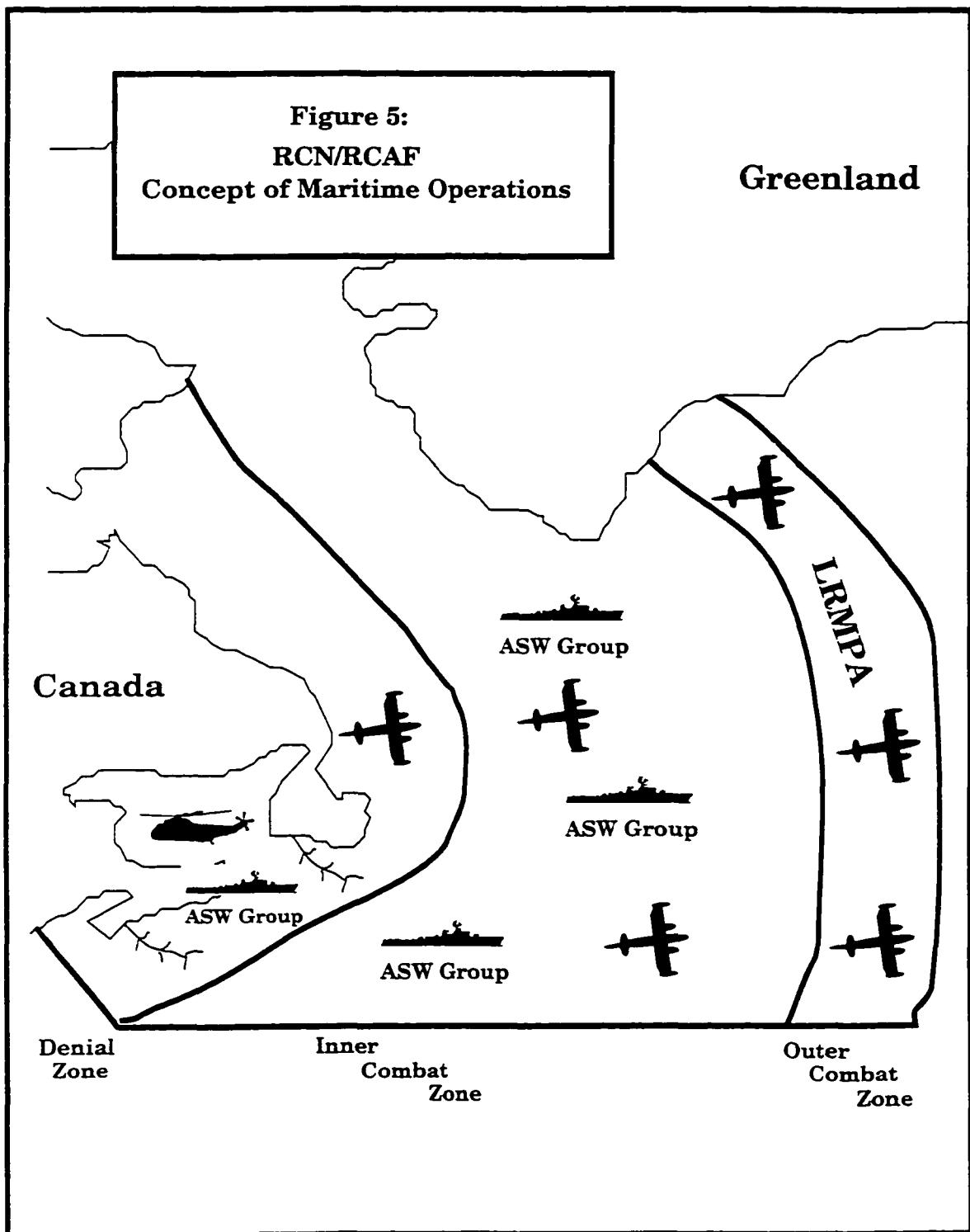
The Canadian planners envisioned three anti-submarine barrier zones in the CANCOMLANT area of the Western Atlantic. (see Figure 5) The first extended from the various land targets east to 200 miles. This was the denial zone, and no submarine could be allowed to enter it under any

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48. Ibid.

49. Ibid.





circumstances. The second zone would extend from 200 miles to the effective range of the CAESAR system, that is, somewhere between 200 and 800 miles. This was called the inner combat zone, where most ASW offensive support forces would be concentrated. The third or outer combat zone extended out another 100 miles. Long-range ASW forces equipped with their own active detection systems would suppress enemy submarine traffic by their presence and force them to slow down and make a submerged transit.<sup>50</sup>

All in all, the 1957 concept was flexible and demanded a flexible force structure to meet its requirements. Canadian maritime forces had to be able to conduct nuclear and/or conventional ASW operations, monitor merchant ship traffic and handle brushfire wars to prevent conflicts from spreading. It would take some time and effort to implement that force structure, particularly after the change in government in 1957.

### The Army

The Army response to MC 48 was different from the Navy and Air Force. The Navy required many years' lead time to incorporate technological change into its ships before it could even think about training its personnel. The Air Force had to construct bases and conduct operational training or conversion and keep pace with a technological situation that was changing almost daily. In effect, the Air Force and the Navy man the equipment, whereas the army equips the man. This did not mean that the Army could or should have been quicker to adapt to nuclear warfare. The Army is more

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50. Ibid.

of an organism than machine, and the same lead time required by the other services to adapt to change held true for the Army, as all of its organic parts had to shift their emphasis as well.

This had an effect on the policymaking process. Army developments did not attract Cabinet-level attention as did, say, RCAF air defence projects. For the most part, Army issues did not involve possible sovereignty infringements in the same way the larger Canada-US continental defence projects did.<sup>51</sup> Nor did they involve the sort of capital programmes that Navy shipbuilding did. Army doctrinal developments were more evolutionary than revolutionary. Tanks, infantry, artillery, engineers, and logistics were still required on the nuclear battlefield. It was how they were positioned and how they were employed that changed.

The Army's approach to the new strategy was initially blocked by Chief of the General Staff Lieutenant-General Guy Simonds. Simonds did not get on well with Foulkes, and even less so with Campney. Simonds also alienated the other service chiefs by harping on a number of unrealistic expectations. In Simonds' view, NATO's reliance on nuclear weapons for deterrence was misplaced, and he favoured a strong conventional Canadian Army contribution to the Central Region instead. Consequently, the Army should be the centre of Canadian defence policy, with the other services supporting it. This was to be done, in Simonds' view, by implementing conscription, so that a standing Army could be deployed to Europe in peacetime. Simonds was pro-British (not surprising given his close relationships with Field Marshal Sir Bernard Montgomery, Field Marshal William Slim, and Air

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51. With the Army, the shoe was on the other foot. While the United States Air Force and Navy had forces stationed around Canada, Canada had Army and Air Force units stationed around Germany and Belgium.

Marshal John Slessor which dated back to the Second World War) and thought that the RCAF should concentrate on close air support for the Army, not on air defence either in Europe or North America. The RCAF, in his view, should rely on RAF thinking and equipment rather than USAF thinking and equipment.<sup>52</sup>

There were positive aspects to Simonds' position. The Army did need to maintain a conventional capability. Simonds presaged the fact that tactical nuclear weapons would eventually become a dead end and that conventional forces were important contributions to the deterrent. However, Simonds did not understand at the time that up to date, interoperable allied nuclear-capable land forces were necessary not only for political influence in NATO but to deter war at all levels. Asserting that there was a minor direct threat to North America and that Canada should not contribute to protecting SAC was patently unrealistic in the highly charged Cold War atmosphere of the 1950s. Finally, conscription in Canada during wartime, let alone peacetime, was absolutely out of the question given the divisive domestic political problems generated during both world wars.

Despite the fact that Simonds' services "were no longer required" by Minister of National Defence Ralph Campney in April 1955, Simonds initiated Exercise GOLD RUSH.<sup>53</sup> Exercise GOLD RUSH was a series of Army studies initiated by Simonds prior to his replacement by Lieutenant-General H.D. Graham in mid-1955. The Army had, up to this point, not taken a systematic look at how nuclear weapons might influence the

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52. Dominick Graham, The Price of Command: A Biography of General Guy Simonds (Toronto: Stoddart Publishing, 1993) pp. 242, 245-248, 252, 257.

53. Ibid., p. 258.

battlefield despite the brief FORWARD ON experience in 1953 (discussed in Chapter 3) and some limited analysis of NATO exercises in Germany. Simonds wanted his planners to wait, since:

I have been most interested in the thinking of the British and American armies....Both countries are devoting a considerable effort to this problem and each is starting this year to mount exercises to test their various proposed solutions....I considered it wise to wait until their theoretical studies were sufficiently well advanced before deciding whether their proposed solutions showed any marked advance forward or whether we should embark on our own studies....I have decided that it is essential for the Canadian Army to begin its own study....<sup>54</sup>

This project, in conjunction with ongoing Army experiences in Germany and follow on studies like Major-General J.M. Rockingham's Divisional Study Session in 1956, formed the basis of the Army's adaptation to MC 48. Before proceeding with these studies, it is necessary to provide the background to the Army's roles and force structure.

The regular Army in 1955 consisted of four brigade groups. One brigade group stationed in Canada provided the Mobile Striking Force (MSF), an airportable force committed to the CUSRPG for conventional continental defence operations. These operations included preventing Soviet airborne or seaborne lodgments from developing in bases in the north (including Alaska, Greenland, and Iceland) from which nuclear weapons could be used against targets in the more southern parts of North America. One target that planners thought the Soviets might go after with airborne forces was two Canadian uranium mines at Beaverlodge and Port Radium, North West Territories. These mines were providing 50% of the material required

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54. DGHIST file 112.1 (D1250), 14 Mar 55, memo Simonds to Campney.

by the United States for its nuclear weapons programme. The MSF was tasked with planning its recapture.<sup>55</sup>

One brigade group was stationed in Germany as part of NATO's Integrated Force in the Central Region. This brigade group operated with the British Army of the Rhine (BAOR) in the Northern Army Group (NORTHAG). The other two brigade groups rotated with the Germany-based formation. In wartime, they were committed to the Central Region with the forward-based brigade group to form 1st Canadian Infantry Division at M+30 days. All four brigade groups, by the late 1950s, had three large infantry battalions, an artillery regiment, an armoured regiment, a reconnaissance squadron, and a group of logistics units. Reserve forces could make up two divisions on mobilization with Second World War equipment, but this would take at least M+180 days after the outbreak of war and there was not enough sealift to move them.<sup>56</sup>

Command arrangements for the Germany-based brigade were straightforward. The brigade group was not officially part of BAOR since BAOR had the status of an occupation force until 1955. The brigade group on paper was a NATO asset in peace and wartime, whereas BAOR underwent a transfer of authority to NATO command from British command when war started. For practical purposes, the Brigade functioned like a separate mini-division under I (British) Corps in some cases, and in others it was added to an existing British division to augment it. Canada insisted that it function as a brigade group and not be broken up to prop up British formations. The

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55. See Sean M. Maloney, "The Mobile Striking Force and Continental Defence, 1948-1955," Canadian Military History Vol. 2 No. 2, Autumn 1993, pp. 75-88.

56. Sean M. Maloney, War Without Battles: Canada's NATO Brigade in Germany 1951-1993 (Toronto: McGraw-Hill Ryerson, 1997) p. 74.

Brigade Commander always had as his prerogative to reject those orders he believed were detrimental to Canadian interests. These were incorporated into his terms of reference which were provided to him by the Canadian Government.<sup>57</sup>

The brigade group's presence (and the commitment of two more brigades after M-Day) allowed Canada to station liaison officers at all levels of NATO command in Europe. These included I (British) Corps; staff officers at NORTHAG, the integrated NATO command for northern Germany; staff officers at AFCENT (which commanded NORTHAG and CENTAG); and at SHAPE (though most of the SHAPE appointments were RCAF, which reflected the proportionally huge RCAF presence at Allied Air Forces, Central Europe (AIRCENT).<sup>58</sup>

SACEUR's concept of operations in the Central Region between 1953 and 1957 revolved around conducting a fighting withdrawal to the Rhine River. The aim was to buy time so that the Netherlands, France, and Belgium could mobilize while the UK, the US, and Canada sent reinforcements. Holding the Rhine River would ensure the integrity of the NATO Area in the Central Region (until 1955, when West Germany joined, which posed new problems relating to NATO forward defence).

The fighting withdrawal was not a conventional operation. SACEUR had an evolving nuclear capability from 1952 on. The USAF's Tactical Air Command was prepared to deploy the 49th Air Division with its 100 F-84G

57. Maloney, War Without Battles pp. 33, 53; NAC RG 25 vol. 4533 file 50030-AB-40 pt. 3, 16 Jun 52, Defence Liaison Division, "Redeployment of Canadian Forces Assigned to SACEUR-Position of the Canadian Government."

58. NAC RG 25 vol 4494 file 50030-E-40 Pt. 1, 16 June 52, COSC, "Provision of Personnel for NATO Headquarters."

fighter-bombers and 30 B-45 Tornado light bombers from the UK to attack enemy airfields and troop concentrations with Mk. 5 and Mk. 7 atomic bombs. Secondary targets included the road and rail network in Germany, Austria, and Czechoslovakia and oil facilities in Hungary and Romania (these last would be hit with USN carrier-launched nuclear strike aircraft from the Mediterranean). In all there were 123 fixed targets, in addition to troop concentrations, which were targets of opportunity. Limited numbers of American 280mm Atomic Annie guns also arrived in Germany in late October 1953.<sup>59</sup> These forces, combined with SAC's offensive against the Soviet Union proper, were expected to slow the enemy down somewhat.<sup>60</sup>

NORTHAG was critically short of everything. There were 27 Soviet divisions opposing NORTHAG. The Canadian brigade group committed to NORTHAG was one of six brigades in BAOR, or 16% of forces that would fight the main holding action in the NORTHAG region. Two Belgian and two Dutch divisions flanked BAOR. The Belgians would hold because they were in favourable terrain (a built-up area), but the Dutch would fall back further north. BAOR was the link between these formations, holding the Ruhr and the vital Rhine River bridges. NATO units that survived the fighting withdrawal would cross the Rhine, dig in, and hold.<sup>61</sup>

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59. Canadian officials were secretly informed about this deployment in September 1953. See NAC RG 25 vol 4533 file 50030-AB-40 Pt. 3, (14 Sep 53) Defence Liaison, "Weekly Divisional Notes"; 11 Sep 53, message NATO Paris to External, "Atomic Weapons for the Defence of Western Europe."

60. Maloney, War Without Battles: Canada's NATO Brigade in Germany 1951-1993 pp. 81-86; Maloney, "Atomare Abschreckung zur See;" Hansen, U.S. Nuclear Weapons p. 214; National Security Archive, (28 Jan 52) memo to Eisenhower, "Planning Assumptions."

61. Maloney, War Without Battles, pp. 63-111

1 Canadian Infantry Brigade Group (1 CIBG) conducted JAVELIN VII, its first command post exercise (CPX) involving nuclear weapons use, in 1954. At the August concentration at the Sennelager All Arms Training Centre, 1 CIBG was introduced to experimental British nuclear land forces doctrine. The doctrine was the same to the British regardless of who was employing nuclear weapons. If NATO used them, troops had to be dug in ready to defend their position against any enemy forces surviving the strike. If the enemy used them NATO forces had to adopt the same protective measures, which included dispersion and digging in. The British employed a nuclear weapons simulator (an oil drum with a special mix of explosives and oil detonated to create a mushroom cloud) during normal field exercises so that troops could practice survival drills and defensive measures. The only weapons effects in the curriculum were blast, heat, and immediate radiation, clearly derived from the HURRICANE and TOTEM tests.<sup>62</sup>

1 CIBG also participated in the first large-scale NORTHAG field exercise which incorporated nuclear weapons into the scenario. Exercise BATTLE ROYAL, held in September 1954, "was specifically designed to practice the conduct of battles involving tactical nuclear weapons in an environment where a small conventional force equipped with nuclear weapons had the task of stopping a larger force with a lesser number of nuclear weapons."<sup>63</sup> The enemy force included I (British) Corps and I (Netherlands) Corps versus I (Belgian) Corps and 1 CIBG. The friendly forces had two batteries of American 280mm Atomic Annie cannons equipped with sixteen 20 kt

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62. Ibid., pp. 89.

63. Ibid., pp. 90-93.

nuclear shells. The climax of the exercise was reached when 1 CIBG troops captured the enemy plan. Infiltrating the 'enemy' lines, a Canadian patrol called in a nuclear strike against the bulk of a British armoured division as it was held up by a river and preparing to cross it. 90% of the division was 'destroyed' and the 'enemy' assault thwarted.<sup>64</sup>

In an effort to improve the mobility of the brigade groups earmarked for Europe, the Army had embarked on its own armoured vehicle project in 1952. Known as the Chassis Tracked Light or Bobcat vehicle, the programme encountered delays until 1956, when Cabinet approved prototype construction. The Bobcat pre-dated other NATO-member APC projects by a number of years. Its stated requirements were to "give increased cross-country mobility and protection from blast, heat and radiation from nuclear explosions."<sup>65</sup> The vehicle family was to include self-propelled gun, cargo carriers, and a recce vehicle in addition to the APC version. It was also to be airportable. The project encountered continual delays and would never be completed because of cost.<sup>66</sup>

In other matters, Canadian Army planners were trying to find ways to improve the readiness and deployability of the Division's other two brigades in Canada. The Canadian merchant marine had steadily eroded in the post-war period, so sealift from Canada to Europe was not an option. Initially, the equipment for the two brigades was to be positioned at Husband-Bosworth airfield in the UK. Once the alert was sounded,

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64. Ibid., pp. 90-93.

65. DGHIST, Raymont Collection, file 139, Feb 1960, memo Pearkes to Cabinet Defence Committee, "Purchase of the Chassis Tracked Light (CTL (Bobcat))."

66. DGHIST, Raymont Collection, file 139, 5 Nov 59, memo Clark to Pearkes, "US Army Army Personnel Carrier M-113."

Canadian troops would fly over, pick up their equipment, move to the Channel ports, ship to Europe and reinforce the Germany-based brigade. After more information on thermonuclear weapons effects became available, the British determined that their Channel ports might be operating at only 25% of their capacity during Phase I, and that capacity would have British priority. The Husband-Bosworth idea was dropped. Plans were made to have a brigade's worth of equipment for a second Canadian brigade group drawn from British stocks if the brigade's troops could get to Antwerp by sea or air. This problem was never totally resolved in the 1950s. In effect, SACEUR's integrated force was woefully short on logistic support, and adoption of nuclear posture which did not envision fighting beyond thirty days was a convenient solution.<sup>67</sup>

As noted earlier, Simonds initiated a study on the future of the Army. The first was code-named GOLD RUSH, which was completed in the summer of 1955. The GOLD RUSH analysis was similar to the RCN/RCAF concept of maritime operations in that Simonds and Army planners stipulated that the Army had to retain its flexibility:

...the initial goal of this study should be to determine the requirements for nuclear warfare only, and then subsequently to determine whether and in what respects or degrees the optimal organization for nuclear warfare differs from that for conventional warfare (a) when the same battle may be fought without forewarning on either nuclear or conventional lines and (b) when the nature of the battle or campaign is known in advance. Ultimately a reconciliation of the two will be required....<sup>68</sup>

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67. Maloney, War Without Battles pp. 105-107.

68. DGHIST file 112.1 (D1250), 28 Jul 55, memo EA/CGS to VCGS, "Exercise GOLDRUSH."

The GOLD RUSH study group wanted to move beyond some rather simplistic analysis provided by the Canadian Army Operational Research Establishment (CAORE). Drawing on an American Operational Research Organization study called Project ATTACK, the CAORE number crunchers determined that the basic enemy 'combat unit' was 1200 men, that there were ten of these units in an enemy division, and that a 5 kt weapon would render each combat unit combat ineffective (30% or more casualties). Thus CAORE concluded that ten 5 kt weapons were needed to destroy a Soviet division.<sup>69</sup>

Simonds, who had been let go but was still hanging on until his replacement could take over, was not all that impressed with this conclusion as it did not take into account the myriad of factors involved in fighting a battle, and it provided little or no insight into creating a force structure. Simonds was adamant about "not diminish[ing] our ability to fight a conventional war" since, in his view,

No one can predict the type of war we may have to fight. If we adjust our organization and equipment to fight an atomic war and atomic weapons are not used, we may be helpless. Conversely, if we are not prepared to fight an atomic war and atomic weapons are used, the same will be true. The basic battle capabilities of each fighting unit should not be fundamentally altered.<sup>70</sup>

Certain battlefield principles like depth and flexibility did not change on the nuclear battlefield. Firepower was obviously increased. Simonds noted that the aim of the conventional arms was to force the enemy into a position

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69. DGHIST file 112.1 (D1250), 16 Apr 54, Canadian Army Operational Research Establishment, "Tactical Organization for Atomic Warfare."

70. DGHIST file 112.1 (D1250), 30 Mar 55, Record of a Meeting to Brief the Team and Working Group of Exercise GOLD RUSH.

where he would have been forced to concentrate and then to use a nuclear weapon on the concentration in the same way 1 CIBG had in Exercise BATTLE ROYAL. Then the conventional arms, tanks and mechanized infantry, could exploit nuclear blasts to counterattack, as Task Force RAZOR had in the TEA POT series. These missions emphasized the need for a very efficient reconnaissance unit which would quickly penetrate the gap, prevent the enemy from reorganizing, and set the next nuclear target. In the defence, small stay-behind parties equipped with radios should provide information so that the friendly nuclear artillery could develop targets as the enemy approached the main dispersed defensive positions.<sup>71</sup>

Simonds agreed with his staff with regard to the actual control over the nuclear weapons. For the new concepts to work, control had to be decentralized as far down the chain of command as possible so that commanders could react quickly. The GOLD RUSH study group proposed that friendly formations should adopt a lattice-like deployment based on a significant water obstacle like a river. The lattice would be in-depth and dispersed to prevent concentration but not so dispersed that the enemy could infiltrate it. Resupply would be by S-58 helicopter and DHC-4 light transport aircraft rather than by ground. With a recce screen and stay-behind parties in front of the obstacle, the enemy would be drawn onto the obstacle at some point, where he would have to concentrate to cross it. He

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71.DGHIST file 112.1 (D1250), 28 Jun 55, Record of a Meeting to Discuss the Tactical Concept of Exercise GOLD RUSH.

would then be blown away by a nuclear weapon either approaching the obstacle or on it.<sup>72</sup>

GOLD RUSH did not rule out enemy nuclear weapons use at any point in the operation. The GOLD RUSH study group had a detailed assessment of what Soviet nuclear weapons capabilities were and how SHAPE believed that they would be employed. SHAPE believed that the Soviets had three weapons yields using a boosted uranium or plutonium method: 5 kt, 60 kt, and 1000 kt (1 MT). By mid-1955, there might be 375, 125, and 34 weapons available in each range. This would increase to 700, 235, and 80 weapons respectively by mid-1957. SHAPE's ACE Capabilities Plan 1957 predicted that, in Western Europe, 50% of the kt-yield weapons would be used against air bases and aircraft carriers; 25% against troop targets; 8% against bridges; 11% against depots; with 6% held in reserve. With regard to megaton-yield weapons, 10% would be used against air bases and aircraft carriers, 60% against troop targets, 20% against ports, 5% against urban areas, with 5% in reserve.<sup>73</sup> In their assessment, SHAPE planners thought that "It is considered unlikely that industrial and demographic areas will be destroyed, at least on the [European] Continent, until Allied successes make the chances of their capture by the Soviets unlikely."<sup>74</sup>

In terms of Allied nuclear capability, the GOLD RUSH group had more detailed data to work with. NATO forces would possess a family of weapons

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72. DGHIST file 112.1 (D1250), 30 Mar 55, Record of a Meeting to Brief the Team and Working Group of Exercise GOLD RUSH; 28 Jun 55, Record of a Meeting to Discuss the Tactical Concept of Exercise GOLD RUSH; 1 Apr 55, Moncel to DST, "Exercise GOLD RUSH: RCASA Air Transport Unit Organization."

73. DGHIST file 112.1 (D1250), 29 Mar 55, "Exercise GOLD RUSH-Estimate of Soviet Capabilities."

74. Ibid.

progressing from 5, 20, 100, 1000, ultimately to 10 000 kt's. This progression was necessary so that the damage radii could be significantly increased. As for 1 and 10 MT weapons, "For reasons of safety and because few tactical targets would warrant the use of megaton weapons, it is considered that the employment of such weapons in the tactical zone will be very exceptional."<sup>75</sup>

GOLD RUSH planners preferred air burst weapons to ground burst because:

Fall-out from air burst weapons is not a hazard except under unusual meteorological conditions, and this is true even of very large weapons. the fall-out hazard from such bursts is likely to be localized about and slightly downwind of ground zero. Even when a fall-out hazard exists for air burst weapons, it can be dealt with be relatively simple precautions but the nuisance value is considerable. It is therefore a training problem rather than a tactical one.<sup>76</sup>

As for ground bursts:

The pattern of contamination depends on wind speeds at various heights above ground level....These are extremely difficult to predict. It is considered that the use of a ground burst weapon larger than 100 kts in the tactical zone is impractical. Even a 100 kt ground burst could probably not be exploded closer than 40 miles from our own troops under rather favourable wind conditions....<sup>77</sup>

GOLD RUSH did not examine specific delivery systems but assumed that rockets, guided missiles, artillery, and aircraft of all types would be used. In

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75. DGHIST file 112.1 (D1250), 17 Mar 55, "Characteristics of Nuclear Weapons and Tactical Delivery Systems."

76. Ibid.

77. Ibid.

a throwback to Project ATTACK, GOLD RUSH set some very loose target criteria. "Destruction of a company sized sub unit by one 5-20 kt weapon will be unprofitable....Destruction of a battalion sized unit by a weapon of the same size may be regarded as a break-even point....Destruction of a brigade or larger formation by a single weapon of this size will yield a clear profit..."<sup>78</sup>

GOLD RUSH did not take into account Exercise SAGE BRUSH, a large US Army nuclear exercise held at Fort Polk, Louisiana late in 1955. Fortunately, the Canadian Army sent an observer, Brigadier D.C. Cameron (who would eventually command 4 CIBG in Germany from 1957 to 1960). Major General J.M. Rockingham, General Officer Commanding 1st Canadian Infantry Division, organized a study period in 1956 so that divisional and brigade staff could learn about nuclear warfare and 'brainstorm' information provided by the GOLD RUSH study group and Canadian observers attending SAGE BRUSH. Brigadier Cameron's SAGE BRUSH analysis formed part of this effort.<sup>79</sup>

SAGE BRUSH was similar in scale to Exercise BATTLE ROYAL. The 82nd Airborne Division constituted the enemy force, while the 1st Armored and 3rd Infantry divisions were the friendly forces.<sup>80</sup> Both sides possessed notional and real nuclear delivery systems which included gravity bombs delivered by aircraft, atomic demolition munitions, Honest John free flight nuclear rockets, long-range Corporal guided missiles, 280mm guns, and

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78. Ibid.

79. DGHIST file 433.009 (D6), "Minutes of the Divisional Study Period, 6-9 February 1956."

80. John J. Midgely, Jr. Deadly Illusions: Army Policy for the Nuclear Battlefield (London: Westview Press, 1986) pp. 51-52.

the USAF's Matador guided missile. For the purposes of SAGE BRUSH, release of the weapons was vested at corps level for most systems except Corporal, which was an Army-level weapon. Brigadier Cameron noted that "the restrictions on firing were so numerous....After a decision had been made to fire, time required for firing for effect of a nuclear warhead was in the order of six to ten hours.... Criteria of a nuclear target was at least 50 vehicles in a 1000 metre square."<sup>81</sup>

SAGE BRUSH started with a notional USAF nuclear strike against enemy airfields on D-Day. This attack went in two waves. The first struck the airfield with a low-level nuclear bomb attack, while the second carrying nuclear air-to-air weapons destroyed any aircraft that got off the ground. The friendly force crossed a river obstacle with no opposition and attempted to take an airfield. The enemy put in a nuclear strike, followed by an airmobile attack with helicopters. All in all, the friendly forces used 23 nuclear weapons and the enemy used 16, for a total of 19 000 kt (expended weapons varied in yield from 2 kt to 500 kt.)<sup>82</sup>

The delay in the nuclear delivery process perturbed Brigadier Cameron. The division commanders had virtually no control over them, and they were the ones in contact with the enemy:

...[The USAF] are very jealous of...[Army nuclear weapons] and must have a say in it. It took half an hour for the special weapons section to work out the yield and it had to go back to Corps Joint Operations

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81. DGHIST file 433.009 (D6), "Minutes of the Divisional Study Period, 6-9 February 1956."

82. DGHIST file 433.009 (D6), "Minutes of the Divisional Study Period, 6-9 February 1956;" Midgely, Deadly Illusions p. 51; see also Frank Harvey, Strike Command: America's Elite New Combat Team (New York: Duell, Sloan, and Pierce, 1962) Chapter 4.; see also John D. Stevenson, "Exercise SAGEBRUSH: Massive Air-Ground Lesson in Atomic Warfare," Air University Quarterly Review Vol. VIII No. 4, Fall 1956, pp. 15-38.

Centre and their men would have to sit back and figure out if the weapon was right for the task. That took one and a half hours. An hour to warn [friendly] aircraft. To bring the warhead up from the special weapons section, which is normally about six to eight miles away, and get it set up on the launcher, a minimum of three and a half hours. Undoubtedly one man handling the request could drop the time.<sup>83</sup>

General Rockingham brought his personal opinion to bear on the problems noted by Brigadier Cameron. He thought there was "great exaggeration on the effect atomic blasts have on aircraft ...[based on] my experience in Nevada." Secondly, a variety of pundits believed that nuclear weapons could not be used for close support of ground forces because they were too destructive: "Again, at the atomic test I witnessed in Las Vegas there was a sharp line of demarcation between the intense destruction and the milder destruction of a nuclear weapon. I would not like you to [get] the impression that, proving the thing is accurate, it cannot be used in fairly close support,"<sup>84</sup> and thus concentration/firepower issues had to be watched carefully in developing doctrine.

In terms of equipment, the division staff recognized the need for greater mobility and protection for the infantry. They had seen American M-59 Armoured Personnel Carriers (APCs) in use in Nevada, and practically every theorist, doctrine writer, and military pundit championed the APC as the solution. One staff officer asserted: "The infantry will stop marching. The... [APCs] will come from the United States and I do feel that this tremendous amount of equipment will never reach us. So why should we

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83. DGHIST file 433.009 (D6), "Minutes of the Divisional Study Period, 6-9 February 1956."

84. Ibid.

talk about using it?" Another officer replied, "We will never get the equipment if we do not justify the provision of it. The first thing we must do is establish a concept."<sup>85</sup>

The final discussion in the Divisional Study Period was Exercise POSTURE. Drawing on Exercise SAGE BRUSH and other data, Rockingham's people developed three deployment types for tactical nuclear warfare. Generically, these types were a combination of Simonds' lattice concept and Miksche's linear concept. The three varied on the distance between the unit cells in the lattice or between the three lines, or in the mixture of units in each cell or line. There were two static lines based on an obstacle and a mobile reserve, supported by nuclear firepower derived from another national source (US or UK). POSTURE kept nuclear weapons controlled at the corps level, a level which Canada did not possess.<sup>86</sup> This thinking would change in the future, primarily because of Brigadier Cameron's observations during SAGE BRUSH and the need to decentralize nuclear command and control away from the corps and towards the division and brigade levels.

The culmination of GOLD RUSH and the Divisional Staff Period was Exercise MORNING STAR held at Camp Gagetown, New Brunswick in the summer of 1956. It should be noted that MORNING STAR was the second in a series of divisional exercises held at Camp Gagetown. The first was Exercise RISING STAR held in August 1955. RISING STAR was a conventional exercise. MORNING STAR (July-August 1956), however, featured the use of nuclear weapons in exercise play. Each side had 40

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85. DGHIST file 433.009 (D6) Minutes of the Divisional Study Period, 6-9 February 1956.

86. Ibid.

notional nuclear weapons of varying yields at their disposal for use during the first two weeks of the conflict. 1st Canadian Division (two brigades) was placed under a notional Blueland Corps for the purposes of nuclear command and control. A composite Regular-Militia brigade was the Fantasian enemy force trying to cross a major water obstacle (the St. John River). According to observers, simulated nuclear strikes by missiles and aircraft were flung about by the division with some abandon, even at enemy company-level units. The divisional deployments examined the difference between the deployment types discussed in the Divisional Study Period. Observers concluded that there were only subtle differences between them, and units shifted to a dispersed, in-depth series of cells whose positions were dictated by the terrain. Nuclear simulators similar to those used at Sennelager in Germany were employed several times throughout the exercise.<sup>87</sup>

In 1956 the Army actually proposed that Canada should have its own nuclear weapons programme. The Canadian Government had eschewed nuclear weapons production in 1945, and there is no hint that a purely Canadian production programme was ever seriously contemplated before 1956.<sup>88</sup>

Army planners within the Directorate of Weapons Development and the Director, Artillery, along with the CGS, argued in September 1956 that:

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87. W.A. Milroy, "Exercise RISING STAR," Canadian Army Journal October 1955, pp. 4-15; W.A. Milroy, "Exercise MORNING STAR," Canadian Army Journal October 1956, pp. 2-15.

88. There had been some discussion about Canadian-British collaboration in 1946 after the McMahon Act was passed.

...to carry out its assigned roles in a nuclear war effectively, the Canadian Army must either be armed with nuclear weapons or contain elements of Services from other countries which are so armed. Nuclear warfare is now reaching the point where a nuclear capability is required within small field formations such as a division or brigade group. This means that formations of the size envisaged for the Canadian Army require organic nuclear weapons systems.<sup>89</sup>

Some thought had apparently been given to this issue in 1954, but Foulkes told the planners to back off until better information was available. With the new information sharing agreements, the Army planners figured they could make their move now. The planners took into consideration GOLD RUSH and other thinking and were concerned that the delay in releasing weapons from corps or higher headquarters would endanger a smaller Canadian formation subordinated to that corps or higher headquarters, particularly since it would not be a Canadian one. If weapons were dispersed to lower levels by an ally, or if Canada made tactical weapons herself, the Canadian Army would not have to worry about this problem.

The Army planners believed that the Army required artillery-delivered (tube or rocket) weapons in the .5 to 1 kt and 1 to 10 kt classes. Furthermore, the planners wanted a "prepositioned nuclear weapon" with a variable yield between 1 and 50 kt (similar to but much larger than the contemporary American Medium Atomic Demolition Munition, possibly with a jumping capability to produce an airburst). The Army also wanted two types of nuclear air defence missiles: a high altitude anti-aircraft weapon, and an "Anti-Missile Missile System," yields unspecified.<sup>90</sup>

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89. NAC RG 24 acc 83-84/49 vol 4175 file 1930-106-1 pt. 1, (11 Sep 56) DWD/DARTY, "Canadian Army Requirements for Nuclear Weapons."

90. Ibid.

The DRB had undertaken studies on Canadian warhead production (one of them by Dr. Longair), studies which the Army drew on. The Atomic Energy of Canada Limited NRU reactor, under construction in 1955, was projected by DRB to produce weapons-grade plutonium at a rate of 60-75 kg per year. Though the plutonium was committed to the U.S. weapons programme, Canada was permitted to hold back any or all of it for her use by agreement. Canada would also need to build a gaseous diffusion plant to produce Uranium 235, but this posed no problem since Canada had abundant and cheap electrical power. All necessary technologies were within Canada's grasp. DRB noted that both U-235 and plutonium methods were desirable to retain flexibility, and that U-235 was cheaper to produce than plutonium by a factor of 3 to 5. DRB wanted such a capability in any event, because it was concerned that the Americans might not provide Canada with nuclear weapons in an emergency, and Canada might have to make her own. Thus, "from a purely technical point of view, excluding financial considerations, it is possible for Canada to develop nuclear type warheads or projectiles."<sup>91</sup>

The Army/DRB study did not make it to the Chiefs of Staff Committee or any higher level for lengthy consideration. The reasons are unknown.

Another aspect of the Army's self-examination in the wake of MC 48 was similar to the RCN's: the place of reserve forces. In December 1956, Brigadier W.A.B. Anderson, (who commanded 2 CIBG in Germany from 1953 to 1955) was instructed by the CGS, Lieutenant General H.D Graham who relieved Simonds late in 1955, to assess confidentially the current state of the Militia and what its contribution might be in Phase I and Phase II of

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91. Ibid.

an MC-48-style conflict. Graham was motivated by financial and manpower considerations. There was also a need to harmonize the new National Survival role that evolved throughout the 1950s. The Army, both regular and Militia, was tasked by the Government with supporting the Civil Defence organization after a nuclear attack. It is clear that Graham wanted the study to reflect that the Militia should exclusively handle the National Survival task and the regular force should handle battlefield tasks.<sup>92</sup>

Anderson's "Report on the Militia-1957" discussed the overall strategic concept (MC 48's Phase I/Phase II structure) but added some detail to Phase II which he believed was relevant to the study:

As a subsequent to the exploitation phase in which the likely tasks are to ensure the security of friendly territory against the residual strength of the enemy, to under write the stability of the government and the means of production, and to undertake the further operations necessary to ensure acceptance by the enemy of the reconstruction policies we intend to pursue. The land forces to be used in this phase will be urgently needed and will have to come from countries which have been least heavily attacked....There is no reason to think that they may not be massive in size in order to achieve stability in the face of such widespread and unprecedented disorder.<sup>93</sup>

This last part is extremely important, since no planners in Canada or in NATO had really considered what would happen in Phase II. The RCN and RCAF both left it vague and focused on Phase I.

Anderson also emphasized that the Army should not be locked completely into the MC 48 vision. The Army would be expected to fight Korean War-like conflicts alongside the US and the UK, probably by

92. DGHIST file 73/612, 31 Dec 56, memo Graham to Anderson, "Militia Study."

93. DGHIST file 73/612, Dec 56, "A Report on the Organization, Equipment, and Training of the Canadian Army (Militia)."

providing a brigade group and possibly a division. The existing regular Army structure could provide this force as necessary, since the units already existed, and they could be augmented with the Militia if a division were required. In what he termed "conditions short of armed conflict," (peacekeeping as we know it today), Anderson recognized that there was a "growing demand...to assist the UN in preventing the outbreak of hostilities, or in preventing hostilities from expanding into more widespread conflict." He figured Canada would provide a regular force battalion group, possibly a brigade group. These would be drawn from the regular Army as necessary, "provided always, that as new commitments are accepted, they are accompanied by authority to activate replacement units."<sup>94</sup> Anderson probably included this proviso in the aftermath of the Army's UNEF experience during the Suez Crisis in 1956.

Militia tasks in wartime consisted of internment, vital point security, and augmenting the regular Army in Europe with the balance (two brigade groups) of the division as soon as possible after M-Day, but before M+30, and producing two more divisions for service in Europe within a year. There was also the Civil Defence commitment, which included command and control of civil defence forces, radiation reconnaissance, rescue, and engineer services. Anderson stated that these tasks were in conflict with each other. How could the Militia train for conventional war in Europe, transport itself across the Atlantic, while guarding Canada and cleaning up after a nuclear attack?<sup>95</sup>

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94. Ibid.

95. Ibid.

Anderson found that there were three options: Either have some type of formation between Militia (part time) and regular force (full time) so that there was a larger pool of fully-trained men in order that the division could be augmented more quickly, while the lesser-trained men handle civil defence and guard tasks; or reorganize the Militia strictly for civil defence tasks and enlarge the regular force; or maintain the status quo, which meant trying to do all tasks with the forces available. Anderson recommended the second option.<sup>96</sup> The change in government in 1957 would, however, alter this course's implementation and produce serious long-term problems in the Canadian Army.

In summary, the Army's approach to dealing with the MC 48 concept was similar in some ways to the RCN approach. The Army recognized the need to retain a flexible force structure so that it could respond to three levels of warfare. The requirement for and structure of reserve forces was seriously examined, as was the need for nuclear-capable systems. The implementation of these programme would become muddled once the Diefenbaker government took over in 1957. The Army also pushed for a continental air defence role, but this posed interservice rivalry problems with the RCAF.

#### The Royal Canadian Air Force I: European Defence and 1 Air Division

As we have seen, the RCN was involved in a tug-of-war in the Atlantic Ocean, while 75% of the Army's effort was devoted to supporting the Central

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96. Ibid.

Region commitment. Both services were trying to maintain a flexible force structure. The RCAF, on the other hand, was committed equally to both Europe and North America.

MC 48 affected the RCAF in separate ways, which corresponded to the two different theatres of operations (Europe and North America), although there was some degree of overlap since the bulk of Canada's commitment included fighter aircraft operating from fixed ground bases. It is therefore necessary to establish what the status of RCAF forces was in the 1954-1957 time frame before discussing the specific impact of MC 48 on those forces.

The RCAF consisted of five operational commands.<sup>97</sup> The largest were Air Defence Command and 1 Air Division, which handled air defence in North America and Europe, respectively. Air Transport Command was responsible for supporting RCAF units around the world with its North Star and Dakota squadrons (25 and 30 aircraft each).<sup>98</sup> Maritime Air Command, with its P2V Neptune patrol aircraft, operated with the RCN in the ASW role. Finally there was Tactical Air Command, which consisted of 35 C-119 Flying Boxcar tactical transports and 24 B-25 Mitchell light bombers pledged to support the Mobile Striking Force. The RCAF Auxiliary squadrons (the air reserve) provided personnel for ATC and TAC (and later two ADC squadrons were Auxiliary Squadrons).<sup>99</sup> The main RCAF effort

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97. Non-operational commands included Air Material Command and Training Command.

98. ATC also took over Lancaster aircraft from MAC and performed Arctic and ice patrol missions. See also Larry Milberry, The Canadair North Star (Toronto: CANAV Books, 1982).

99. DGHIST Library, RCAF, "CAP 488: General Service Knowledge Qualifying Examinations Study Material;" Maloney, "The Mobile Striking Force;" Jeff Rankin-Lowe, "Royal Canadian Air Force 1950-1959 Part II," Wings of Fame: The Journal of Classic Combat Aircraft Volume 3 (London: Aerospace Publishing Ltd., 1996) pp. 142-157.

in terms of strategy, money, and energy lay, however, in 1 Air Division and ADC.<sup>100</sup>

RCAF strategic planning for the European commitment after the 1951 Paris Plan (see Chapter 1) and prior to 1957 was relatively unsophisticated. The aim was to produce and deploy as many RCAF CF-86 Sabre fighter aircraft as quickly as possible to support SACEUR within the numerical limits set by the Government.<sup>101</sup> Consequently, ten squadrons of Sabres deployed to Europe: North Luffenham, United Kingdom (one to two squadrons to assist in the RAF's air defence effort against TU-4 BULLs if war broke out);<sup>102</sup> Grostenquin, France (three squadrons); Zweibruecken, West Germany (three squadrons); and Baden-Soellingen, West Germany (three squadrons). In 1955 No. 1 (F) Wing in North Luffingham moved to Marville, France and two more squadrons were added, bringing the total to 12, each with 18 aircraft for a total of 216 Sabres.<sup>103</sup> This deployment afforded 1 Air Division and 4 Allied Tactical Air Force (ATAF) significant operational depth, since French and American bases in West Germany were fifteen minutes flight time away from the Iron Curtain.<sup>104</sup>

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100. Interest in TAC and the Mobile Striking Force waned throughout the 1950s at all levels, since the perceived direct Soviet airborne threat to North America was superseded by the intercontinental nuclear bomber threat. The use of ATC aircraft to conduct Operation RAPID STEP (the UNEF and the Suez Crisis in 1956) was a once-off event for the RCAF in the 1950s. RCAF interest in strategic troop airlift increased dramatically in the mid-1960s.

101. Hull interview.

102. To fill a desperate gap in day fighter capability, the RAF acquired 430 Sabre aircraft, most of which were built in Canada and funded by the United States under its Military Assistance program. See Milberry, The Canadair Sabre pp. 254-284.

103. Larry Milberry, The Canadair Sabre (Toronto: CANAV Books, 1986) pp. 102, 103, 110, 120.

104. 1 Air Division also recorded its first espionage 'catch' in 1954. A German communist in the employ of Soviet military intelligence was detained by RCAF

1 Air Division was headquartered in Metz, France and subordinate to 4 ATAF, an integrated NATO command, which in turn was subordinate to Allied Air Forces, Central Europe (AIRCENT), and then to SHAPE. 4 ATAF consisted of French, American, and Canadian air forces (and West German by 1956). The RCAF had staff officers at all of these headquarters. AIRCENT, for example, had 67 of its 69 staff positions filled with RCAF personnel.<sup>105</sup>

The air situation in the Central Region was in a state of flux throughout the 1950s. A numerical air order of battle for 4 ATAF is difficult to come by, but the bulk of the fighter and fighter-bomber aircraft in 4 ATAF were the ungainly F-84F Thunderjets and F-84G Thunderstreaks, used by both French and USAF units. Some F-86F's trickled in to equip USAF units by 1953, but the bulk of USAF Sabres had been engaging MiG-15's in Korea and were still stationed there.<sup>106</sup> 1 Air Division, comprising 20% of 4 ATAF, was a conventional fighting force. Although American F-86's were modified to deliver nuclear weapons from an external hardpoint, there are no indications that RCAF CF-86's were so modified, nor are there any

personnel and turned over to the French, who determined that the Soviets were so concerned about No. 1 Air Division's capabilities that they sent in the man for this special job. He had been ordered to send back information concerning the numbers, types of aircraft, name and number of the squadrons, and command personnel, and to provide sketches of the surrounding terrain, fuel storage, buildings, and headquarters. The Soviets were particularly confused by the patches on RCAF flight suits and instructed the spy to "obtain the meaning of insignia worn by Canadian airmen." See DGHIST 79/429 vol. 6, VCAS, 1954, "Items of Interest: AMP Division."

105. NAC RG 25 vol 4533 file 50030-AB-40 Pt. 2, 23 May 52, COSC, "Provision of Personnel for NATO Headquarters SHAPE, SACLANT, AIRCENT, and 4 ATAF;" Irving Breslauer, "Fourth Allied Tactical Air Force," Sentinel January 1967 pp. 18-20.

106. See Robert Robinson, USAF in Europe 1948-1965 (Carrollton, TX: Squadron/Signal Publications, 1982) and Larry Davis and David Menard, F-84 Thunderjet In Action (Carrollton, Texas: Squadron/Signal Publications, 1983); Robert Jackson, Strike Force: The USAF In Britain Since 1948 (London: Robson Books, 1986) pp. 83-86.

indications that 1 Air Division CF-86 crews were trained in Low Altitude Bombing System nuclear weapons delivery.<sup>107</sup>

Rather, 1 Air Division's operational concept was geared towards daytime area and point air defence intercept operations either radar supported or visual patrol. The radar-supported GCI (Ground Controlled Intercept) stations guided the interceptors onto targets, or interceptors could patrol a designated 'box' of airspace. In 4 ATAF's area, the USAF deployed four GCI radars and a control centre, while the French air force deployed three GCI radars and a control centre. In 1953 the RCAF provided one GCI site, code-named YELLOW JACK (61 Air Control and Warning Squadron).<sup>108</sup>

The quality of the pilots and their aircraft was exceptionally high and would later contribute to the selection of 1 Air Division for nuclear strike operations in the 1960s. As General Chuck Yeager's autobiography notes: "In those days we [USAF] flew the F model of the Sabre, which was slow. The Canadian fighter jocks in Europe loved to dogfight us in their lighter, more maneuverable Mark V Sabres. They were merciless and there wasn't much we could do about it."<sup>109</sup>

There appears to have been no large scale RCAF air defence plan for Europe as there was for North America, probably because of the Central Region's small area. The air battle could be controlled in a medium-sized

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107. Marcelle Size Knaack, Post-World War II Fighters (Washington D.C.: Office of Air Force History, 1986) p. 62. This was the F-86F which had a LABS computer and could carry a 1200-pound special store.

108. Milberry, The Canadair Sabre pp. 120-183; "On Guard in Europe: F-86 Sabres of the RCAF's Air Division Still Rule Continental Skies," Aircraft October, 1955. pp. 55-58; NAC RG 24 vol 17827 file 840-105 vol. 1, 23 Dec 53, AOC Conference, "Radar: 1 Air Division RCAF."

109. Chuck Yeager and Leo Janos, Yeager: An Autobiography (New York: Bantam Books, 1985) p. 291.

air superiority engagement. Point defence missions probably would have included the protection of American nuclear storage sites in West Germany and France, command and control sites, and fighter-bomber air bases.

Notably, 1 Air Division participated in the politically controversial NATO Exercise CARTE BLANCHE, held in June 1955. This exercise caused an uproar in the West German media when the projected massive damage results involving exercise 'nuclear strikes' were leaked. CARTE BLANCHE's concept was based on developing AIRCENT plans to use nuclear weapons against enemy airfields before enemy nuclear-capable aircraft (TU-4 BULLs or IL-28 BEAGLEs) could take off and attack NATO. In a 48-hour period, 335 nuclear weapons were used by friendly (4 ATAF) and enemy (2 ATAF) forces. 1 Air Division flew 2500 of 4 ATAF's 6000 sorties during the exercise or 42% of the missions, which was not bad for 20% of 4 ATAF's assigned forces.<sup>110</sup>

1 Air Division also took stock of its situation in 1955. The enemy air threat to the Central Region was estimated to include 1400 jet aircraft (1200 MiG-15 and 17 fighters, 175 IL-28 BEAGLE bombers, and possibly 750 TU-4 BULLs) within 45 minutes flight time. Behind this force and stationed in the USSR, there were approximately 1500 jet bombers and another 1000 MiG 15's.<sup>111</sup>

NATO air operations were:

- (a) To assist in the strategic air offensive against Russia: specifically, to inhibit the Russian capability of atomic air attack and to assist in destroying the Russian Air Force.

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<sup>110.</sup>"On Guard in Europe: F-86 Sabres of the RCAF's Air Division Still Rule Continental Skies," Aircraft October, 1955. pp. 55-58; Henry Kissinger, Nuclear Weapons and Foreign Policy (New York: Harper Brothers, 1957) pp. 291-295.

<sup>111.</sup> NAC RG 24 vol 17828 file 840-1050012, Jan 1955, AOC Conference," 1 Air Division Report-Jan 55."

- (b) To participate with the other two Services in combined operations to resist and overcome any attack by the Russian Armed Forces on the territory of NATO nations: specifically, in air defence, land-air and marine channels.<sup>112</sup>

1 Air Division planners interpreted their tasks to include the following priorities: to provide fighter escort to the 49th Air Division, air defence measures like interception, and offensive fighter sweeps.<sup>113</sup>

The 49th Air Division was the special American nuclear strike force mentioned in the Army section of this chapter. 1 Air Division was to escort this force in deep penetration missions.<sup>114</sup> AOC 1 Air Division ruefully stated that: "You will notice that we no longer include the ground attack role."<sup>115</sup> In veiled language, The 1 Air Division staff really wanted a tactical nuclear capability when the time came to replace the CF-86 aircraft in Europe.<sup>116</sup>

In response to MC 48, AIRCENT shifted its perception of the enemy threat from low level conventional attack to a probably nuclear attack against NATO airfields. 1 Air Division understood that SHAPE was

<sup>112.</sup> Ibid.

<sup>113.</sup> Ibid.

<sup>114.</sup> Or what were referred to in American plans as ROMEO targets which were, when attacked, "to retard, by tactical application of atomic weapons from all available delivery vehicles Soviet military efforts to occupy Western Europe, the Middle East, the Far East and Soviet operations threatening Allied sea communications." See USN OA SPD file A16-10, 9 Jul 54, memo from CNO to JCS, "Evaluation of the Atomic Offensive.'

<sup>115.</sup> NAC RG 24 vol 17828 file 840-1050012, Jan 55, AOC Conference, "No. 1 Air Division Report-Jan 55."

<sup>116.</sup> Ibid.

pushing for a dispersal plan, but the RCAF formation was inhibited by the lack of ground mobility. AOC 1 Air Division had implemented an Atomic Dispersal Programme study in Europe, whereby the Air Division would have no more than 25 aircraft per airfield, with at least 10 miles between airfields. This, of course, would require more airfields and thus posed political problems with France, Belgium, and West Germany, let alone the United States, given the shortage of airfields in the congested Central Region.<sup>117</sup>

SACEUR General Gruenther had in fact established a dispersal policy based on MC 48 and his assumption that an enemy attack would have no warning at all and would use thermonuclear weapons. This policy was laid out in MC 60, or "The Improvement of the Posture of SACEUR's Air Forces to Ensure Retention of an Adequate Operational Capability under Atomic Attack." SHAPE indicated that 1 Air Division needed eight to 12 more airfields, in addition to the four in use. Canada did not want to pay for 12 more bases unless the funds could be provided from NATO's Common Infrastructure Programme. SHAPE conceded that four deployment airfields could be made available to 1 Air Division in the event of war, but that the main squadrons would have to be kept on the four established stations. Squadrons would deploy on warning only. This arrangement satisfied all concerned for the time being.<sup>118</sup>

Another consequence of MC 48 was SACEUR's request for RCAF CF-100's for the Central Region. 4 ATAF had a paucity of night intercept

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117. Ibid.

118. DGHIST Raymont Collection file 1308, 25 Jan 55, minutes of a Special Meeting of the COSC; DGHIST file 74/743, 6 Dec 56, CAS to COSC, "Provision of Deployment Bases and Off-Base Dispersal in Europe for 1 Air Division."

capability, and the CF-100 fit NATO requirements to a "T". This situation produced two results. The Belgian Air Force acquired 53 CF-100s for its three all-weather squadrons committed to 2 ATAF, and the RCAF deployed four CF-100 squadrons to augment 1 Air Division (Other NATO nations purchased Canadair Sabres in large numbers for day missions.)<sup>119</sup> At this point even the USAF was woefully short of all-weather aircraft in the Central Region, as most aircraft of this type were deployed in the continental United States for air defence purposes. The four RCAF CF-100 squadrons arrived between November 1956 and August 1957.<sup>120</sup>

In what the RCAF termed passive defence measures, all RCAF bases and units, including those in Europe, received RADIAc equipment, dosimeters, decontamination equipment, gamma survey equipment, and appropriate training for their use. There is no doubt that the RCAF considered that their facilities were vulnerable to nuclear attack.<sup>121</sup>

One consequence of the 1955 Air Officers Commanding Conference was Exercise OMNIBUS held late in 1955. OMNIBUS was an attempt to develop a rough concept of RCAF operations under the pattern of war envisioned in MC 48. OMNIBUS provided some insight into RCAF thinking during the mid-1950s.

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119. Milberry, The Avro CF-100 pp. 151-155; In addition to the RAF, the following NATO air forces bought or were given Canadian Sabres: West Germany (300), Italy (179), Greece (200), Turkey (about 100). Even Yugoslavia received Sabres under Mutual Aid. Many of these nations' pilots were trained in Canada. This significantly contributed to Canadian influence within NATO in a myriad of ways. Milberry, The Canadair Sabre pp. 285-328.

120. DGHIST, Raymont Collection, file 1308, 3 Dec 56, Minutes of the 571st COSC meeting; Milberry, The Canadair Sabre p. 368 and Milberry, The Avro CF-100 p. 189.

121. DGHIST file 74/743, 6 Dec 56, CAS to COSC, "Field Hospitals."

The OMNIBUS scenario started with a massive Warsaw Pact land-sea-air exercise in the Black and North Seas, the Atlantic Ocean, and Eastern Europe. The assumption was that the West was "losing the Cold War," particularly in the Middle East. The enemy exercise was assumed to be preparations for a war in that the Soviets wanted their forces properly deployed prior to the outbreak of a general war. Using the planned but not yet implemented NATO Alert System, Canadian forces progressed from Simple Alert (security and precautionary measures) to Reinforced Alert (a partial and discrete build up and augmentation of forces) to General Alert (overt aggressive acts made against NATO forces). OMNIBUS assumed that the Soviets would not use thermonuclear weapons from the outset but would rely on kt-yield weapons to prevent environmental damage to themselves. The first Soviet nuclear attacks would be made against SAC bases in North America, protected by a massive electronic countermeasures campaign against the DEW Line. OMNIBUS assumed no deliberate attacks against urban targets. The sea war would be "intense," particularly on the Western Approaches to the UK.<sup>122</sup>

OMNIBUS is notable for a variety of things. There were some dubious assumptions (lack of MT-yield weapons use, the discounting of the guided missile-launching submarine threat), but what OMNIBUS shows is that the RCAF was thinking about the events leading up to a war. The RCN and Army had noted that war might grow out of a crisis or a conventional war, but the RCAF saw a more distinct progression of events which would call for a graduated NATO response. Graduated response was not an RCAF

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122. NAC RG 24 vol 17828 file 840-105 vol. 3, 7 Dec 55, memo to CAS, "Paper Mobilization Exercise;" ACAops, "Exercise OMNIBUS." Note that OMNIBUS was supposed to be a CPX in its initial incarnation. Its evolution into a field exercise (BOOKCHECK) was anticipated by the planners.

innovation, since the NATO Alert System was under intense discussion at the time.

It was well understood at the higher levels of the RCAF that MC 48 would form the basis for future planning. As with the RCN, however, the actual MC 48 document was not given widespread distribution within the RCAF. In many cases planners obscured material referring to the MC 48 concept. Orders went out from RCAF Headquarters instructing planners to refer to MC 48 as "Strategic Guidance," not to MC 48 itself.<sup>123</sup>

This state of affairs did not prevent RCAF logisticians from questioning the Air Staff as to what the new logistic requirements would be under the new concept. Prior to 1957, the RCAF logistics organization, Air Material Command (AMC), based its plans on 30 days of fighting, both in Canada and in Europe, and attempted to stockpile accordingly. In dealings with SHAPE, RCAF logisticians learned that AIRCENT was planning for an initial seven-day air war and that AIRCENT units were to have enough supplies on hand, in-theatre, to fight for seven days, and the ability to resupply from national sources for an additional 23.<sup>124</sup> It certainly simplified the logistics situation regarding 1 Air Division. One Air Material Command planner noted: "What should be really interesting is to see what is left at the end of 30 days, for instance, our additional operational stocks of

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123. DGHIST, The Air Marshal M.M. Hendrick Papers, "Daily Diary: 30 Nov 56"; NAC RG 24 vol 549 file 096-103 v.2, 12 Jul 57, message CANAIRHEAD to distribution list and additional handwritten notes from the staff officers.

124. NAC RG 24 vol 549 file 096-103 v. 2, 22 Jul 57, AOC 1 Air Division to CAS, "Plans-Operational Posture;" NAC RG 24 vol 549 file 096-103 v. 3, 14 Mar 57, message CANAIR DIV to CANAIRHEAD.

spares stored at Toronto [a major strategic target] and upon which we could well depend for a 'recovery' phase."<sup>125</sup>

The continual improvement of 1 Air Division's response to MC 48 was evident by January 1956. In contrast to 1955, 1 Air Division's concept of operations was based on MC 48's pattern of war. The initial period of Phase I would last from seven to fifteen days and would be one of intense nuclear weapons use, which would decrease progressively over the next fifteen days. Phase II was characterized by the planners as a "clean up phase."<sup>126</sup>

1 Air Division's operational role was:<sup>127</sup>

- (a) To support SACEUR's offensive atomic strike force through fighter sweeps, diversionary and escort missions.
- (b) To provide air defence, ie: interceptions.
- (c) To provide support to 4th ATAF interdiction programme.
- (d) Possible air-ground strafing since ground aid is pitiful.

1 Air Division participated in two NATO nuclear exercises. The first, Exercise BEAR CLAW (6-9 March 56) was a SHAPE-wide Command Post Exercise (CPX) designed to test procedures for SACEUR's Atomic Strike Plan (ASP). The enemy attacked first and the NATO forces had to struggle to regain "the atomic initiative." BEAR CLAW demonstrated to the RCAF that 1 Air Division would have significant logistics problems for the first seven days, let alone 30. Exercise WHIP SAW (26-28 September 56) was a SHAPE Joint Atomic Exercise involving some live play as well as CPX

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<sup>125</sup>. NAC RG 24 vol 549 file 096-103 v. 2, 26 Jul 57, memo G/G RDP Blagrave to D/AMTS.

<sup>126</sup>. DGHIST, Raymont Collection, file 2001, "1 Air Division Precis for AOC's Conference 1957."

<sup>127</sup>. Ibid.

activity. 1 Air Division flew 1087 sorties in three days, which the evaluators thought represented the "lion's share to the 4 ATAF sortie rate." WHIP SAW pointed out deficiencies in three-nation GCI control of the air battle in the 4 ATAF area, but Canada positively contributed to the development of efficient crypto and communications procedures which alleviated these problems.<sup>128</sup>

1 Air Division staff believed that the days of large-scale RCAF intercept operations in Europe were waning for two reasons. The deployment of a large West German Luftwaffe (equipped with Canadair Sabres and American Nike-Ajax missiles) would alter the character of air defence operations in the Central Region. The staff noted that Air Division squadrons might be parceled out to other sub-commands but it would "be a grave and costly mistake to divide the force in any way and we must resist every and any attempt to do so."<sup>129</sup> The AOC 1 Air Division was adamant in 1956 that:

We decide now that the RCAF in Europe aim at becoming part of the striking force, using for the present, modified F-86's and CF-100's as missile carriers and associated reconnaissance machines and changing over at a later date to a much faster aircraft as the CF-105 [Avro Arrow]....the change in role might well permit us to reduce the number of RCAF aircraft in Europe which would in turn lessen the man power, real estate, facilities, and logistics requirements. From a straight military point of view, we should have an atomic missile capability....we should remain part of 4 ATAF with an atomic and reconnaissance capability.<sup>130</sup>

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128. Ibid.

129. Ibid.

130. Ibid.

In considering new aircraft for 1 Air Division, the COSC concluded that, although there were no plans to re-equip the formation in 1956, it was possible that the Sabres might eventually be replaced with either the F-100 Supersabre or the F-104 Starfighter, aircraft already under development in the United States. The Air Staff were not keen on these aircraft for use in the fighter role, as they "had the severe limitation of being only day fighters."<sup>131</sup> The F-100 would see service with both the French and American air forces as a nuclear strike aircraft, while the F-104 would be modified for the same purpose in the next decade.

#### The RCAF II: Continental Air Defence and Air Defence Command

The RCAF continued to struggle with the developing continental air defence system, which consumed most of the RCAF's political effort between 1955 and 1957. The struggle manifested itself in several ways: the CF-105 programme and its associated problems as to armament selection; the BOMARC versus Nike guided missile debate; the nature of the continental air defence system and how it would be commanded. How the RCAF dealt with these problems between 1955 and 1957 had intricate long-term and far-reaching effects on Canadian nuclear weapons policy.

In terms of continental air defence forces, the RCAF deployed 19 squadrons of fighters as part of Air Defence Command (ADC) in Canada between 1954 and 1958. Generally, there were eight to ten CF-86 Sabre day fighter squadrons and nine CF-100 Canuck all weather fighter squadrons

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131. DGHIST The Raymond Collection, file 1308, 4-7 Jun 56, COSC Special Meeting.

spread out across the country.<sup>132</sup> All of these aircraft were conventionally-equipped, though some thought was given to providing a nuclear air-to-air capability. All aircraft were tied into GCI centres displaying data provided by the MCL, DEW Line, and PERMANENT radar systems. (see Figure 6) In terms of proportionality, assuming a unit establishment of 18 aircraft per squadron, the RCAF ADC consistently deployed 342 interceptors, while the USAF deployed between 1139 in 1954 to a peak of 1490 in 1957. Thus, RCAF ADC provided between 19% and 23% of fighter interceptors assigned to continental air defence missions.<sup>133</sup> The bulk of USAF ADC flew F-86D's until 1956 and converted over to the F-89 Scorpion in 1957. The F-89 and CF-100 had similar operational characteristics with the exception of the F-89J, which carried the MB-1 Genie nuclear weapon.

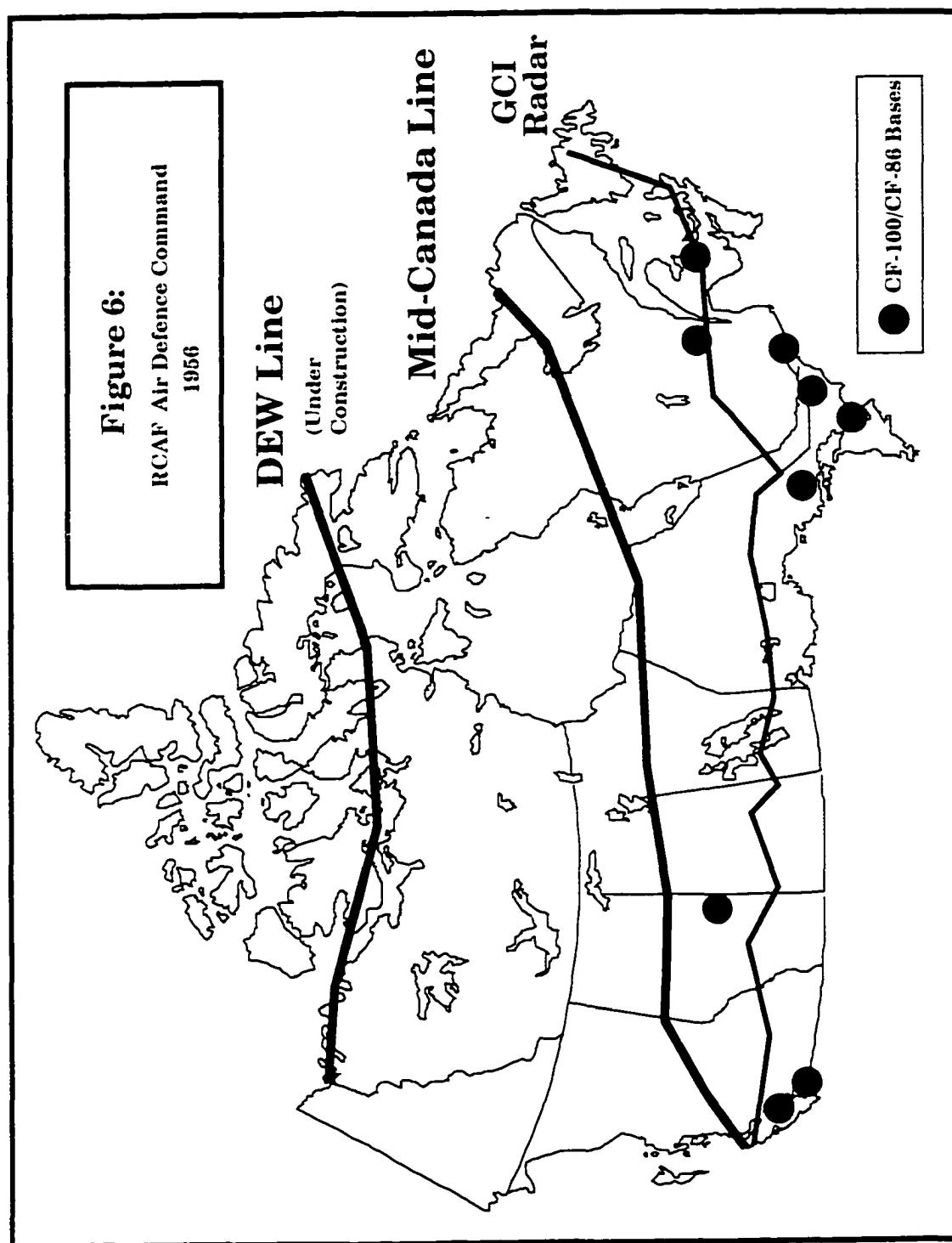
ADC HQ was located at St. Hubert, Quebec. It did not report to a formal integrated command in wartime prior to the advent of NORAD in 1957-58. There were extensive cooperative arrangements with USAF's Air Defense Command and later CONAD, but RCAF ADC squadrons did not come under American operational command. In fact, the two USAF fighter squadrons based in Newfoundland and Labrador came under RCAF ADC's operational control in wartime.<sup>134</sup>

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132. See Milberry, The Canadair Sabre p. 368 and Milberry, The Avro CF-100 p. 189.

133. FOIA, NORAD History Office, "Air Defense Aircraft Chart: Dec 1950 to Dec 1959."

134. DGHIST file 423.009 (D14), 16 Jun 55, memo to CStaffO, "Canada-USA Emergency Air Defence Plan CANUSEADP 2-55;" DGHIST file 73/770, 1 Apr 57, Lydus H. Buss, "U.S. Air Defense in the Northeast 1940-1957: CONAD Historical Reference Paper No. 1."



In terms of quality, USAF pilots were continually impressed with RCAF ADC's performance:

In a dogfight, the Mk. 5's were formidable opponents...We used to fly up to Chatham and play games with the Canadian 86's up there. They had a bigger Orenda engine, and they'd turn us every way but loose. That was ridiculous....We could never touch those hot 86's. They'd leave us. Canadians thrived on action. The more dangerous a situation, the funnier they thought it was...[the] CF-100's could outperform the F-94C's. They weren't really much faster than us, but they had that big wing and could really get up there. They were much more formidable.<sup>135</sup>

As with 1 Air Division, RCAF ADC's concept of operations revolved around ground controlled intercept from the Mid Canada Line and PINETREE detection systems. Exercises frequently centered on intercepting various forms of B-36 and B-47 bomber penetrations, all of which emphasized electronic countermeasures and electronic counter-counter-measures.<sup>136</sup>

Previous Chiefs of the Air Staff brought together annually their principal Air Officers Commanding (AOC's) to discuss policy. In January 1955, right after MC 48's acceptance by NATO and Canada, Air Marshal Slemon queried two of his primary commands, ADC and 1 Air Division, as to what they thought the impact of the new strategic concept would be on them. The ADC view essentially was a summary of air defence developments in process since 1952. The main threat was the large long-range jet bomber

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135. Bill Green, The First Line: Air Defense in the Northeast 1952 to 1960 (Fairview, Pennsylvania: Wonderhorse Publications, 1994) pp. 207-208, 293. In one instance, RCAF ADC and USAF ADC squadrons would try to surprise each other early in the morning by buzzing each other's bases. In one instance, seven CF-100's heading for Presque Isle, Maine accidentally buzzed the SAC base at Loring, Maine, which produced a certain amount of unease in the SAC community. Complaints were duly registered.

136. Ibid.

carrying hydrogen weapons capable of launching a "sudden high-performance attack with a comparably small force, with a good possibility of eliminating the North American forces or retaliation and razing at least some of the major centres of government, populations, and industry in one blow."<sup>137</sup> The aircraft and its accompanying nuclear weapon must be destroyed completely far away from populated areas. Canada needed guided missiles, a SAGE system, the means to destroy enemy aircraft totally, and some form of integration with American air defence forces to increase the chances of interception and destruction.<sup>138</sup> ADC proposed three regional air defence forces consisting of surveillance, command, and interception forces devoted to that region. Two should be American, one should be Canadian, the aim being to "make possible Canadian control of all weapons that could be employed over Canadian territory."<sup>139</sup> More importantly:

...the arrangement of the entire structure provides a means whereby Canada could still exercise an extraordinary degree of influence over US air defence planning in matters which directly affect Canada. Altogether, these considerations should serve very considerably indeed to offset the danger to compromise of Canadian sovereignty which independent US air defence planning, programming, funding and implementation has already gone so far towards creating.<sup>140</sup>

In other words, if Canada did not propose and negotiate some form of integrated air defence arrangement, the United States would be forced to

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137. NAC RG 24 vol 17828 file 840-1050012, AOC Conference January 1955, "The RCAF Position in Relation to Continental Air Defence."

138. Ibid.

139. Ibid.

140. Ibid.

plan for its air defence as though Canada did not exist. By being part of an integrated air defence system, American systems could be located to cover targets vital to Canada as well as the United States. Canada would not have to expend the financial resources necessary to produce her own system and Canadian sovereignty could be protected. This thinking would lead to the creation of NORAD, which will be discussed in Chapter 7.

The CF-105 issue seized the RCAF's attention throughout 1955. Before the RCAF could get funding for production, it first had to get through the COSC, where it encountered opposition from the CGS, General Simonds. Simonds argued that advances in ICBM's would make the CF-105 obsolete. Canada should buy an existing American or British aircraft instead and put its money into building an anti-ballistic missile system, which could also be used to shoot down bombers. Foulkes sided with Slemmon and the RCAF. The immediate threat was from the Type 37 (M-4 BISON) bomber, and nobody knew when it would be replaced, if at all, by an ICBM. Slemmon agreed, as did Solandt. Slemmon noted that no allied aircraft met Canadian operating requirements (climatic, distance, and weapons). BOMARC would not be available for at least five years. In fact, Slemmon said, "if the development of BOMARC or some similar missile overtook the CF-105 program it may be considered wise to stop or modify further work at that time but in the interim the one should not stop because of the possibilities seen in the other."<sup>141</sup> Simonds failed in his effort to cancel the Arrow, and the COSC recommended the programme to the Cabinet Defence Committee.

At the Cabinet level, policymakers were concerned about the cost of an indigenous aircraft design. Some Cabinet members were worried that "if

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141. DGHIST Raymont Collection, file 1308, 11 Feb 55, COSC 574th Meeting.

for a variety of reasons [the CF-105] had to be abandoned, embarrassment and criticism would be severe."<sup>142</sup> Would the project be cheaper if RCAF squadrons in Europe were equipped with the CF-105 as well? Would other nations buy it? Some members argued that "the only way to provide an effective deterrent to aggression was to improve, modernize and develop the warmaking capacity of the free nations....[there] was no alternative but to proceed with the maintenance of suitable deterrent strength."<sup>143</sup> What, some members queried, if the Soviets produced ICBMs? Would that not make manned aircraft obsolete?

Because of developments in progress, the effectiveness of the deterrent was always only temporary. The Russians and the U.S. were equipping their forces with subsonic and supersonic bombers....If the Russians succeeded in getting [an ICBM] into large scale production before the U.S, there would be a major shift in the balance of power since there was nothing available that could deal with it. The date of this was so uncertain, however, that the West could not afford to gamble on having no deterrent at all in the intervening period.<sup>144</sup>

Even though the CF-105 and its Orenda Iroquois engine would be better than any other Allied existing or planned interceptor aircraft, there was only a slim chance that other nations would buy it because of national industrial proclivities. With regard to the CF-105's mission, it was a

...defensive aircraft. However, atomic weapons were being reduced in size and it might well be that the aircraft could carry one of these and have a valuable offensive capability, albeit at a relatively short range.

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142. DGHIST, Raymont Collection, file 1329, 3 Mar 55, Cabinet Defence Committee, 104th meeting.

143. Ibid.

144. Ibid.

On the other hand, there had been no suggestions that Canada provide offensive aircraft and, in any event, under present U.S. law atomic weapons from U.S. sources could be handled only by U.S. citizens.<sup>145</sup>

'Atomic Arrows' were out of consideration, for the time being. Cabinet approved the production of the first 40 CF-105's.<sup>146</sup>

The mounting cost of the CF-105 programme prompted Cabinet to review the situation in September 1955. Could other allied aircraft like the American F-102 or the F-101 take on the role instead? Cabinet also heard that the USAF had plans to "modify its F-101 long-range escort fighter to the all-weather role."<sup>147</sup> Cabinet wanted the COSC to present a thorough brief on all aspects of continental air defence, not just the manned interceptor component, so that an informed decision could be made with regards to the future of the CF-105. They wanted to know: "How, for example, did Canadian air defence weapons fit in with U.S weapons systems? What was the relationship of our system to the command structure? Would it be desirable to have a combined command? What effect would the development of ground-to-air missiles have on the CF-105 programme?"<sup>148</sup>

The COSC agreed. They too wanted to deal with new and potentially alarming problems like American plans to deploy

145. Ibid.

146. Ibid.

147. DGHIST, Raymont Collection, file 1329, 27 Sep 55, Cabinet Defence Committee, 106th meeting.

148. Ibid.

...a line of weapons firing guided missiles along the border....[This] would enable missiles fired from the U.S. to engage targets over a narrow strip of Canada. To a certain extent, any influence that could be exerted in the right direction on these plans depended on the contribution Canada was willing to make to the defence of North America.<sup>149</sup>

Which of course played to Cabinet members' fears, particularly Pearson, who was concerned about Canadian sovereignty and American operations on and over Canada. If Canada wanted influence, she had to put up or shut up.

By November 1955, Slement had a special air defence working group produce the appropriate briefing, which was 'field tested' on the COSC first.<sup>150</sup> Restating that the protection of and warning for SAC was paramount and that the protection of industry and administration was a close but secondary role, Slement caught his audience's attention by stating "that the war-making capacity of this continent could not tolerate more than 50 successfully delivered thermonuclear bombs. If the enemy were able to launch an attack involving as many as one thousand bombers, it would mean that more than 950 of these would have to be destroyed en route, in the perimeter regions beyond the built-up areas."<sup>151</sup>

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149. Ibid.

150. It is a voluminous study. See NAC RG 24 vol 2071 file 2-3-2 Pt. 5, 4 Nov 55, "Report by the Working Group to The Ad Hoc Interdepartmental Committee for the Reappraisal of the CF-105 Development Programme."

151. DGHIST The Raymont Collection, file 1308, 1 Nov 55, COSC 584th Meeting. It should be noted here that the typed minutes of the COSC meeting state 50 thermonuclear bombs and 1000/950 bombers but someone inexplicably penciled in 100 for "successfully delivered thermonuclear bombs," 600 attacking bombers, and 500 to be destroyed enroute.

SAC's dispersion to the American mid-west in the mid-1950s dramatically increased the defended area beyond the previously-envisioned northeastern industrial/ governmental 'triangle'. These factors dictated several things. The air defence system had to find a way to increase the probability that the incoming bombers would be utterly destroyed on an individual basis. More interceptor bases, contiguous internal radar coverage (as opposed to early warning from the DEW Line and other sources), better interceptors, and "the provision of an...Air Defence Command Organization" were all needed.<sup>152</sup>

Slemon endorsed the layered defence envisioned by the DRB. There should be two lines of interceptor bases (both missile and manned aircraft). The first should be between the DEW Line and the second line (North Bay, Ottawa, St. Hubert), which would be protecting the northeastern triangle. Canada should get SAGE and coordinate with USAF SAGE sites. The air defence problem, Slemon noted, was not just a Canada/north US/south problem. American air defence forces in Alaska and on the eastern seaboard extension of the DEW Line (which Canada chose not to participate in) contributed to the defence of North America as much as Canadian air defence forces in the centre and to the north did. It required an integrated effort.<sup>153</sup>

Slemon proposed five courses of action to Cabinet:

- (a) Acquire the CF-105, give the CF-100 an air-to-air missile, introduce SAGE, and buy BOMARC.
- (b) Same as (a) with only a few CF-105's

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152. Ibid.

153. Ibid.

- (c) Buy American F-102B, improve the CF-100 with missiles, buy BOMARC.
- (d) Same as (c) with no CF-100 improvement.
- (e) Same as (a) with more CF-105's and no CF-100 modification.<sup>154</sup>

The preferred 'staff solution', of course, was (a).

Guided missiles, multiple radar systems, SAGE, and interceptors were all necessary to counter the variety of threats envisioned by the air defence planners. The air defence system was vulnerable to electronic countermeasures. If only one type of system were employed, the chances of the enemy's countering it were higher. Even though multiple systems drove up costs, it was deemed by both Canadian and American air defence planners to be necessary. The F-102B was not a suitable replacement for the CF-105, since it did not meet RCAF standards for aircraft performance (it had one engine instead of two, which would pose problems for aircraft survival in the northern reaches of Canada), weapons system flexibility (differing and changing missile types), or data processing.<sup>155</sup>

The briefers were instructed to delete the word "cheaper" if it referred to the F-102B in its relationship to the CF-105, and the decision was made not to be too specific when briefing Cabinet about the exact nature of the threat, weapons capabilities, or employment dates/availability of aircraft, as this would be "unwise."<sup>156</sup> For example, the detailed threat estimate was deleted from the presentation.

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154. Ibid.

155. NAC RG 24 vol 2071 file 2-3-2 Pt. 5, 4 Nov 55, "Report by the Working Group to The Ad Hoc Interdepartmental Committee for the Reappraisal of the CF-105 Development Programme."

156. DGHIST, Raymont Collection, file 1308, 1 Nov 55, COSC 584th Meeting.

The RCAF believed that the Soviets had "tested all plutonium, composite, and all uranium fission processes. They have used processes in their tests which indicate a capability for original research and processes which may not necessarily be based on purloined or demonstrated US development."<sup>157</sup> The Soviet stockpile in 1956 was estimated to consist of 44 1-MT weapons, 150 60-kt weapons and 450 5-kt weapons. By 1958 the stockpile would increase to 93 1-MT, 265 60-kt, and 785-5 kt weapons. All were assumed to be boosted uranium or plutonium weapons. If the Soviets accelerated their thermonuclear programme, there would be more MT-yield weapons, probably in the 10 MT range.<sup>158</sup>

In terms of delivery capability, ICBM's would eventually be deployed, but the bomber threat was formidable. The Soviets were estimated to have between 1100 and 1300 bomber aircraft (a mixture of TU-95 BEARs, M-4 BISONS, and TU-16 BADGERs) capable of reaching North America.<sup>159</sup> By 1960, however, the Soviets might introduce 200 additional supersonic jet bombers based on the American B-58 Hustler design currently under development for SAC. BISONS and BEARs would eventually be equipped with a cruise missile system, according to the intelligence estimate. Other threats included submarine-launched cruise missiles, with supersonic

157. NAC RG 24 vol 2071 file 2-3-2 Pt. 5, 4 Nov 55, "Report by the Working Group to The Ad Hoc Interdepartmental Committee for the Reappraisal of the CF-105 Development Programme."

158. Ibid.

159. Note that the TU-4 BULL, of which there were estimated to be 1200 examples was not included since it was a one-way aircraft and was superseded by the other types. The BADGER really was a one-way aircraft as well, though the Soviets were working on air-to-air refuelling techniques with it. See NAC RG 24 vol 2071 file 2-3-2 Pt. 5, 4 Nov 55, "Report by the Working Group to The Ad Hoc Interdepartmental Committee for the Reappraisal of the CF-105 Development Programme."

missiles available by 1965.<sup>160</sup> When briefed, Cabinet deferred the issue until the United States could be sounded out about "sharing in or taking over the whole of the [air defence] programme."<sup>161</sup>

It should be noted here that Dr. Solandt, Chairman of the DRB, retired in March 1956. The reasons are unclear. The media reported that Solandt stated that he thought that his work was done. The media speculated that Solandt wanted more money (he moved to a higher paying position at Canadian National Railroads).<sup>162</sup> What the media did not know was that there was increased friction between DRB and the RCAF over who made air defence policy. As Air Vice Marshal Max Hendrick noted, there was:

A tendency on the part of DRB in the newer fields of ICBM etc to collect all information and consider themselves the sole source thereof for Canadians. Also a tendency to consider themselves the authority to decide on our new weapons system and what they shall be....[The services] should have direct access also to the same sources of information and not depend upon getting this information second-hand from Canadian scientists who themselves have got it from the Americans.<sup>163</sup>

After his retirement, Solandt went to the media with his views. He thought that ICBM's would be built, and that it would take a long time to develop effective defences against them. ICBM's, in his view, made the

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160. NAC RG 24 vol 2071 file 2-3-2 Pt. 5, 4 Nov 55, "Report by the Working Group to The Ad Hoc Interdepartmental Committee for the Reappraisal of the CF-105 Development Programme."

161. DGHIST, Raymont Collection, file 1329, 17 Nov 55, Cabinet Defence Committee, 108th Meeting.

162. U Of T, Solandt Papers, B93-0041/033, 7 Mar 56, "Intercontinental Precedes Effective Defence," Ottawa Citizen.

163. DGHIST, Hendrick Papers, Daily Diary, 24 May 1956.

entire air defence system obsolete. The CF-105 Arrow, he said, would be Canada's last aircraft, and nuclear-tipped air defence missiles would take over its role. In the press briefing, a reporter asked Solandt if a "functioning continental air defence system require[d] the stockpiling of nuclear defensive weapons on Canadian soil."<sup>164</sup> Solandt confirmed that this would be required, which then prompted more questions as to whether a nuclear Sparrow missile would be mounted on the Arrow, questions which Solandt fended off with non-answers.<sup>165</sup>

Though the evidence is not conclusive, Solandt was probably removed after RCAF pressure had been brought to bear. His assertion that ICBM's would render the anti-bomber air defence system obsolete was in direct contradiction to RCAF thinking and threat estimates. Casting doubts on the Arrow programme, the jewel in the RCAF's crown, was nothing short of heretical.

A related air defence problem was the selection of armament for the CF-105 and the CF-100s. As early as 1953, the RCAF had considered the GAR-1 Falcon, an infra-red high-explosive air-to-air missile for the CF-100. The Falcon was, at the time, a projected system and did not as yet exist operationally. DRB initiated its own air-to-air missile programme, code-named VELVET GLOVE. VELVET GLOVE was also a conventional air-to-air missile. While it was under development, DRB realized that it would be effective only against TU-4 BULL-type targets and unable to deal with faster jet bombers. Consequently, the RCAF chose to pursue acquisition of the

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164. U of T, Solandt Papers, B93-0041/033, 7 Mar 56, "Intercontinental Precedes Effective Defence," Ottawa Citizen.

165. Ibid.

AIM-7 Sparrow II, which was on the US Navy's drawing boards at the time. Sparrow II was an active radar homing missile which was originally configured to carry a high-explosive warhead. In 1955, the RCAF considered using Sparrow II to increase the CF-100's capability.<sup>166</sup>

In September 1955 Slemon was reminded by his staff that the Americans were pursuing nuclear air-to-air weapons development and that this topic kept coming up in bi-lateral discussions. RCAF participants in these discussions had no guidance, since the RCAF did not as yet have an explicit policy on them. RCAF planners were concerned that there was not enough information on the weapons to incorporate them into future interceptor designs or the CF-105.<sup>167</sup>

The signing of the 1955 Canada-US nuclear information sharing agreement allowed Slemon to make a formal request to the USAF for the appropriate information on nuclear air-to-air missiles. The request was phrased as a 'weapons compatibility study' for the CF-105 and CF-100 aircraft. The USAF was enthusiastic and was willing to send a team to Avro to study the two aircraft and make recommendations. The Air Staff was "impressed by the sincere willingness of the USAF to cooperate in the exchange of atomic information."<sup>168</sup>

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166. For information on VELVET GLOVE, see Goodspeed, DRB pp. 129-133; DGHIST file 79/429 Vol. 5, VCAS, "Divisional Items of Interest Week Ending 22nd Jan 53;" VCAS, "Divisional Items of Interest Week Ending 12th Feb 53;" DGHIST file 79/429 Vol. 7, VCAS, "Divisional Items of Interest Week Ending 16 Jun 55."

167. NAC RG 24 acc 83-84/49 vol. 4175 file 1930-106-1 pt. 1, 14 Sep 55, memo Abrams to Slemon, "Atomic Warheads."

168. ATI, 23 Dec 55, memo Cameron to Slemon, "Request For Atomic Information."

The CF-105 armament development team were now able to compare the conventional GAR-1 Falcon and AIM-7 Sparrow missiles with the nuclear MB-1 Genie. (see Table 1)

It would take eight Falcons in multiple attacks against a single target to achieve a 82% chance of killing a BISON and four Sparrows to get a 75% chance, but two Genies had an 80% chance with one pass. The Falcons and Sparrows would not totally destroy the target aircraft, and thus the bomb on board might go off. The Genies would either 'cook' the bomb so it would be useless or physically destroy it along with its carrier aircraft.<sup>169</sup>

The path leading to accepting the MB-1 was not clear, however. The analysis team did not posses information on the nuclear versions of Falcon and Sparrow, though they probably had some inkling that they were in the works. Development of the W 42 warhead for Falcon and Sparrow did not, in fact, start until 1956. In addition, a complicated legal process to acquire the right to build conventional Sparrows in Canada was underway. Sparrow II, in any case, encountered severe developmental problems of all kinds and the RCAF looked towards the Sparrow III, a conventional radar-guided as opposed to a radar-homing missile (Sparrow II).<sup>170</sup>

This probably prompted the RCAF to examine the feasibility of acquiring the MB-1 for its interceptor aircraft. In October 1956, the COSC was apprised by American authorities that they would be deploying the MB-1 Genie/F89J Scorpion combination in November (it is unclear as to what

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169. NAC RG 24 vol 2071 file 2-3-2 Pt. 5, 4 Nov 55, "Report by the Working Group to The Ad Hoc Interdepartmental Committee for the Reappraisal of the CF-105 Development Programme."

170. Hansen, U.S. Nuclear Weapons pp. 106, 178; DGHIST, Hendrick Papers, Daily Diary, 30 Nov 1956.

**Table 1: Planned CF-105 Armament Comparison, 1955**

Missile Type	Warhead	Number	p/k BISON-type	p/k B-58-type
GAR-1 Falcon	High Explosive	8	82%	38%
AIM-7 Sparrow II	High Explosive	4	75%	46%
MB-1 Genie	Nuclear	2	80%	40%

Source: NAC RG 24 vol. 2071 file2-3-2 Pt.5, 4 Nov 55, "Report by the Working Group to the Ad Hoc Interdepartmental Committee for the Reappraisal of the CF-105 Development Programme."

impact the Suez Crisis had on this decision, but it was probably a major factor given the severity of the Soviet nuclear threat against NATO members). The Americans were concerned about the political impact of MB-1 overflights in Canada and requested guidance from their Canadian counterparts. Foulkes did not think that the COSC had enough information on the MB-1 system to go to Cabinet and explain the situation. Slemon informed Foulkes that:

...any agreement which might be entered into with the United States should include complete exchange of information on atomic defensive missiles. While there had been continued improvement in the exchange of operational information concerning such missiles, technical information which would allow an appreciation of the risks involved in the use of such weapons was still not available.<sup>171</sup>

An urgent request was sent to the USAF for an MB-1 briefing, with the reply that a team would be sent immediately.<sup>172</sup> The rapid American response to this request was brought on by the fact that the first F-89J Scorpion squadrons were going on alert with their MB-1's in November 1956, the first squadron located at Presque Isle Maine, practically on the

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171. DGHIST Raymont Collection file 1308, 3 Oct 56, COSC Special Meeting.

172. USNARA RG 59 box 3219, memo to files, "Proposal to Canada concerning the use of nuclear Air-to-Air Weapons," 19 Nov 56; memo to files, "Proposed Use of Air-to-air nuclear Missiles Over Canada," 23 Nov 56; keep in mind that Operation PLUMBOB was several months away, and the RCAF had not yet been invited to watch Shot JOHN.

Canadian border.<sup>173</sup> Major General Richard Coiner, USAF, accompanied by a bevy of five colonels, briefed the COSC later that month.

Before he went to Cabinet, Foulkes stated that there were three things that had to be sorted out. Agreements had to be made regarding the use of the weapon from American aircraft in Canadian airspace, as well as criteria for landing and taking off of MB-1-armed USAF aircraft from Canadian bases. The Chief of the Air Staff had to be convinced that the weapons were safe. Finally, there had to be some public affairs arrangements made for public consumption if the matter came to light in the press.<sup>174</sup>

The COSC and the USAF agreed that, if permission were given to operate MB-1-equipped aircraft over Canada, the same conditions would apply as in the United States. If an already identified hostile aircraft was inbound, conventionally-equipped interceptors would make confirmation first before an MB-1 would be used. Coiner invited an RCAF team to inspect the weapon itself, along with its safety precautions. If a weapon were inadvertently dropped or fired over Canada, the RCAF had authority to handle the clean-up, along with American teams if necessary. As for public relations, if the weapons were deployed to Canada, Canada would be consulted first, not merely informed.<sup>175</sup>

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173. See Bert Kinzey, F-89 Scorpion (Waukesha, Wisconsin: Detail and Scale Publications, 1992) p.p. 12-13. See also Green, The First Line p. 329, 342, 362. The American State Department was not informed (it had no real need to know) and it believed that the first MB-1 deployments occurred in January 1957. Consequently, State Department documents reflect this idea. See USNARA RG 59, memo to Dulles from Elbrick, "Proposed Agreement Permitting Use of Air-to-Air Nuclear Missiles Over Canada," 17 Jan 57.

174. DGHIST Raymont Collection file 1308, 21 Nov 56, COSC Special Meeting.

175. Ibid.

Ralph Campney briefed Cabinet in December 1956, after the RCAF/DRB team inspected the MB-1's safety precautions. Cabinet had no real problem with the COSC-USAF arrangements, except for the publicity part. The members were extremely concerned about political fall-out if they had to explain "why Canada had to rely on the U.S. to defend us with this type of weapon when they were not prepared to let us have any of them." If, however, "the U.S. law were changed, the U.S. might offer to sell similar weapons to Canada and RCAF aircraft would be equipped with them. Indeed, Canadians would probably be surprised if the request were refused."<sup>176</sup> One member noted that there would be a "difficult problem of who would decide when these would be used."<sup>177</sup> In the end, Cabinet decided to develop a permanent Canada-US agreement in the future. However, the USAF was authorized to conduct MB-1-armed interceptor overflights for the next six months if they adhered to the informal COSC-USAF agreement.<sup>178</sup> The Americans made the announcement in February 1957, after consulting with External Affairs. The announcement evoked only mild curiosity in the House of Commons and then only from one MP who wanted to ensure that the MB-1 was not actually tested over Canada.<sup>179</sup>

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176. DGHIST Raymont Collection file 1331, 19 Dec 56, Cabinet Defence Committee, 112th Meeting.

177. Ibid.

178. Ibid.

179. USNARA, RG 59, message State to Amembassy Ottawa, 15 Feb 57; State to US Information Agency, 18 Feb 57; Embassy, Ottawa to State, "Canadian Statement Regarding United States Announcement on Deployment of Air Defense Nuclear Weapons," 26 Feb 57; message Ottawa to State, 21 Feb 57.

The information acquired by the RCAF and the DRB altered the course of thinking with regard to CF-105 and CF-100 armament. The Sparrow was slow to appear, and the Falcon was unsuitable. Now there was a production weapon, the MB-1, which was already operational in the United States. If American legislation could be altered, the RCAF stood a chance of acquiring MB-1 for its interceptors.<sup>180</sup> The cavernous CF-105 weapons bay, which could carry eight Falcons or four Sparrows, would require little modification to carry two or more MB-1's. The problem would be the fire control system. Could the planned fire control system be modified to handle the MB-1? Would the new government of John Diefenbaker push the Americans to allow Canada to buy the MB-1? The outcome was not certain in the waning days of 1956, during a national election campaign in which the Liberal government of Louis St Laurent was on the ropes and did not know it yet.

The RCAF also pursued guided missile acquisition concurrently with the CF-105 developmental programme. This was an outgrowth of thinking initiated in 1954 with the RCAF/DRB guided missile air defence study. The first step was the elimination of the Army's Anti-Aircraft Command. AAC was equipped with conventional 90mm and 3.7 inch anti-aircraft guns. RCAF arguments that point defence was useless in the thermonuclear age struck a chord with Foulkes, who pushed Simonds to eliminate the capability. Simonds countered with a plan to give the Militia the anti-

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<sup>180</sup> DGHIST, Raymont Collection file 1309A, 9 and 11 Jan 57, COSC Minutes of the 603rd Meeting.

aircraft responsibility and retain the guns. This option was out of the question, and Simonds lost another round with the RCAF.<sup>181</sup>

The Canadian Army logically tried to develop a requirement for the Nike system, which they of course would man. This approach was modeled on the US Army's experience with the Nike versus BOMARC debate in 1952.

The US Army was able to produce a functioning anti-aircraft missile before the USAF and thus was able to stay in the game.<sup>182</sup> The Canadian Army had some limited success. It was able to convince COSC to establish a Combined Air Defence Study with the RCAF with the express purpose of examining the guided missile situation. The working committee handling this project concluded that perhaps there should be a BOMARC area defence line and a Nike B (nuclear-tipped Nike) point defence line in Canada. Other missile alternatives like Talos, Nike 3, and the L253, however, should be studied as well.<sup>183</sup> Naturally, the RCAF was not too crazy about this plan and reiterated that point defence missiles were useless if the enemy employed thermonuclear weapons.

The problem was complicated by a 1955 US Army request to station Nike sites on Canadian soil in Ontario to cover the Detroit-Windsor and Niagara-Welland areas. This request posed political problems similar to those encountered with the MB-1 overflight situation.<sup>184</sup> How could the

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181. DGHIST, Raymont Collection file 1308, 29 Mar 55, COSC Minutes of the 578th Meeting.

182. See Bacevich, The Pentomic Era.

183. DGHIST file 423.009 (D14), 29 Apr 55, AHQ, "Combined Air Defence Study."

184. DGHIST file 423.009 (D14), 10 Aug 55, "Anti-Aircraft Defence of Canada: Visit of VCGS to Air Defence Command, RCAF, 2 August 1955;" 26 Jul 55, AHQ, "AA Conference at ADC."

government explain to the public the need for more American continental defence forces equipped with nuclear weapons to be stationed in Canada? Who would command them? COSC was able to nip this problem off at the bud. In discussions with the Americans, Foulkes argued that Canada herself could not afford the expense of acquiring the Nike system. It would "raise grave political issues as to why [such a defence] was not put into effect for every major Canadian population centre." A US Army Nike unit positioned in southern Ontario would lead to further requests elsewhere for Nike coverage. COSC believed that acquisition of an area defence system like Nike and placing it further north under Canadian command would solve the problem.<sup>185</sup>

The Army and the RCAF eventually reached a rapprochement, but only after Simonds left and Graham took his place as CGS. Point defence was too costly for Canada to get involved with, and it was a dubious proposition. It would limit already scarce dollars which should be spent on higher priority systems, like the CF-105 and BOMARC.<sup>186</sup>

This situation left the RCAF free to explore area defence systems. The previously-discussed reappraisal of the CF-105 programme looked at the alternatives. There were four choices: nuclear and conventionally-armed BOMARC or Talos systems. Talos was a liquid-fueled ramjet missile under development by the US Navy. In its nuclear version, Talos had a W 30

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185. DGHIST, Raymont Collection file 1308, 21 Feb 56, COSC Minutes of the 589th Meeting.

186. DGHIST The Raymont Collection file 1308, 13 Jan 56, COSC Minutes of the 587th Meeting.

warhead with a .5 kt yield.<sup>187</sup> Unlike the BOMARC B with its range of 250 miles, Talos could reach out only to 100 miles. Where the BOMARC had a ceiling of 80 000 feet, Talos could reach 70 000 feet (see Table 2 for the probability of kill against BISON and B-58-type targets).<sup>188</sup>

Even though the Army proposed a Talos line stretching from Montreal to Sault St Marie to back up an RCAF BOMARC deployment,<sup>189</sup> the path was clear: BOMARC with a nuclear warhead was the area defence weapon of choice for the RCAF in conjunction with the CF-105.

The RCAF, in contrast to the RCN and the Army, developed a rather inflexible force structure as part of its response to the new strategy. Aside from TAC supporting the Mobile Striking Force and MAC handling the maritime air component of the ASW system, the RCAF effort was overwhelmingly geared towards air defence, both in Europe and North America. Air Transport Command did provide strategic airlift for the UNEF expedition in 1956, but its primary task was peacetime resupply of RCAF forces in Europe and North America. The RCAF was, on the whole, a force structured to fight Phase I of an MC 48 war. It did not have the capability to conduct any operations short of general war, nor did RCAF strategic thinking take such operations into account in any way during the 1952-1957 time frame. Again, in contrast to RCN and Army thinking, the RCAF policy process was a significantly more political one, primarily

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<sup>187.</sup> Hansen, U.S. Nuclear Weapons pp. 186-187; Friedman, The Postwar Naval Revolution pp. 52,58.

<sup>188.</sup> NAC RG 24 vol 2071 file 2-3-2 Pt. 5, 4 Nov 55, "Report by the Working Group to The Ad Hoc Interdepartmental Committee for the Reappraisal of the CF-105 Development Programme."

<sup>189.</sup> DGHIST file 423.009 (D14), 22 Oct 55, AHQ, "CONAD Planning."

**Table 2: Surface-to-Air Missile Comparison, 1955**

Missile	Warhead	p/k BISON	p/k B-58-type
Talos	High Explosive	80%	50%
Talos	Nuclear	80%	80%
BOMARC	High Explosive	50%	35%
BOMARC	Nuclear	80%	80%

Source: NAC RG 24 vol. 2071 file2-3-2 Pt.5, 4 Nov 55, "Report by the Working Group to the Ad Hoc Interdepartmental Committee for the Reappraisal of the CF-105 Development Programme."

because of the vast cost of the air defence system in North America and the myriad of sovereignty issues produced by the Canada-U.S. special relationship.

## Conclusion

The rapidly evolving defence concepts and defence technology in Europe and North America coupled with the nature of the threat demanded the acquisition of nuclear weapons so that Canadian forces could fight effectively and thus deter enemy action prior to the outbreak of a conflict. All three armed services reached the conclusion by late 1956 that they needed nuclear weapons and the means to deliver them. There were several reasons for this conclusion. Canada's military contribution to deterring the Soviet threat was small but qualitatively good in 1954-55. To remain militarily effective and thus politically salient, the services had to keep up technologically to meet the threat, even to the point where the Army explored whether Canada should have her own nuclear weapons. All of this was driven by the problems encountered in developing a flexible force structure that could operate in defence of North America and the defence of Western Europe. The Army had the Mobile Striking Force in Canada and a brigade group in Europe; the Navy was capable of conducting ASW operations on both sides of the Atlantic; and the Air Force provided air defence forces on both continents. Canadian forces were now structured to operate in short combined conventional-nuclear war, but the ability to handle a large-scale protracted war was waning due to the cost both. The force structure was, however, fully responsive to Canada's national security

requirements as accepted and established by the elected Government of the day and was set up in an excellent position to accept nuclear armament to remain effective. The RCN concluded that the most effective means of dealing with nuclear submarines was nuclear weapons, the Army understood the role that missiles would play in a land battle, while the RCAF was intrigued with the possibility of equipping its new interceptor with nuclear air defence weapons and by the possibility that guided missiles equipped with nuclear warheads could be acquired. 1 Air Division planners also noted that active air defence in Europe was changing and were demanding a new role so that Canada could remain relevant in NATO.

The most important long-term issue with the development of Canada's force structure was the recognition by the RCAF first, and the RCN later, that if Canada did not participate in the defence of Canada with up-to-date weapons (including nuclear weapons), Canada would not have any ability to influence the course and nature of such a defence. Canada had to have a high-quality military contribution and could not just contribute geography. In effect, if Canada's committed forces were incapable of doing the job, somebody else would do it for Canada. This was unacceptable from a political standpoint at a minimum, let alone national pride and self-respect at the maximum. There would be long term repercussions to deciding to defend Canada actively and then not providing the resources to do so.

Events in 1957, however, would derail the linear logic dictating the acquisition of a nuclear capability, no matter what form it came in. John Diefenbaker was elected as Prime Minister. The intricate series of defence problems developing between 1954 and 1957 would coalesce in 1958-1959 with

the Diefenbaker Government's tampering and produce Canada's most serious post-war crisis by 1962.

CHAPTER 5

THERE WAS ONLY ONE CATCH... A NEW STRATEGY EVOLVES AND  
DIEFENBAKER TAKES CONTROL. 1956-1957

### Introduction

Thus far, Canadian military nuclearization had taken a relatively linear path. The strategy had been identified and accepted. Information on nuclear weapons effects and capabilities was acquired. The three armed services had studied this information and modified their doctrine to accommodate the new environment imposed by the threat of nuclear weapons use on the battlefield. The fourth step was, logically, to acquire nuclear weapons so that those forces could be effective and contribute to the deterrent system. The strategy itself was undergoing an evolution which would make the fourth part possible. Unfortunately for the programme, the Liberal St Laurent Government was unseated by the Progressive Conservative party led by John Diefenbaker in 1957.

This is a transition chapter that examines two near-simultaneous events which had great influence on Canadian national security policy development over the next six years. It thus serves as a base for the next six chapters. First, in 1956-57 NATO strategy evolved in response to an increased American willingness to make nuclear weapons available to its allies and a new debate over small conventional and/or peripheral threats to the NATO area. In essence, NATO planners proposed that NATO nations should adopt a relatively flexible force structure which would incorporate a large number of nuclear weapons into it. Canada favoured a flexible

interpretation of the new strategy, known as MC 14/2, but the British, did not. Acceptance of the British position would make Canada's forces less than relevant and impose drastic changes on her carefully constructed force structure with negative consequences to Canada's ability to influence her allies. This British position had to be deflected without jeopardizing the American offer of a nuclear force structure to NATO. Without an adequate conventional-nuclear balance in the force structure, NATO would not be able to carry out its strategy.

Second, the change in the Canadian Government highlighted the problems of communicating the defence programme during and after the transition period. What happens, for example, if a new Government is not inclined to support the carefully constructed and expensive national security policy but at the same time is not inclined to implement a concrete alternative? This dilemma affected Canada's efforts to develop with the Americans a joint continental air defence command, NORAD, a problem which would have long term effects on Canada-US relations, let alone the defence of the strategic deterrent on which NATO as a whole relied. It also affected, to a lesser extent, NATO's ability to implement the new strategy evolution. Finally, this chapter will provide insight into John G. Diefenbaker's personal and foreign policy outlooks, other factors which would have long-term effects on Canadian national security policy.

#### Canada and the Development of MC 14/2 (revised), 1956-1957

In Chapter 2, we examined in detail the 1954 MC 48 concept which provided the two-phase pattern of war, the need for nuclear weapons use in

the initial stages of a conflict, the need for a sensor/alert and air defence system, and the new emphasis on forward defence of the NATO area. Canadian defence policymakers adopted what was referred to as the "MC 48 Concept" as the basis for Canadian strategic policy.

Other NATO nations, however, were having problems with adapting to MC 48. The popular conception of nuclear weapons in Europe revolved around the idea that nuclear weapons reduced defence expenditures by reducing the need for large, expensive conventional forces. Consequently, pundits argued, existing conventional forces could be reduced and money saved. The reality of the situation was that nuclear weapons replaced the projected large conventional forces above and beyond those already in existence, not those forces already deployed in Europe. Implementation of the MC 48 concept would in fact increase costs in certain areas (airfield infrastructure, for example). NATO policymakers asked that some form of priority be placed on elements of the NATO force structure.<sup>1</sup>

A further problem arose over the how nuclear support would be provided by the United States if the other NATO members restructured their forces to fight in a nuclear environment. Foulkes noted that

At present...the support of the forces in Europe by atomic tactical weapons, both missiles and bombs, must be handled by U.S. detachments attached to European formations. This oblique support is not convincing enough to persuade the Europeans that they can count on this kind of support to replace the conventional weapons which now exist. This...creates some uneasiness as there is no assurance that it will be a continuing support if the United States decides to reduce its efforts in Europe. Therefore it will be necessary for the United States to amend its laws and give a much wider interpretation ...so that the European partners can be assured of

1. NAC RG 25 vol 4499 file 50030-K-40 Pt. 3, POEADQ, 25 Nov 55 39th Meeting; RG 25 vol 4495 file 50030-E-1-40 Pt. 1, 17 Jul 56, memo Foulkes to Pearson, "Note On Reappraisal of the Military Requirements of NATO."

continuous tactical support and eventually have this support in their own hands. Considerable feeling still exists in Europe that the United States treats the European forces as second-rate forces....<sup>2</sup>

At the same time, the British were in financial trouble and sought to reduce their defence expenditures by reducing their forces stationed in West Germany. Pearson noted in a February 1957 Cabinet meeting that there was a "good deal of confusion in U.K. thinking", and that British individuals conveyed the impression that "the U.K remained an independent world power but this was no longer economically or physically possible."<sup>3</sup> This belief, however, did not prevent the British from pushing their perspective in NATO circles.

The other European NATO members and the Americans were horrified, since existing conventional forces stationed in Europe were already below the minimum needed to defend the NATO area. The British, at the same time, pushed for a re-appraisal of NATO strategy so that the role of conventional forces could be 'clarified', that is, modified.<sup>4</sup>

Canadian policymakers were concerned about these problems, as they understood the vital need to keep forces in Germany for forward defence, and they feared a serious disruption in the Alliance which could be exploited by the Soviets.<sup>5</sup> The British favoured a 'wise men' ad hoc

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2. NAC RG 25 vol 4495 file 50030-E-1-40 Pt. 1, 17 Jul 56, memo Foulkes to Pearson, "Note On Reappraisal of the Military Requirements of NATO."

3. NAC RG 2 vol. 1852 file Jan-Mar 57, 14 Feb 57, Cabinet Conclusions.

4. See Wampler, Ambiguous Legacy Ch. XI.

5. NAC RG 25 vol 4495 file 50030-E-1-40 Pt. 1, 17 Jul 56, memo Foulkes to Pearson, "Note On Reappraisal of the Military Requirements of NATO."

committee approach for strategic reappraisal, which they would try to influence directly. Almost all Canadian policymakers opposed this method, including Foulkes and Solandt. Foulkes thought reappraisal should go to the Standing Group, while others, including the new Deputy Minister, Frank Miller (who replaced Bud Drury and would later become Chief of the Defence Staff) thought that SHAPE should handle it.<sup>6</sup> Any alternative to an ad hoc committee approach was desirable to stave off the British proposal.<sup>7</sup>

Over the course of 1956, the so-called 'trip wire thesis' emerged both internally within NATO and within the professional strategic analysis community. Under a 'trip wire' strategy, the conventional/tactical nuclear forces in Europe were not expected to defend the NATO area. If they were attacked by Soviet forces, such an attack would trigger SAC and RAF Bomber Command to attack the Soviet Union with nuclear weapons immediately. Thus, the logic went, conventional/tactical nuclear forces could be reduced dramatically in Europe, since they would merely serve as sacrificial offerings, and everybody would save a lot of money.<sup>8</sup> Not surprisingly, the British were the primary proponents of a NATO 'trip wire' strategy, closely followed by elements within USAF's Strategic Air Command. The antecedents for such an approach were embedded into the 1952 British Global Strategy Paper.

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6. Miller was an Air Vice Marshal who was asked to replace Bud Drury as Deputy Minister of National Defence. Since this was a political position, he had to retire and don a civilian suit. Later, he was called to be the first Chief of the Defence Staff and he put his uniform back on to become Air Chief Marshal Miller in 1964.

7. NAC RG 25 vol 4499 file 50030-K-40 Pt. 3, POEADQ, 25 Nov 55, 39th Meeting.

8. NSA, 27 Aug 56, memo Edwin Martin to Robert Bowie.

This concept had a number of problems. No serious thought was given to why the Soviets would attack Europe in the first place. No thought was given to conflicts peripheral to the NATO area and their possible effect on a NATO-Warsaw Pact confrontation. West Germany would be completely sacrificed if such a concept were adopted, and this was not acceptable. What if the enemy was not deterred? Even President Eisenhower was having second thoughts on NATO's planned heavy reliance on nuclear weapons.<sup>9</sup>

Canadian policymakers, particularly Mike Pearson while still Secretary of State for External Affairs under St Laurent, took note of these developments. By July 1956 Canada formally pushed for a reappraisal of NATO strategy to prevent the 'trip wire' strategy from being formally adopted. The NATO Permanent Representatives would supervise the Military Committee, who would produce a strategic concept for the 1956 Ministerial Meeting to be held in December.<sup>10</sup>

In a meeting with US JCS Chairman, Admiral Arthur Radford, Foulkes tried to steer Radford to support this position. Foulkes informed him that, against the British Chiefs of Staff's advice, "the British [Foreign Office] assess the danger of a world war as practically negligible, therefore, they come to conclusion that NATO ground forces can be reduced to the 'trip wire' formula."<sup>11</sup>

Both SACLANT (Wright) and SACEUR (Gruenther) presented their view to the Military Committee. They wanted to include regional planning

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9. DDRS 1977 frame 355C, memcon Radford, Taylor, Goodpaster, and Eisenhower, 24 May 56.

10. NSA, memo MacArthur to Dulles, "Review of NATO Military Strategy," 27 Jul 56.

11. USN OA, Radford Papers, box 3 log: 30 Mar-30 Sep 56, Memorandum for the Record, 20 Sep 56.

guidance similar to that included in MC 14 but which had not been included in MC 48. This would assist the nations contributing forces in their quest in applying their resources better. Wright pointed out that NATO needed clarification on pre-Phase I operations and their relationship to MC 48, a concern expressed by Pearson and his staff back in 1955 when they assessed the impact of MC 48 on strategic planning. Wright wanted to develop a limited war concept as an adjunct to MC 48 or as an integral part of any new concept.<sup>12</sup>

All of these factors coalesced in a process which produced MC 14/2, which was hotly debated in the Military Committee throughout the Fall of 1956. The draft for the Military Committee was, in George Ignatieff's (then a member of the Canadian NATO delegation) view, "a re-write of several Military Committee papers, it is inconsistent in many places."<sup>13</sup> Initial Canadian comparisons between MC 48 and MC 14/2 revealed that the draft under consideration in the Military Committee actively promoted "NATO responsibility to deal with aggression in adjacent non-NATO areas."<sup>14</sup> Canadian diplomatic and military analysts looking at countering the trip wire thesis were concerned that

There is no indication that this question of Soviet aggression in non-NATO areas has been dealt with by the [North Atlantic] Council, and it appears that the Standing Group and the International Planning

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12. PRO DEFE 6 file 37, 28 Sep 56, Joint Planning Staff, "Overall Strategic Concept for the Defence of the North Atlantic Area."

13. NAC RG 25 vol 4495 file 50030-E-1-40, 9 Oct 56, memo Ignatieff to Canadian NATO Delegation, "Overall Strategic Concept for the Defence of the NATO Area."

14. NAC RG 25 vol 4495 file 50030-E-1-40, 9 Oct 56, "Comments on IPT 131/20 of 15 Sep 56: Overall Strategic Concept for the Defence of the North Atlantic Treaty Organization Area."

Team<sup>15</sup> have attempted to deal with this subject without securing political guidance from the Council.<sup>16</sup>

In other words, Admiral Jerauld Wright and others had succeeded in getting the Military Committee to recognize the fact that NATO might become embroiled in a conventional war outside the NATO area which might spill over (with or without Soviet involvement) into the NATO area, prompting a conventional response. For procedural reasons, Canadian analysts wanted this problem recognized and formalized by the NAC so that it would have legitimacy if the British tried to eliminate it from consideration using more subtle diplomatic methods.

Canadian diplomats, on the other hand, were concerned that recognition of peripheral threats might prompt NATO nations to embark on an action outside or on the periphery of the NATO area and draw the rest of NATO into a larger action which might precipitate war. (Note that Jules Leger, the Canadian representative to NATO, made this point on 5 October 1956, less than a month before the Anglo-French Suez adventure, a peripheral situation which could have sucked NATO into nuclear war).<sup>17</sup> They were also extremely concerned, as they had been in 1955, "as to the interpretation which might be placed on minor actions, such as border incidents, initiated

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15. An ad hoc group drawn from the NATO Permanent Representatives liaising with the Military Committee and the Standing Group.

16. NAC RG 25 vol 4495 file 50030-E-1-40, 9 Oct 56, "Comments on IPT 131/20 of 15 Sep 56: Overall Strategic Concept for the Defence of the North Atlantic Treaty Organization Area."

17. NAC RG 25 vol 4495 file 50030-E-1-40, 5 Oct 56, memo Leger to Foulkes.

by the Soviet Bloc, and whether such incidents would be countered by atomic retaliation,"<sup>18</sup> a point with which Foulkes agreed.

In October 1956, Foulkes addressed the NATO Military Committee and presented the Canadian views relating to MC 14/2. In the COSC view, "so far NATO strategy has succeeded and we believe that a considerable amount of caution should be used in any attempt to water down" the existing strategy. The Soviet leadership "agrees that NATO is the biggest stumbling block to Russian expansionism in Europe. No matter what other people say about NATO we have succeeded in our primary task...." In essence, Foulkes noted, the strategic concept should not move away from two primary points. First, the primary purpose of NATO was to defend the defined NATO area. Second, "that we will retaliate with all the means at our disposal should the NATO area be attacked by any means." Canada was "mindful that there are brushfires on the periphery of NATO which cannot be ignored, but we want to ensure that in dealing with such situations nothing is done to in any way weaken the determination to defend the NATO area...."<sup>19</sup> In other words, the Canadian Chiefs recognized that the priority was the NATO area and it was to be defended by a mixed nuclear-conventional force which gave primacy to nuclear weapons use. Peripheral operations were of secondary consideration, but were not to be completely ignored if they directly affected the NATO area.

MC 14/2 was accepted by the Military Committee on 14 October 1956. It was essentially similar to MC 48 but included a more detailed examination

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18. DGHIST, Raymont Collection, file 1308A, COSC, 25 Oct 56, 599th Meeting.

19. DGHIST, memo donated to DGHIST by Robert B. Bryce, "Statement by the Canadian Representative to the NATO Military Committee, 18 October 1956."

of peripheral matters and the possibility that the Soviets might initiate conventional measures short of general war against NATO. It also included forward defence (conventional and nuclear) of the NATO area as first priority, followed by strategic nuclear use as second priority.<sup>20</sup>

The British reacted violently to MC 14/2. They argued, as the Canadian analysts predicted, that adding the conventional/peripheral elements had not been sanctioned by higher authority and that they should do so first before any such alteration was incorporated into the new strategic concept. The Military Committee agreed and sent an information copy to the NAC and the original to the drafters for revision.<sup>21</sup>

What did this mean in the larger sense? The British did not want to spend money on conventional forces and wanted to rely on strategic nuclear use as the only deterrent. If NATO recognized that peripheral or small-scale conventional conflict were possible forms of conflict that the Soviets might use against NATO, then money would have to be spent on both conventional, tactical, and strategic nuclear forces if the British wanted to participate in and have influence over NATO strategy and operations. If Britain chose to limit itself to one or two of the three activities, it would limit its influence. It did not have enough money to do all three, so the British attempted to force NATO to limit its activities so that the level of British participation would remain high and thus the British could maintain influence.<sup>22</sup>

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20. Maloney, War Without Battles pp. 126-129; NAC RG 25 vol 4495 file 50030-E-1-40, 9 Oct 56, "Comments on IPT 131/20 of 15 Sep 56: Overall Strategic Concept for the Defence of the North Atlantic Treaty Organization Area."

21. NAC RG 25 vol 4495 file 50030-E-1-40, 24 Oct 56, message NATO Paris to External, "Military Committee Meeting Oct 1956"; 30 Oct 56, COSC to Members, "Overall Concept for the Defence of the North Atlantic Treaty Organization."

22. This was not the first time the British had attempted such a manouvre. These problems were factors influencing the SACLANT decision in 1952 and the makeup of the

The other perspective, championed by Canada, recognized that strategic nuclear forces had limitations in their ability to deter all forms of Soviet activity, but that strategic nuclear deterrence was the primary factor which limited Soviet activity against NATO directly. The enemy would, as Canadian analysts argued earlier in 1955, try to operate on NATO's periphery and NATO had to have some means to counter such actions short of strategic nuclear use. In addition, West Germany and the geographic factors relating to its proximity to the main threat produced the forward defence imperative. West Germany was the key to European defence. Consequently, all being fair and just, Norway, Turkey, and Greece deserved the same consideration, which in turn produced the need for continued conventional and tactical nuclear support to preserve the NATO area. A mixture of conventional, tactical nuclear, and strategic nuclear forces were required on land, in the sea, and in the air. NATO members noted that the monopoly on nuclear weapons access produced 'second class' NATO members. Thus, the appropriate universal solution was to give all NATO members access to nuclear weapons, which in turn ran into American legal blocks. Some compromise had to be found.

This entire problem was further aggravated by the Soviet intervention in Hungary and by the Suez Crisis. The Franco-British operation (which stripped a considerable number of conventional British and French NATO-assigned army, navy, and air forces) was designed to retain control over the vital waterway which was on the periphery of the NATO Area. A case was made that Abdel Gamal Nasser was influenced by the Soviet Union, and Egyptian nationalization of the canal served Soviet ends. When the Soviets

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NATO naval command structure. See Maloney, Securing Command of the Sea for a full appraisal of the situation prior to 1956.

threatened conventional intervention and then nuclear use against Paris and London, the American nuclear umbrella was not automatically extended over the British and the French. Canada, with close American cooperation, used the United Nations to solve NATO's problem by introducing an ad hoc conventionally-equipped peacekeeping force into the region to reduce tension and monitor Anglo-French withdrawal. Canada was therefore able to demonstrate that conventional forces did in fact have a role to play in peripheral operations involving NATO.<sup>23</sup>

While this operation was underway, the NAC met to discuss MC 14/2. An NAC working group dealing with MC 14/2 argued that NATO had to have a "fully effective nuclear retaliatory force as the major deterrent to Soviet aggression." NATO land, sea, and air forces had to have the ability to:

- (a) keep confidence in the military effectiveness of NATO to prevent external intimidation. To this end the continued stationing of British, Canadian and American forces in Europe is essential.
- (b) deal with local infiltrations and incursions.
- (c) enable Soviet or satellite aggressive intentions to be identified as such.
- (d) deal with limited attacks.
- (e) defend NATO territory against a major Soviet aggression in accordance with the concept of Forward Strategy and to sustain operations until the strategic counter offensive has achieved its objectives.
- (f) protect and maintain sea communications.

Significantly,

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23. Maloney, War Without Battles pp. 106-108; Maloney, "First Time Unto the Breach...."

...[NATO] forces required for an effective shield must, of course, have the capability to deal with limited armed attacks without recourse to nuclear weapons. Should the situation so require they must also be prepared and capable of responding quickly with nuclear weapons to any type of aggression.<sup>24</sup>

The working group report was analyzed by members of Canada's Panel on the Economic Aspects of Defence Policy (the Panel). The External Affairs members on the Panel were confused. Did the NAC working group want a force structure that could enact a conventional pause prior to nuclear weapons use if a limited situation went out of control (note that the 'pause' idea would appear in NATO circles in the early 1960s)? Foulkes thought not. After consultations with his European counterparts, he discovered that:

...the concern among European members of NATO about the use of nuclear weapons was largely due to their worry that a revolt in East Germany, for instance, might create such a demand for action in the Federal Republic that fighting across the border might take place. The Europeans feared that if nuclear weapons were used in such an eventuality, World War III would be precipitated.<sup>25</sup>

Conventional forces were still needed to contain such a situation so that it did not escalate into nuclear use. After more heated debate, the NAC sent back MC 14/2 for revision, and the process continued into 1957 after the fallout of the Suez Crisis subsided.<sup>26</sup>

In addition to the final version of MC 14/2, another important document was tabled: MC 48/2 or "Measures To Implement The Strategic Concept."

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24. NAC RG 25 vol 4499 file 50030-K-40 Pt. 4, 22 Nov 56, message Paris to External, "NATO Military Reappraisal."

25. NAC RG 49 vol. 708 file 247-5, vol 4 Pt. 2, POEADQ, 28 Nov 56, 45th Meeting.

26. NAC RG 2 vol. 5775 file 5 Nov-19 Dec 56, 19 Dec 56, Cabinet Conclusions.

MC 14/2 laid out the strategic concept, while MC 48/2 laid out the pattern of forces necessary to implement the concept. Both were approved by the NAC in May 1957. What were the main tenets of MC 14/2 (revised), and how did it differ from the 1954 MC 48 concept and the 1956 version of MC 14/2?

According to the MC 14/2 (revised) concept, war might result from "miscalculation on the part of the Soviets, a misconstruction of Western intentions, or as the result of military operations of a limited nature which the Soviets did not originally expect would lead to a general war."<sup>27</sup> NATO's priority was to develop a defence system that would deter war and, if war occurred, be able to achieve NATO objectives. Nuclear weapons would be used once general war was initiated. If the Soviets started it as a result of a calculated decision, they would use nuclear weapons against NATO nuclear delivery systems first, then other military targets. If war arose from some form of miscalculation or limited conventional operations, the Soviets might use massive conventional forces first, perhaps without immediate nuclear use. In both scenarios, Soviet forces would attempt to isolate Europe from North America and attempt to overrun Europe. To ensure that this did not happen, NATO had to use tactical and strategic nuclear weapons first and use its forces to preserve the NATO Area.<sup>28</sup>

In a section entitled "Alternative Threat to NATO Security", MC 14/2 (revised) stated that the Soviets might deliberately:

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27. DGHIST, Raymont Collection, uncatalogued, NATO Military Committee, (23 May 57) "Final Decision on MC 14/2(Revised): A Report by the Military Committee on Overall Strategic Concept for the Defence of the North Atlantic Treaty Organization Area."

28. Ibid.

...initiate operations with limited objectives, such as infiltrations, incursions or hostile local actions in the NATO Area, covertly or overtly supported by themselves, trusting that the Allies in their collective desire to prevent general conflict would either limit their reactions accordingly or not react at all. NATO must also be prepared to deal immediately with such situations without necessarily having recourse to nuclear weapons. NATO must also be prepared to respond quickly with nuclear weapons....[I]f the Soviets were involved in a local hostile action and sought to broaden the scope of such an incident or prolong it, the situation would call for the utilization of all weapons and forces at NATO's disposal, since in no case is there a NATO concept of limited war with the Soviets.<sup>29</sup>

With regard to threats outside the NATO Area:

...it is necessary to take into account of the dangers which may arise for NATO because of the developments outside that area. In this light, planning for the most efficient organization and the equipment of NATO forces must take into account of the possible need for certain NATO countries to use some of their NATO forces...such as may arise because of the various and changing forms of the Soviet-inspired threat on a world front. This need, however, should, in conformity with their NATO commitments, be harmonized with the primary importance of protecting the NATO area.<sup>30</sup>

MC 14/2 (revised) reiterated the Phase I/Phase II concept which was the foundation of MC 48. The exact division between the two in MC 14/2 (revised) was unclear, since "anti-submarine operations are likely to continue for an indeterminate period."<sup>31</sup> As with MC 48, MC 14/2 (revised) reminded its readers that priority must be given to forces which would contribute effectively to Phase I, though "forces of certain NATO nations may need to

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29. Ibid.

30. Ibid.

31. Ibid.

retain the flexibility required to permit action to meet limited military situation short of general war outside the NATO area."<sup>32</sup>

MC 14/2 (revised) included regional planning guidance as MC 14/1 had but MC 48 had not. The areas affecting Canada included Western Europe, the Atlantic Ocean, and North America.

In Western Europe, SACEUR was to be prepared to "carry out a nuclear strategic counter-offensive and to sustain operations to maintain the integrity of Western Europe until the ability and will of the enemy to pursue general war has been destroyed." SACEUR had to be able to respond to any level of attack with appropriate force. All air, land, and sea units in the region were to have an integrated nuclear capability, as well as air defence. SACEUR was to focus his efforts on destroying the Soviet "nuclear capability, forces, resources, and communications", while defending ports and industrial areas from attack.<sup>33</sup>

With regard to North America, MC 14/2 (revised) reiterated the basic assumptions used by Canada and the United States in their air defence planning,<sup>34</sup> that is, the aim was to protect SAC first and the industrial mobilization base second. The probable means to attack North America would be nuclear weapons launched from aerial and submarine platforms. The Canada-US Region was to:

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32. Ibid.

33. Ibid.

34. The COSC, particularly Slemon, had contributed to the formulation of MC 14/2's North America section. See RG 25 vol 4495 file 50030-E-1-40 Pt. 1, 9 Oct 56, Foulkes to COSC, "Overall Strategic Concept for the Defence of the North Atlantic Treaty Organization Area."

- (a) provide an effective base for and effective protection of, the strategic nuclear counter-offensive capability.
- (b) maintain an effective early warning and air defence system.
- (c) protect as much of the industrial mobilization base as possible.<sup>35</sup>

As for the Atlantic Ocean, NATO was to use it to project nuclear weapons in support of NATO forces and against the Soviet Union; to maintain the vital SLOC to resupply and reinforce Europe in Phase II; and to "reduce to the minimum the number of his units which can penetrate to the broader reaches of the Atlantic and threaten" those SLOCs.<sup>36</sup>

MC 14/2 (revised)'s companion piece, MC 48/2, presented succinct force requirements amplifying those established in MC 48/1.<sup>37</sup> Extrapolating from the logic of MC 48/1, if NATO were to fight a sustained (30 day) nuclear war, it would need intelligence and warning systems, a high degree of readiness, an alert system, a decentralized civil and military command system with delegated authority, and better civil defence measures so that the population base could exist to fight Phase II, all in addition to Shield (tactical nuclear and conventional forces) and Sword forces (strategic

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35. DGHIST, Raymont Collection, uncatalogued, NATO Military Committee, (23 May 57) "Final Decision on MC 14/2(Revised): A Report by the Military Committee on Overall Strategic Concept for the Defence of the North Atlantic Treaty Organization Area."

36. Ibid.

37. NAC RG 25 vol 4495 file 50030-E-1-40 Pt. 1, (date redacted by ATI staff), message NATO Paris to External, "Overall Strategic Military Concept and Measures to Implement This Concept;" 25 Mar 57, JPC, "Measures to Implement the Strategic Concept (MC 48/2)."

nuclear forces). Nuclear weapons had to be ready for immediate use, and forces with their logistic and support elements were to be dispersed.<sup>38</sup>

After some debate, both documents were accepted by the NAC by 9 May 1957. The British still were against accepting alternative forms of conflict, since they believed that "[NATO] must never allow the Soviets to think that there is a NATO concept of limited war....to do so would invite the Soviets to start such limited wars." In the NAC meeting, they attempted to amend MC 14/2 (revised) yet again. The Canadian representative, Dana Wilgress, headed off the British effort, stating that the NATO planners' intent was to have the ability to respond to any level of aggression that the Soviets chose to initiate. If the force structure was not designed to handle such alternative courses of action, NATO would be constrained in its response to Soviet aggression. The rest of the NAC members backed Wilgress, pressured the British representative into accepting his view, and the new strategy was adopted.<sup>39</sup>

The first two parts of the strategic reassessment battle were over. NATO had to implement a force structure to support the strategy. The process which produced this would, in Wilgress' words, "translate for the first time the general strategic concepts into numerical force requirements."<sup>40</sup> This process would produce a force plan, known as MC 70, which would

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38. DGHIST 112.3M2.009 (D226), 21 Jun 63, DMO&P, "Queries and Suggestions by Members of Parliament: Appointment of Special Committee on National Defence;" DGHIST, Raymont Collection, file 1310E, COSC, 10 Jun 58, 623rd Meeting.

39. NAC RG 25 vol 4495 file 50030-E-1-40 Pt. 1, 9 May 57, message NATO Paris to External, "Overall Strategic Military Concept MC 14/2 and MC 48/2."

40. NAC RG 25 vol 4495 file 50030-E-1-40 Pt. 1, 1 Jun 57, message NATO Paris to External, "Council Meeting May 31."

integrate nuclear weapons into NATO's force structure. MC 70 and its implications for an effects on Canada is the subject of Chapter 6.

As noted in Chapters 3, 4 and 5, Canada's force structure as it had developed since the 1954 MC 48 concept resonated with MC 14/2 (revised). The requisite flexibility in the force structure required to deal with the alternative threats existed, that is, Canada's forces could (and did in 1956) handle conventional, peripheral threats. Prior to the advent of the Diefenbaker government in 1957, the only thing stopping Canada from acquiring the integral nuclear capability required by MC 14/2 (revised) and MC 48/2 was the legal inability of the United States to provide the weapons. The new Government's unwillingness to fully accept MC 14/2 (revised) further complicated the problems. This situation was further aggravated by problems brought on by the evolution of the air defence system in North America prior to the 1957 election and the problems of implementing changes to it afterward.

#### The North American Air Defence Command

The NORAD affair was the first of a series of problems in the acquisition of a nuclear capability for the Canadian forces in that it set the tone in the relationship between the Canadian national security policy establishment and the new Diefenbaker Government. Since this problem would continually come back in future chapters to interfere with Canadian national security policy formulation and implementation, it is necessary to introduce the problem here and then proceed with a discussion of the Diefenbaker Government. Since NORAD came about before and during the

transition from the St Laurent to the Diefenbaker Government, it is also necessary to have a clear understanding about what NORAD was first before looking at these future effects.

The NORAD affair has been examined and re-examined by many writers dealing with Canadian-American relations. The prevailing view has been that an integrated Canadian-American air defence command for North America was an evil scheme concocted by the USAF and their Americanophile RCAF lapdogs (and subsequently promulgated by their lackey, Charles Foulkes), with the deliberate aims of subverting Canadian sovereignty and bringing Canada within the American economic orbit permanently. In this view, Foulkes bypassed the so-called democratic process by pushing NORAD's acceptance by the new Diefenbaker Government in the early and confused days of that Government's tenure without approval from the professional diplomats or the people of Canada.<sup>41</sup> Was this in fact the case?

As we have seen in previous chapters, an integrated air defence command and system for North America was a long time in coming, not some last-minute attempt by the military to manipulate the political process. The RCAF Air Defence Command sent its first liaison officers to the USAF Air Defense Command in 1951 by the Military Cooperation Committee to coordinate the Basic Security Plan air defence annex. In 1953, as we have seen in Chapter 2, the Joint Planning Committee concluded, in

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41. See Ian Lumsden (ed) Close The 49th Parallel etc: The Americanization of Canada (Toronto: U of T Press, 1970); James M. Minifie, Peacemaker or Powder Monkey: Canada's Role in a Revolutionary World (Toronto: Maclelland and Stewart Ltd., 1960); J.L. Granatstein and Norman Hillmer, For Better or For Worse: Canada and the United States to the 1990s (Toronto: Copp ClarkPitmen Ltd., 1991); Gerard S. Vano, Canada: The Strategic and Military Pawn (New York: Praeger, 1988); Reg Whitaker and Gary Marcuse, Cold War Canada: The Making of a National Insecurity State, 1945-1957 (Toronto: University of Toronto Press, 1995). The rhetoric is less than facetious.

its assessment of the New Look, that some form of integrated Canadian-American air defence system and command would be needed in the future. In 1954, Air Vice Marshal Slemmon met with USAF Major General Chidlaw, to draft a plan for a single commander of a projected integrated North American air defence system. A joint RCAF ADC and USAF ADC planning group met at CONAD headquarters in Colorado to coordinate air defence planning and brainstorm future integration.<sup>42</sup>

Again, as we saw in Chapter 4, Slemmon confirmed his belief that integration was necessary in his assessment of MC 48 and its impact on the air defence system. At the same time, SAC re-assessed its vulnerability and concluded that the air defence zone should be extended further north to provide better warning and defence of the deterrent.<sup>43</sup> In February 1955, CONAD and RCAF ADC staffers briefed the CUSMSG on air defence problems. The combined RCAF-USAF team thought the "most effective organizational arrangement for air defense of North America was the integration of two air defence systems and the ultimate establishment of a combined command."<sup>44</sup> Slemmon publicly made reference to this study, stating that integration was "inevitable" and was subsequently dressed down by Campney for this remark, but Campney did not halt the ongoing talks between the RCAF and USAF. Eventually, the proposal went to the US

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42. Jockel, No Boundaries p. 93; FOIA, NORAD Historical Office, "NORAD History Highlights."

43. USNARA RG 218 JCS Chairman's files: Arthur Radford file 381, memo to Radford from JSPC, "NSC Briefing on the Vulnerability of SAC," 18 Oct 55; NAC RG 24 vol 20710 file csc 232, 11 Jun 56, memo to the CDC, "Authority to Conduct Joint Site Surveys for the Northward Extention of the Air Defence Combat Zone."

44. DDRS 1978 frame 238 B and C, Report by CoS USAF to JCS, "A Combined Canada-United States North American Air Defense Command," 5 Dec 55.

JCS for consideration, who decided that it might not be acceptable to the Canadian Government given Campney's reaction. The JCS conferred with the COSC, and the plan was sent to the CUSMSG (the Canadian Air Member at this point was Air Marshal C. R. Dunlap, later Chief of the Air Staff from 1962 to 1964) for deeper analysis, which took several months.<sup>45</sup>

By December 1956 the CUSMSG had tabled its air defence integration study. The members thought that a headquarters or staff called ADCANUS (Air Defence, Canada-US) should be established (in order to formalize the existing RCAF ADC-USAF ADC relationship at CONAD). It should not necessarily be a command, but it should have operational control in wartime and develop plans and operating procedures in peacetime, much like a NATO command. ADCANUS would also be similar to a NATO HQ in that the RCAF ADC and USAF ADC would retain command of their operating forces and would conduct a transfer of authority, in the same way SACEUR and SACLANT handled their national forces in the transition from peace to war. ADCANUS would report to both the COSC and JCS.<sup>46</sup>

In January 1956, the COSC passed the plan to Campney and External Affairs for their views. After discussions with External Affairs, Campney directed Foulkes to clarify items of political interest with the JCS before bringing the paper to Cabinet. These included:

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45. Canadian Institute for International Affairs [hereafter CIIA], The John Holmes Papers, file C/III/12D, letter Air Marshal C.R. Dunlap to Clive Baxter; DDRS 1978 frame 238 B and C, Report by CoS USAF to JCS, "A Combined Canada-United States North American Air Defense Command," 5 Dec 55; DDRS 1978 frame 238 B, Report by the JSPO to JCS, "Integration of Operational Control of the Continental Air Defenses of Canada and the United States During Peacetime," 9 Jan 56; DGHIS, Carstairs Papers, 5 Dec 57, "Steps in Development of Integration of Operational Control of Canadian and Continental United States Air Defence Forces in Peacetime."

46. Jockel, No Boundaries p. 102.

- (a) that the planning was capabilities planning and not requirements planning.<sup>47</sup>
- (b) that there would be full Canadian participation in planning on a similar basis to that of NATO.
- (c) that the commanders would report to the Chiefs of Staff of both countries.
- (d) that the deputy commander would be Canadian.<sup>48</sup>

Foulkes briefed the COSC, noting that:

...these proposals will bring the control and planning functions of the air defence of North America into line with similar functions exercised in other NATO commands. The proposals will have the advantage of placing Canada in a position to take a more active part in air defence planning and to have greater control over planning at the staff level.<sup>49</sup>

The JCS concurred and approved the proposal in February 1957, while the COSC prepared to brief Cabinet.<sup>50</sup>

Domestic factors revolving around the upcoming election prevented the proposal from reaching Cabinet. As Foulkes recalled:

I prepared forty copies of the Cabinet defence paper which was approved by Campney and it went to Bryce [Secretary to the Cabinet] for distribution....The Prime Minister called me in with Campney and it was a kind of conversation like this, 'Well,' he said to Campney, 'we're coming back [after the election] aren't we and then

47. Campney did not want to commit 'on the fly' to a potentially expensive Canadian participation in the air defence system without serious and drawn out consultation.

48. DGHIST, Carstairs Papers, 12 Jun 57, Aide Memoire from Foulkes to Pearkes, "Integration of Operational Control of Canadian and Continental United States Air Defence Forces in Peacetime."

49. DGHIST, Raymont Collection, file 1308A, COSC, 1 Feb 57, 604th Meeting.

50. Jockel, No Boundaries p. 103; DGHIST, Carstairs Papers, 12 Jun 57, Aide Memoire from Foulkes to Pearkes, "Integration of Operational Control of Canadian and Continental United States Air Defence Forces in Peacetime."

'we'll deal with this.' And he said to me, 'General is that going to upset you?' I said, 'well, the only thing that worries me is that the [US JCS] have approved this and I am expecting any day to hear that the Secretary of Defense has approved it and it may be a bit difficult because as you know the [Americans] are not too good at keeping secrets.' [St Laurent] said 'I don't feel like taking this on at the moment. Just hold your fire and wait until we come back.'<sup>51</sup>

Foulkes amplified this statement, noting that "As Canada-United States relations could become a political issue, it was considered advisable not to have the paper approved until such time that it was not a political issue."<sup>52</sup> This perspective was transmitted to the Americans, who got the message loud and clear and deferred announcing the arrangement's existence for the time being.

The deferral went on for several months during the election campaign and was again postponed when the Progressive Conservatives defeated the Liberals in June 1957. Two days after the election, Foulkes sent an aide memoire to the designated Minister of National Defence, Major General George R. Pearkes, VC. Pearkes had served in the Army during the First World War, receiving his Victoria Cross after being wounded leading his men during the Passchendaele offensive in 1917. Entering politics after the Second World War, he became the Conservative Party's defence critic in Parliament where, prior to Korea and the Canadian defence build-up, he attacked the King and later the St Laurent government on its lackadaisical approach to defence policy. Later, a favoured Pearkes target was 1 Air Division to Europe (he believed it should stay in Canada to provide air

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51. UVIC, Pearkes Papers, "Interview with General Charles Foulkes, March 9, 1967."

52.DGHIST, Carstairs Papers, 12 Jun 57, Aide Memoire from Foulkes to Pearkes, "Integration of Operational Control of Canadian and Continental United States Air Defence Forces in Peacetime."

defence beyond the twelve squadrons already deployed) and the methods used to raise 25 and 27 CIBG's. Pearkes and Foulkes knew each other intimately, Foulkes having been a staff officer under Pearkes at the start of the Second World War.<sup>53</sup>

The situation reached a point where Foulkes told Pearkes that it:

...might bring about quite a serious deterioration in Canada-US military relations and the matter may be given some publicity. It would further appear difficult to expect another government to be able to deal with a complex military problem of this nature within a few days. It is therefore for consideration whether this matter could be approved subject to confirmation by the incoming government. It should be borne in mind that this procedure would of course involve the incoming government in a joint press statement on a matter of policy to which it would only have a power of veto. On the other hand, to take no action would cause some doubts as to whether international agreements with Canada had continued validity.<sup>54</sup>

On 21 June, Pearkes became Minister of National Defence. Diefenbaker did not immediately appoint an External Affairs minister and thought that he, the Prime Minister, could fulfill both roles. Diefenbaker left abruptly for a Commonwealth conference, and Foulkes tried to see him before he flew off. Unable to do so, he passed the NORAD paper to Pearkes, who would be going on the trip. When the delegation came home four days later, Pearkes told Foulkes: "I talked it over with the P.M. and he thinks it's all right. You might well prepare whatever papers we need to get this thing discussed."<sup>55</sup>

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53. See Reginald Roy's biography of Pearkes, For Most Conspicuous Bravery (Vancouver: University of British Columbia Press, 1977), particularly Chapters 13 and 14.

54. DGHIST, Carstairs Papers, 12 Jun 57, Aide Memoire from Foulkes to Pearkes, "Integration of Operational Control of Canadian and Continental United States Air Defence Forces in Peacetime."

55. UVIC, Pearkes Papers, "Interview with General Charles Foulkes, March 9, 1967."

Foulkes talked to Bryce to arrange a Cabinet Defence Committee to discuss it, but, after consulting Diefenbaker, Bryce told Foulkes that: "There is going to be no committee." Diefenbaker informed Bryce to tell Foulkes that: "This government is going to take its own decisions and not on the prompting of these Liberal officials now."<sup>56</sup> In other words, Diefenbaker was not going to listen to the most experienced voice on defence issues in the government because he was "tainted" by being in too close contact with the policies of the previous Liberal government.

Foulkes recommended that Bryce get the Prime Minister to reconsider, since Parliament was due to open after the election and the Liberals, now led by Pearson, would be in Opposition and would attack the new government on its apparent vacillation on defence policy and international treaties. Bryce did so and told Foulkes that: "He'll have nothing to do with these advisors and he wants no meeting with advisors." Foulkes talked to Pearkes, who took the paper to Diefenbaker. He came back to Foulkes, threw it on the desk and said: "This is approved." Foulkes then inquired whether or not he could arrange a joint public release with the Americans, since Diefenbaker was now in charge of External Affairs, which normally did the work (the senior unelected official in External, Undersecretary of State Jules Leger, was on leave, and the third man in charge was out of the country dealing with the suicide of E. Herbert Norman, former Canadian Ambassador to the Soviet Union).<sup>57</sup>

The American Ambassador to Canada called External to arrange the public announcement and got John Holmes, the acting undersecretary, on

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56. Ibid.

57. Ibid.

the phone. Holmes, who did not know about the past three years of work on NORAD, panicked, wondering where the agreement had come from in the first place. Eventually the proper arrangements for public release were made. NATO was secretly informed first. Pearkes and Charles E. Wilson, American Secretary of Defense, made the joint announcement. It was a bilateral arrangement, not a NATO one, as later alleged, and basically followed the recommendations made in the ADCANUS proposal.<sup>58</sup>

On 12 September 1957, NORAD was established at Ent AFB, Colorado. General Earle Partridge and Air Chief Marshal Roy Slemon were named as CinCNORAD and Deputy CinCNORAD respectively. NORAD officially assumed operational control over all air defence forces in Canada and the United States. In peacetime, NORAD was responsible for "the development of plans and procedures to be used in war...[NORAD] will be responsible for the general pattern of training...in order to ensure the readiness of the forces and facilities in time of emergency."<sup>59</sup> In wartime, NORAD would be "responsible for the direction of air operations in accordance with the plans which have been agreed in peacetime."<sup>60</sup> Specific Terms of Reference were now needed for the commanders so that they could carry these

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58. DGHIST, Carstairs Papers, 12 Jun 57, Aide Memoire from Foulkes to Pearkes, "Integration of Operational Control of Canadian and Continental United States Air Defence Forces in Peacetime;" 1 Aug 57, "Joint Statement by the Secretary of Defense of the United States and the Minister of National Defence of Canada;" 5 Dec 57, "Steps in Development of Integration of Operational Control of Canadian and Continental United States Air Defence Forces in Peacetime."

59. DGHIST, Carstairs Papers, 3 Sep 57, message Foulkes to Partridge.

60. Ibid.

responsibilities out which required political guidance now that the issue was "political."<sup>61</sup>

Meanwhile, Diefenbaker appointed Sidney Smith as External Affairs minister. Formerly President of the University of Toronto, Smith had been a possible contender for the Conservative Party leadership, had impressive party credentials but no foreign policy experience. He was apt to be captured by the staff at External, which in this case meant Jules Leger and others. Smith, possibly acting on Holmes' recommendations, wondered why NORAD had not been handled the "proper way," that is, through a formal Exchange of Notes between governments and debate in the House of Commons. This, of course, was naive thinking, at least to strategic policy insiders. The St Laurent Government had made many defence arrangements without recourse to this formal method, like the 1951 Goose Bay SAC operations and storage agreement, or the 1956 MB-1 overflight agreement, for example. Military command arrangements, including those within NATO, were not done in this formal fashion. Even though the initial commitment of forces to Europe was given Orders in Council, no exchange of notes existed between the United States and Canada or NATO and Canada promulgating the commitment of the RCN to SACLANT. On the other hand, the St Laurent Government had followed the 'proper way' in such matters as the SOSUS and DEW Line systems established on Canadian soil. The reality of the situation was that, despite procedural bickering by some, NORAD formalized and fine-tuned an already existing close liaison between the RCAF ADC and the American CONAD commands. The only difference, which rapidly grew into a big difference,

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61. DGHIST, Carstairs Papers, 1 Oct 57, memo Foulkes to Pearkes, "Progress Resume: Integration of North American Air Defence Forces."

was that the commander wore an American uniform and the Deputy wore a Canadian uniform.<sup>62</sup>

External Affairs had been involved at every step of the way. It had representation on the CUSMSG, for example, and the PJBD/MCC, as well as the COSC. Foulkes liaised with Pearson frequently. How could Holmes say that External did not know what was going on over the past three years?<sup>63</sup>

When Leger returned, he and Smith learned that the COSC was examining the Terms of Reference for the NORAD commanders. If, the COSC told Leger, they were to sort out the terms of reference, any exchange of notes had to be written in broad terms so that the COSC would have room to manouvre with the Americans. Smith wanted the issue handled by an inter-parliamentary Canada-US group, clearly a cumbersome undertaking. This process occurred simultaneously with the concerted Opposition attack on NORAD in the House of Commons, and a full-blown NORAD Treaty would not be signed until 1958.<sup>64</sup> The continuing NORAD saga and its detrimental effects on Canadian strategic policy will be examined in detail in Chapter 7.

The NORAD problem was brought on by Diefenbaker and he should have taken responsibility for it. His was the ultimate authority, and he was responsible for his subordinate's actions. He did not have to approve the

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62. John Hilliker and Donald Barry, Canada's Department of External Affairs (2 vols). (Kingston: McGill-Queen's University Press, 1995), II, pp. 143-146; Jockel, No Boundaries pp. 108-109.

63. CIIA, Holmes Papers, file C/III/12D,(n/d) letter Air Marshal C.R. Dunlap to Clive Baxter; 5 Dec 72, letter Holmes to Roy.

64. DGHIST, Carstairs Papers, 18 Oct 57, memo Smith to Pearkes.

August announcement, and he was given an opportunity to prevent it. He chose not to. He also chose not to pursue a detailed examination of the problem early on in his tenure as Prime Minister; he sloughed it off on a new and untrained subordinate. Perhaps Foulkes acted hastily in the matter, but Diefenbaker's brush-off was not called for. External Affairs was well aware of NORAD's development, as its staff had been part of it, so Foulkes was not pulling the wool over their eyes. Pearkes did not believe that he had been manipulated by Foulkes; he thought there was legitimate pressure from the Americans because they wanted the system up and running as soon as possible for operational/vulnerability reasons.<sup>65</sup> In sum, the negative attitudes generated among the protagonists were a portent of the future and would pose serious problems with Canada's attempts to fully implement MC 14/2 (revised).

#### The Diefenbaker Government: Altering the Defence Policy Process

Before delving into the intricacies of defence policy formulation under the Conservative Government, it is necessary to briefly examine the nature of the 1957 election campaign. John G. Diefenbaker, a lawyer from Saskatchewan and a staunch monarchist, eventually became a Member of Parliament in the 1940s. In the 1950s, Diefenbaker was the Conservative Party's foreign affairs critic in Parliament and continually took shots at the St Laurent Government, particularly its financial and military 'complicity' with the United States (American corporate investment in Canada had

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65. UVIC, Pearkes Papers, "Interview with General George Pearkes, April 7, 1969."

dramatically increased in the 1950s, as had cultural penetration.) He was particularly vociferous after the 1956 Suez Crisis, slamming Pearson for abandoning and then backstabbing the British, and for allowing Nasser to dictate the terms of the UNEF's deployment in-theatre.<sup>66</sup>

John Diefenbaker was the antithesis of Louis St Laurent. "Uncle Louie" was Catholic, French Canadian, and dignified. "Dief the Chief" was Protestant, a Westerner, and histrionic (prompting the alternative nickname, "Dief the Actor"). A charismatic orator, Diefenbaker would appeal directly to the average Canadian's ingrained emotional distrust of the United States, a distrust which was aggravated by American investment in Canada and the proliferation of American bases and military forces operating from Canadian soil. St Laurent could not counter this approach with cool rationalism.

There are two schools of thought on why the apparently successful Liberals lost the 1957 election to Diefenbaker and the Conservatives. One perspective argues that the Liberals were overconfident (they had been in power since 1935) and "afflicted with incurable arrogance, hubris, the quality of blind conceit that invites divine retribution..." and lost the election.<sup>67</sup> An alternative position is that "The electorate got bored",<sup>68</sup> and the Conservatives won the election.

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66. John English, The Life of Lester Pearson 1949-1972: The Worldly Years (Toronto: Vintage Books, 1992) pp. 190-191; Denis Smith, Rogue Tory: The Life and Legend of John G. Diefenbaker (Toronto: Macfarlane, Malcom and Ross, 1995) pp. 206-207; Robert Bothwell et al., Canada since 1945 (revised edition) (Toronto: University of Toronto Press, 1989) pp. 186-189.

67. Bothwell, et al., Canada since 1945 p. 177.

68. Ibid.

St Laurent's policy style, as we have seen, relied on delegating tasks to a network of extremely competent and dedicated defence and foreign policy professionals, both elected and unelected. As with personality, Diefenbaker was St Laurent's antithesis when it came to policy formulation and execution. Personality, more than any other factor, directly affected the course of Canadian strategic policy from 1957 to 1963. It is thus worth considerable discussion here.

Diefenbaker did not like the committee decisionmaking process. Consequently, the Cabinet Defence Committee meetings became less regular than they had been under St Laurent.<sup>69</sup> Under St Laurent, the procedure basically involved a presentation by Foulkes, and then the Cabinet questioned him. Either they would accept the paper under discussion, or reject it and study it further. Under Diefenbaker, Cabinet Defence Committee meetings were generally held only when complex issues were under discussion, and then the manner of their holding was not conducive to making a timely and wise decision. General Foulkes remarked:

...when Diefenbaker had a cabinet defence committee, it was against his better judgment...he wouldn't allow anybody to even explain the paper. He just came in like a prosecutor at court and went around the table and questioned people in the most objectionable manner. Whether he knew what was actually in the paper I never knew because he would never give anybody a chance to discuss [it].<sup>70</sup>

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69. DGHIST, Raymont Study.

70. UVIC, Pearkes Papers, "Interview with General Charles Foulkes, March 9, 1967."

Even Air Chief Marshal Miller, who had a "quiet and retiring personality,"<sup>71</sup> had problems with Diefenbaker:

Diefenbaker thought that all of the Chiefs of Staff were either Liberals, Liberal supporters, or Liberal sympathizers...whether they were Liberals or whether they were just experts in their fields that he was not too sure about himself, and therefore had to be at the mercy of the experts and therefore distrusted them or not, I don't know. I think there was quite a deal of both of it because Mr. Diefenbaker [was] not a man who trusts experts of any colour in fields that he himself [did] not know much about.<sup>72</sup>

Another and possibly complementary factor in the friction between Diefenbaker and the military leadership was his war record. Diefenbaker had served in the First World War, not dishonourably by any stretch of the imagination. He had, however, apparently been compelled to enlist after he had tried various excuses for not participating. He was afraid, as most politicians are, that there would be long-term ramifications in the media if this were known, and he always thought that some general would call up his service record and use it against him for political purposes.<sup>73</sup>

It was not just with uniformed people that Diefenbaker had problems. He had problems dealing with other senior NATO leaders. During the 1958 NATO Ministerial Meeting in Paris, Diefenbaker thought that he had been left off the seating plan. He told Foulkes to take him home because he did not want to be in a place where he was not invited (there was no seating

71. DGHIST, Raymont Study.

72. UVIC, Pearkes Papers, "Interview with Air Chief Marshal F.R. Miller, June 20, 1967."

73. UVIC, Pearkes Papers, "Interview with General Charles Foulkes, March 9, 1967." It is, of course, a matter of speculation as to whether or not Foulkes ever used this to lever any policy decisions out of Diefenbaker.

plan for the head table, as a senior External Affairs official discovered).

After dinner Foulkes then

...found him standing in the corner all by himself and I said to him, 'Now, Mr. Prime Minister, you seem to be alone. Now, I know all these NATO people because I have been in NATO for twelve years. Is there any one you'd like to meet? I know all these other politicians.' 'I don't want to meet anybody', he said, 'first of all they sat me in a draught, then they sat me between a Pole...' I said 'A Pole? There are no Poles here.' 'Well, they sat me between two people who couldn't speak English. I want to go home. Take me home.' So I put him in my car...he said to me, 'You know, you're the first general I ever wanted to speak to...I don't like generals.' And I said, 'what do you mean? Just as a group?' He said, 'I don't like them. I don't like their thinking or anything else'.<sup>74</sup>

The NATO meeting itself was worse. Leger was scared to death of Diefenbaker and didn't control his superior effectively. During a speech-making session, Diefenbaker suddenly demanded that Leger go "get [Paul Henri] Spaak" (NATO Secretary General) and inform him that he wanted to speak next. Spaak stood up and announced that, after the next three delegates were done (since they were scheduled first) "Mr. Diefenbawker" of Canada would speak next. This mis-pronouncement of Diefenbaker's name (it would also cause problems with Diefenbaker's relationship to John F. Kennedy later on) made Diefenbaker furious for the rest of the morning, and he wanted to leave as soon as possible. Without consulting his External Affairs briefs on the matter at hand, Diefenbaker voted for the NATO decision that was under discussion. This was the meeting in which NATO heads of government formally decided to accept nuclear weapons into their

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74. Ibid.

force structures and accept the NATO stockpile plan. The matter under discussion was the acceptance of the nuclear strike role for 1 Air Division.<sup>75</sup>

George Pearkes, introduced earlier in this chapter, was Minister of National Defence. Pearkes has historically been portrayed as being afflicted with various degrees of senility (he was slow on the uptake in Parliament at times and his reasoning sometimes appeared convoluted).<sup>76</sup> This was probably not the case as anybody could easily become physically exhausted working in the Diefenbaker Cabinet. Some have charged that Pearkes was Foulkes' puppet, but this is also unfair. The two men had known each other for years, and Foulkes was somewhat deferential to Pearkes because of his rank and Victoria Cross. That said, Foulkes did wield a lot of influence with Pearkes, who consulted him on a daily basis.<sup>77</sup> If Pearkes was a Foulkes puppet, it was because he chose to be. Even though Pearkes was a general, Diefenbaker trusted him at times, probably because of his solid Conservative Party credentials and record as Defence policy critic.<sup>78</sup>

Pearkes did not think that Diefenbaker's approach to defence policy "functioned very well."<sup>79</sup> Diefenbaker would "rather hear my opinion in his

75. Ibid.

76. Though Reg Roy's interview with Pearkes in April 1969 completely belies this. See "Interview with General George Pearkes, April 7, 1969" in the Pearkes Papers.

77. DGHIST, Raymont Study; see also Roy, For Most Conspicuous Bravery Chapters 14, 15, and 16.

78. DGHIST, Raymont Study; see also Roy, For Most Conspicuous Bravery Chapters 14, 15, and 16; UVIC, Pearkes Papers, "Interview with General Charles Foulkes, June 5, 1967." Note that, in Reg Roy's interview with Green in December 1971, Green continually skated around these issues. See "Interview with The Honourable Howard Green, December 16, 1971."

79. UVIC, Pearkes Papers, "Interview with General George Pearkes, April 7, 1969."

office rather than have one of the Chiefs express an opinion in a committee."<sup>80</sup> Pearkes generally thought that Campney and Foulkes had handled defence matters well during the previous government and did not seek radical change in the programme.

With regard to External Affairs, Diefenbaker viewed the entire department with some suspicion. They had too many "Pearsonalities", in his view, and was concerned about "the Pearson Cult in External".<sup>81</sup> Diefenbaker apparently despised the able Norman Robertson, a Pearson contemporary who had served as Canada's High Commissioner in London during the Suez Crisis, Canadian Ambassador to the United States (1957-58), and Under Secretary of State for External Affairs (the senior unelected official in the department, 1958-1962).<sup>82</sup> Ambassador Livingston Merchant noted that "Norman Robertson's influence with his Minister [Howard Green] is almost negligible. It seems to me that he realizes this and while not exactly lethargic he certainly gives the impression of non-involvement in the big issues."<sup>83</sup> This state of affairs would change.

Diefenbaker preferred to deal with Basil Robinson, a diplomat who was appointed to a newly-created position, External Affairs liaison officer to the Prime Minister's Office. Robinson had been attached temporarily to the PMO when Diefenbaker was his own Secretary of State for External

80. Ibid.

81. Smith, Rogue Tory p. 261.

82. Robertson's story is told in Jack Granatstein's A Man of Influence: Norman A. Robertson and Canadian Statecraft 1929-68 (Toronto: Deneau Publishers, 1981).

83. USNARA RG 59 E 3077 250/62/30/3 Box 1, file: Neutralism, Anti-Americanism 1960-62 1.14, letter Livingston Merchant to Ivan White, 4 Apr 61.

Affairs<sup>84</sup> and was kept on, probably because "the job had been set up so that the Prime Minister could avoid having to deal with Norman Robertson, whom he thoroughly dislikes."<sup>85</sup>

In terms of policy process, Jack Granatstein wrote that:

Memoranda and papers from [External Affairs] came up through the Under Secretary [Robertson] to the Minister [Smith or Green]...Most decisions were made by the Minister. But many had to go to the Prime Minister and these papers came into Robinson's hands. At his own insistence, Robinson dealt directly with Diefenbaker on these important or delicate questions....The Prime Minister liked to give immediate answers and oral responses were the norm, something that required Robinson to make very sure he got the matter straight....If possible, he talked over the subject with Robertson first....There was unlimited room for misunderstanding here.<sup>86</sup>

The special Canadian-American exchange groups like the Military Study Group and the Canada-US Scientific Advisory Team fell into disuse (Raymont states this was due to the creation of NORAD) and were eventually disbanded between 1959 and 1961. The PJBD and the MCC remained in existence, but they became less influential communications media under Diefenbaker. He preferred annual summit meetings with Eisenhower, of which there were two: Camp David in 1959 and Montebello in 1960.<sup>87</sup>

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84. Granatstein, A Man of Influence p. 325.

85. USNARA RG 59 E 3077 250/62/30/3 Box 1, file Ottawa (General) 1961 1/A, memcon Rufus Z. Smith and Jean Fornier, 2 Jun 61.

86. Granatstein, A Man of Influence p. 326.

87. DGHIST, Raymont Study, pp. 116-117.

If other continental matters of an urgent nature arose, the Canada-US Ministerial Committee on Joint Defence (CUSMCJD) could handle them. Established on an ad hoc basis in 1958 after Eisenhower's visit to Canada, the CUSMCJD consisted of the Secretary of State for External Affairs, the Minister of National Defence and the Minister of Finance. The American side included the Secretary of State, Secretary of Defense, and Secretary of the Treasury. The meetings alternated between the capitals, with the chairmanship going to the host. The PJBD and MCC now took their marching orders from the deliberations of the CUSMCJD; they would theoretically investigate continental defence matters and monitor their implementation. According to Raymont, the difference between the CUSMCJD and the PJBD "was one of status" (since the former included Ministers, not civil servants).<sup>88</sup> The division of labour gave nuclear weapons issues, continental air defence issues, NATO long-range studies and defence production sharing to the CUSMCJD, while more mundane issues like employee benefits, disposal of surplus property, and the St. Lawrence Seaway were relegated to the PJBD.<sup>89</sup> In effect, the CUSMCJD was designed not only to limit contact between the Canadian and American militaries and foreign services, but to prevent them from implementing policy on their own with no ministerial oversight.

What of Diefenbaker's foreign policy priorities? Keeping in mind that Diefenbaker was his own external affairs minister until he appointed Sidney Smith and then Howard Green to the portfolio later during the

88. DGHIST, Raymont Collection, 30 Nov 79, "The Evolution of the Structure of the Department of National Defence 1945-68."

89. Ibid.

tenure of his Government, Basil Robinson noted that Diefenbaker's "fear of Soviet power and of the potential spread of communism in Europe and the non-aligned regions of the world was coupled with an emotional commitment to 'freedom,' as exemplified by the Western democratic nations. He was thus a ready supporter of Canadian partnership in the NATO alliance...."<sup>90</sup>

A monarchist, Diefenbaker thought Pearson had done the British wrong over Suez and wanted to "repair the relationship with London" and "enhance Canada's standing in the Commonwealth." Robinson asserts that Diefenbaker wanted to use the Commonwealth as a counterweight to American influence, but does not get into the specifics of such manoeuvring. Essentially, Diefenbaker dabbled with pandering to the so-called emerging nations through the Commonwealth medium. He was not overly impressed with the United Nations as a vehicle for change and initially viewed disarmament efforts as part of Cold War propaganda war, not as serious policy. The factor which overshadowed all aspects of Diefenbaker's foreign policy was his opposition to the St Laurent Government's trade policy with the Americans, which he viewed as extremely damaging to Canadian pride.<sup>91</sup>

Given the chaotic state of the Canadian national security policy formulation process under the Diefenbaker Government, it is not surprising that those who understood strategic policy developed ways to maintain the complicated balance of NATO strategy, Canadian strategy, technological change, and force development. As we will recall from

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90. Robinson, Diefenbaker's World p. 4.

91. Ibid., pp. 4-5.

Chapter 1, the awkwardly-named body known as the Panel on the Economic Aspects of Defence Questions (the Panel) coordinated the financial aspects of the Canadian Mutual Assistance Programme to NATO and the implications of NATO policy on force structure and Canadian financial policy.<sup>92</sup>

After the Lisbon meeting in 1952, NATO nations agreed to set up an annual review process by which (ideally) NATO commanders would assess what forces NATO members had pledged to the commands and recommend changes. Members were not obligated to make those changes, but many took the annual review process as high-level, informed advice and did. In Canada's case, SACEUR and SACLANT were consistently pleased with Canada's contribution and the process did not dramatically affect the course of Canadian policy prior to 1957-1958. The initial impact of the annual review process at the Cabinet level was minimal, because the issues were discussed in the Panel and the response coordinated there before being folded into other policy decisions and then going to Cabinet.<sup>93</sup>

The importance of the annual review to Canada increased significantly in 1957-58, because the new review involved MC 70, the plan to integrate nuclear weapons into NATO forces (the specifics of which will be examined in Chapter 6). Thus, with the inconsistent Cabinet Defence Committee meetings and the Diefenbaker style, the importance of the Panel in

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92. See NAC RG 25 vol. 4498 file 50030-K-40 pts. 1 to 3 for the minutes and memoranda of the Panel on the Economic Aspects of Defence Questions from the years 1951 to 1955.

93. Ibid.

determining Canada's NATO policy (and thus Canadian strategic policy) increased.<sup>94</sup>

The structure of the Panel remained relatively consistent. It included Foulkes, Miller (Deputy Minister of National Defence and later CDS), Bryce (still the Clerk of the PCO), Zimmerman (who replaced Solandt as Chairman of the DRB); A.F.W. Plumtre (Deputy Minister of Finance); Robertson (or other External people like George Ignatieff if the Under Secretary was away), and a member from the Bank of Canada (usually Louis Rasminski, the Deputy Governor).<sup>95</sup>

On the Allied front, NATO personalities were already well-known to Foulkes. He had a long-standing relationship with Lauris Norstad, who became SACEUR in November 1956. Jerauld Wright, who had been SACLANT since 1954, was also a known quantity. Admiral Radford, the helpful US JCS Chairman, was replaced by an equally helpful General Nathan F. Twining, USAF in the summer of 1957.

The make up of the COSC changed by 1958. Admiral De Wolfe remained CNS until 1960, but Air Marshal Slemon moved on to become the Deputy CinCNORAD in Colorado. He was replaced with Air Marshal Hugh Campbell. The hard-working and capable Campbell was the Director of the Air Staff in London during the Second World War. While getting operational experience in the Middle East, Campbell's jeep ran over a mine, and he was sent back to Canada for convalescence, eventually becoming the Air Member for Personnel from 1945 to 1947. Campbell was a champion of

94. For example, the sheer amount of paper in the Panel files balloons between 1957 and 1961, when compared to the earlier years.

95. See DGHIST file 25/8 Volumes I and II for the minutes and memoranda of the Panel on the Economic Aspects of Defence Questions from the years 1957 to 1961.

Canadianization during the Second World War. Campbell pushed for better aircraft and Canadian command autonomy from the RAF leadership.<sup>96</sup> He was the Chairman of the Canadian Joint Staff Washington from 1949 to 1951, and then commanded 1 Air Division in Europe under Eisenhower.<sup>97</sup> He was then appointed Deputy Chief of Staff for Operations in SHAPE.<sup>98</sup> In other words, he had significant NATO connections and an understanding of what was going on in Europe. He was inclined to deal more with the Americans than, say, with the British.

Lieutenant General S.F. "Fin" Clark replaced Howard Graham as CGS in 1958. Clark, a Royal Canadian Signal Corps officer, had been Guy Simonds' Chief Signals Officer in II Canadian Corps in Northwest Europe during the Second World War (he had survived the sacking of most of the corps headquarters staff on Simonds arrival at II Corps in January 1944).<sup>99</sup> Clark was a "perfectionist" who was also "energetic and innovative."<sup>100</sup> Clark had been Chairman of the Canadian Joint Staff in London and commanded Central Command in Ontario from 1956 to 1958 before assuming his duties as CGS.<sup>101</sup> Given his background in the Signal Corps

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96. Douglas, Creation of a National Air Force p. 624; Greenhous et al, The Crucible of War pp. 63, 96.

97. DGHIST, Raymont Collection file 497, 26 Jun 58, memo Foulkes to Pearkes, "Visit of the President of the United States."

98. DDEL, Norstad Papers, box 65, file: FOULKES Through FRASER, message SHAPE to Foulkes, 9 Feb 57.

99. Granatstein, The Generals p. 163.

100. Graham, The Price of Command p. 4.

101. Wood, Strange Battleground p. 10; UVIC, Pearkes Papers, "Interview with Lt-Gen S.F. Clark, July 7, 1971."

and in Central Command, he was the man for carrying out Diefenbaker-era projects involving communications and continuity of government (Project BRIDGE) and the reorganization of the Militia into 'survival columns' for civil defence missions for Phase II operations. His experience in London and his wartime relationship with the Canadian NMR at SHAPE, General George Kitching (who also served under Simonds in Northwest Europe), also ensured that the brigade group in Germany was taken care of.

The DRB-RCAF squabble discussed in Chapter Four produced continuing problems within DRB. Solandt's replacement, A.H. Zimmerman, was friendly and personable but he was not trusted by his staff. One member even wrote to Diefenbaker anonymously:

...although we are a body of expert scientists, we have as our leader and mouthpiece a man who is not a scientist and who is unable to give Science a proper influence on military judgement.

...[Zimmerman] is a mining engineer, his doctor's degrees is only an honorary one, and his acquaintance with defence research before 1956 was due only to his being Mr. C.D. Howe's [Department of Defence Production] personal representative on the DRB....We admire him as a man but we do not respect him as a scientist and we know that he does not speak up for our scientific conclusions in the Chiefs of Staff Committee....<sup>102</sup>

Such a letter would only have fuelled Diefenbaker's suspicions of the COSC and its advice on defence matters.

It should be noted here that the lack of existing bi-partisan defence policymaking mechanisms in the Canadian governmental structure during the 1950s produced some amount of suspicion on John

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102. University of Saskatchewan [hereafter USASK], The Diefenbaker Centre, MG 01/v1/100/D 316 Conf, 5 Mar 60, letter from "PhD" to Diefenbaker.

Diefenbaker's part while he was in opposition to the St Laurent Government. In Canada the Opposition was frozen out of the process, unlike in the UK where the Opposition maintains a shadow Cabinet whose members are provided with classified briefings on relevant defence and foreign policy issues (Churchill's Cabinet even included some Opposition members during the Second World War). A combination of media-driven anxiety and the actual potential for nuclear devastation, mixed with the lack of detailed information emanating from the Government (because of the secrecy provisions on intelligence and planning) probably were significant factors in the chasm of trust between Diefenbaker and the professional advisors in Defence and External.

## Conclusion

This chapter is a study in contrasts. As we have seen in previous chapters, Canada was in the process of creating a force structure that was consonant and mated to her overall policy objectives. Pearson and other Canadian diplomats demonstrated their adeptness at dealing with the MC 48 problem in 1954 and now had also ensured that the delicate thread of influence was strengthened with the debate over MC 14/2. Foulkes at the same time ensured that the Canadian force structure programme remained militarily as well as politically relevant. This balancing act was about to be disrupted.

The problems in having the new Diefenbaker Government accept the NORAD agreement contrasted with the well-oiled national security policy-making apparatus created by the St Laurent Government. Though

responsibility for a lack of continuity on air defence policy should rest on inadequate transition of power mechanisms, the effects of Diefenbaker's personality were profound factors. These included his anti-military attitude, his suspicion about the people in the Department of External Affairs, and his suspicion and then outright rejection of the government committee process. The NORAD affair unfortunately 'confirmed' all of this to the new Prime Minister. This situation was a prescription for disaster.

It is clear that Diefenbaker, though briefed on what constituted Canadian national security policy, had little appreciation for the complex series of decisions that had been made to get the policy to the point where it was an effective part of realizing Canadian national aims of peace, security, and economic prosperity. In this sense the three pillars of Canadian strategic tradition were almost irrelevant to the Prime Minister. This gross lack of attention to detail would not bode well for Canadian national security policy in later years. The only positive aspect of this lack of situational awareness was that existing national security policymaking processes could continue, albeit at a functional, almost sub rosa level. There were men in the Government, however, who knew that the lack of a policy was still a policy and would continually try to give that lack of policy better definition, even if the Prime Minister himself was not interested. One of these men was the new defence minister, George Pearkes. The stage was set for the next phase in the development of Canadian strategy and force structure: the NATO debates over MC 70 and the debate in Canada over air defence.

Since the discussions of these two groups of issues are of a detailed nature and many of them occurred simultaneously, the next three chapters will thematically diverge from the policy basis established in Chapter 5. The

themes will then once again converge in Chapter 9, which deals with 1960, the first year of Canada's domestic nuclear weapons crisis.

CHAPTER 6  
NUCLEAR WEAPONS IN GERMANY AND AT SEA:  
CANADA, NATO, AND MC 70

*Introduction*

Despite the change of government in Canada, NATO planning continued to progress between 1957 and 1958. The foundations of NATO strategy, MC 14/2 (revised) and MC 48/2, were, as noted in the last chapter, evolutionary in nature. The actual plan for the strategy's implementation took a different tack from the initial NATO responses to MC 4S, however. During this time, NATO members agreed to establish a nuclear stockpile and acquire delivery systems rather than relying exclusively on American nuclear forces stationed in Europe or the Strategic Air Command. Canada, with her forward-based forces in Europe and NATO-committed naval forces in the Atlantic, was part and party to the development of and acceptance of these arrangements. This chapter will examine Canadian views on the nuclear integration plan MC 70, the nuclear stockpile agreement, and the implications of these plans for Canadian forces. It will then trace the transition of the force structure to one capable of delivering nuclear weapons. The acquisition process reached a point where the government balked at making specific arrangements to provide the actual warheads for these forces in Europe. Chapter 6 will take the NATO part of the story up to this point and defer the North American air defence aspects to Chapters 7 and 8.

MC 70, Minimum Force Requirements, and the NATO Nuclear Stockpile  
Question 1957-1958

As we will recall from Chapter 5, the North Atlantic Council accepted MC 48/2 as a basis for planning, which then led SHAPE and SACLANT planning staffs to initiate work on separate force structure studies. At the same time, the Americans had informally passed on to External Affairs information that their policy on making nuclear weapons and delivery systems available to NATO members would change. These weapons would be held in American custody and released to NATO members in an emergency. While these processes were underway, the COSC reassessed service policy regarding nuclear weapons, Canadian strategy, and future Canadian force structure in March 1957.

On the air side, the RCAF was still trying to decide which weapon it would get for its interceptor aircraft: MB-1 or Sparrow. It was convinced that BOMARC was still essential to the air defence system. In Europe, it expressed interest in equipping 1 Air Division with atomic bombs if they became available, but thought that SHAPE should be approached first before establishing a definite requirement. The Army initiated an informal exchange programme with the US Army. Canadian officers had attended courses at the US Army Artillery School at Fort Bliss and were learning about US Army nuclear delivery systems. The Canadian Army was interested in two weapons: the Honest John free-flight rocket and the Lacrosse guided missile. The RCN was interested in the Tartar surface-to-air missile, nuclear torpedoes, and nuclear depth bombs. The COSC concluded that the systems desired by the Canadian forces were still under

development and that they would wait until they were available before making any specific recommendations.<sup>1</sup>

In April 1957, the Americans informed the NAC that several nuclear-capable weapons systems would be made available to NATO members as part of the Mutual Aid Programme. These included the Honest John, the Matador long-range cruise missile, and the Nike surface-to-air missile. The availability of nuclear warheads would be subject to changes in American law. This reflected a change in American policy which was prompted by NATO's continual acceptance of nuclear deterrence and integrated nuclear forces from 1954 and 1956.<sup>2</sup>

By May 1957, however, SHAPE examined the 1957 Annual Review chapter on Canada and produced a preliminary paper on force goals guidance which recommended, in part, changes to the Canadian force structure committed to Europe. SHAPE wanted Canada to acquire Honest John for the Canadian division, and replace four of the twelve fighter squadrons with three squadrons of attack bombers and a strike bomber squadron, all equipped with F-100's. After some study, the Army had changed its mind and thought that it should have Lacrosse and Little John (an airportable version of the Honest John). SHAPE was going for standardization in the Central Region and was going with proven technology (the Americans had deployed Honest John in 1954, and the other two systems were under development). With regard to 1 Air Division, SHAPE backtracked. It wanted to reduce the number of conventional

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1. DGHIST, Raymont Collection, file 1309A, 19 Mar 57, COSC, 608th Meeting.

2. The NATO Letter May 1957, p. 3; Marc Trachtenberg, ed. The Development of American Strategic Thought 1945-1969: Basic Documents from the Eisenhower and Kennedy Periods Volume 1 (New York: Garland Publishing Inc., 1988), pp. 168-170.

squadrons stationed in Europe and replace them with missiles. Slemon told the COSC that, in a pinch, he could re-equip four squadrons of CF-86's with the appropriate bomb racks for the bomber/strike role, but if they took this on, it would be better to get new aircraft.<sup>3</sup>

In addition to equipment matters, the COSC also assessed aspects of the two-phase concept of war. They were concerned about cost, since the new Government was eying the defence budget for cuts. If new weapons were to be introduced, something had to be reduced. The Chief of the Naval Staff and Chief of the General Staff were adamant that their services required flexible forces that could handle conflicts short of nuclear war. Foulkes was concerned about not having the strategic lift to get the rest of the division to Germany in Phase I. Could the two brigade groups be converted to airportable brigade groups? Jules Leger from External Affairs was sitting in the meeting and remarked that: "Any change in the allocation of the balance of the division to NATO might result in the unfortunate conclusion amongst European countries that Canada was reducing her NATO commitments."<sup>4</sup> Thinking then shifted to the Mobile Striking Force. The need to reduce enemy lodgments in North America was declining. Perhaps this issue should be reviewed. In fact, the whole concept of reserve forces should be reviewed to see what savings could be made. This would be a tough call, and it was deferred until General Norstad could sort out how he saw things shaping up in Europe.

Foulkes was curious as to what SHAPE was up to, his interest being piqued by SHAPE's response to COSC musings. While preparing for the

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3. DGHIST, Raymont Collection, file 1309A, 30 May 57, COSC, 609th Meeting.

4. Ibid.

Military Committee meeting in July 1957, he initiated a dialogue with General C.V.R. Schuyler, the SHAPE Chief of Staff. Through this point of contact, Foulkes acquired a draft of the SHAPE paper which would contribute to MC 70, then under development. He was able to leverage this from the review team, arguing that the recent election had caused confusion in defence policy and the COSC had to be prepared to answer questions on future thinking.<sup>5</sup>

The SHAPE review team was obliging and even passed on their views on the future pattern of forces for 1960-62 in the Central Region so that the COSC could gain insight into their plans. SHAPE wanted to continue stationing the brigade group in Europe, but also wanted the Canadian Army to provide an Honest John battalion. SHAPE had planned for 25 non-US Atomic Support Units for the Central Region: Belgium and the Netherlands each were to provide two; France and the UK four each, and Germany twelve. In terms of Corporal surface-to-surface missiles, the UK would provide two battalions, the Germans three, and the French one. Canada was not expected to contribute to the 25 planned Nike missile battalions in the Central Region.<sup>6</sup>

On the air side, the SHAPE review team based its assumptions on SACEUR guidance which stated that:

...all NATO (ACE) strike and attack aircraft will have the capability of nuclear weapon delivery" and that the ...aircraft will, if possible, have an atomic delivery capability in addition to its ability to deliver conventional weapons....All atomic strike and atomic-capable aircraft

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5. NAC RG 25 vol. 4499 file 50030-K-40 Pt. 4, 12 Jul 57, memo to DCosPlans and Policy, SHAPE from SHAPE Annual Review Team.

6. NAC RG 25 vol. 4499 file 50030-K-40 Pt. 4, 3 Apr 57, "SHAPE Planning Guidance: Pattern of Canadian Land Forces 1960/62."

will be modern all-weather equipment and will wherever possible contain instrument bombing equipment which does not rely on external bombing aids.<sup>7</sup>

The SHAPE recommendation which caused the COSC's consternation was related to the definition of roles and missions. SHAPE wanted four day fighter, four all-weather fighter, three attack, and one strike squadrons. Strike aircraft were strictly to be nuclear delivery aircraft, while attack aircraft were to be nuclear-capable but would have as their primary role "diversionary attacks against radar sites and other ground targets which can be destroyed with non-nuclear weapons." They were to be able to do the nuclear role if necessary. If adopted, the SHAPE recommendation would 'permit' Canada to provide 30 of 657 Strike aircraft and 28 of 583 attack aircraft that SHAPE needed to carry out its operations in the Central Region.<sup>8</sup>

Foulkes balked. The COSC did not want to introduce two new aircraft types in Europe in addition to the CF-86 and CF-100. The programme support for two additional aircraft projects would be staggering, particularly if Canada would be providing only sixty aircraft. Canada had agreed to the NATO collective force concept. Expecting Canada to provide balanced forces would increase costs astronomically. It might even force Canada to accept mutual aid from the Americans, something Canada had not done so far, and was not palatable in the new political environment.

SACLANT, Admiral Jerauld Wright, also passed on his review team's thinking. He was impressed with the RCN's and RCAF's existing

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7. Ibid.

8. Ibid.

contribution, but he wanted a second RCN CVL, in addition to the already-programmed 18 Restigouche-class escorts and 30 Argus maritime patrol aircraft.<sup>9</sup>

Foulkes was not happy with this state of affairs. SHAPE, SACLANT, and the COSC wrangled all summer in 1957 over force requirements, who was allowed to generate them, and who could impose them. Foulkes informed Jules Leger in a letter that:

I have now been advised that SHAPE considers MC 70 as a minimum force requirement study; for example, the strike role for air forces in particular has been allocated to all countries without previous discussion with these countries, and SHAPE is unwilling to delete from MC 70 the force tabs which have been defined for Canada since this would give rise to speculative discussion on the part of other countries. Further, they did not feel that SHAPE could be told by any country what that country's proposed force contributions in this particular plan should be.....These recommendations would cause serious embarrassment to the Government as financial and economic considerations may cause the Government to refuse to accept [them]....This raises again the serious and dangerous procedure of allowing the Supreme Commanders or the Standing Group to state that the contribution that should be required by each country....<sup>10</sup>

In other words, Canada had to have the right to negotiate what it would provide NATO, not have its contribution imposed by a SHAPE review team. There had to be give and take. To be fair, SHAPE was under a lot of pressure to provide some form of force structure that was both militarily viable and politically feasible. The acceptance procedure for NATO papers was slow

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9. NAC RG 25 vol. 4499 file 50030-K-40 Pt. 4, (n/d) "Comparison of SACLANT Minimum Force Requirements against Force Figures in Canadian Reply to ARQ 1957."

10. NAC RG 25 vol 4500 file 50030-K-40 1957-58, 3 Oct 57. letter to Leger from Foulkes, "NATO Supreme Commanders' Minimum Force Study MC 70."

and subject to, as we have seen in the case of MC 14/2, the impact of national proclivities.

External Affairs emphatically agreed. Foulkes was able to get Norstad to withdraw the unacceptable portions of the Canada chapters. Due to some bureaucratic glitch, the original requirements made their way back into a paper that was being passed around NATO relating to MC 70, passed around, incidentally, by Canada's NATO delegation. Foulkes was furious and had to start all over again.<sup>11</sup>

There was serious confusion in and out of SHAPE as to the relationship between the Annual Review process and MC 70. Some SHAPE planners thought they were the same thing, while others understood MC 70 to be an exercise to demonstrate to the NAC how a deterrent force in Europe might be put together, that is, demonstrate that it was possible and generally what it might consist of.<sup>12</sup> There was a possibility that the MC 70 problem was similar to the Regional Planning Group problem which produced Canada's land force commitment to Europe in 1951. Foulkes was not going to allow that one to happen again, and he saw the MC 70 process producing the same problem with 1 Air Division and the strike/attack role.<sup>13</sup>

In addition, the nature of the problem and the information flow (or lack of it) on new nuclear weapons and delivery systems posed problems in the

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11.NAC RG 25 vol 4499 file 50030-K-40 Pt. 4, 31 Oct 57, memo DL1D to USSEA, "Panel on Economic Aspects of Defence Questions: Friday November 1st." External Affairs used guilty language in its internal analysis of the affair. They were worried that Foulkes would figure out what had happened and "would try to pin it on us."

12.NAC RG 25 vol 4500 file 50030-K-40 FP 57-58, 10 Oct 57, message NATO Pris to External, "SACEUR's Contribution to MC 70."

13. NAC RG 25 vol 4499 file 50030-K-40 Pt. 4, 30 Oct 57, memo USSEA to DL1D, "Panel on Economic Aspects of Defence-Friday November 1st."

MC 70 process.<sup>14</sup> NATO confusion over basic defence issues during a period of acute anxiety (Sputnik was launched while all of this was happening) spurred SACEUR to solve the problem quickly.<sup>15</sup> Foulkes once again had to approach Norstad to sort out the problem, and as a result Norstad was somewhat indebted to Foulkes for heading off a potential diplomatic crisis which had in turn been initiated by the Canadian NATO delegation in Paris.<sup>16</sup> Getting fifteen nations to agree to a radical force structure plan was, of course, not an easy prospect, and doubts from one nation tended to spread to others rapidly in a bandwaggoning effect.

While Foulkes and the COSC were sparring with their NATO counterparts, Diefenbaker wanted a review of defence policy conducted so that he could be 'brought up to speed' with an eye towards affecting 'economies' in defence expenditures. The main components of the Canadian strategic programme were laid out for the Prime Minister with Pearkes conducting the briefing in September 1957. The aim was to provide a collective deterrent to aggression by providing certain forces to NATO. These forces were not balanced forces, since they would cost too much money. Rather, they were critical components of the collective deterrent system. Each nation contributed what it could do well. The mainspring of the deterrent effort was SAC and UK Bomber Command, protected by the

14. Christian Tuschhoff, Nuclear History Program Occasional Paper 9: Causes and Consequences of Germany's Deployment of Nuclear Capable Delivery Systems 1957-1963 (College Park, MD: Center for International and Security Studies, 1994) pp. 20-21.

15. NAC RG 25 vol 4500 file 50030-K-40 FP 57-58, 10 Oct 57, message NATO Paris to External, "SACEUR's Contribution to MC 70."

16. NAC RG 25 vol 4500 file 50030-K-40 FP 57-58, 8 Oct 57, message External Ottawa to NATO Paris, " SACEUR's Contribution to MC 70."

air defence system in North America. Shield forces in Europe ensured the security of the NATO area there.<sup>17</sup>

Pearkes explained MC 14/2 (revised) to Diefenbaker, emphasizing the two-phase concept of war. War would come with little or no warning, forces had to be ready in peacetime, and more thought had to be given to providing continuity of government and national survival. Canada was expected to contribute to the "containment and liquidation of such Soviet forces as were on NATO territory."<sup>18</sup>

Pearkes expressed doubts as to whether Canada could continue to meet its existing commitments and acquire modern weapons (nuclear weapons and delivery systems) to upgrade those commitments. SACEUR had made recommendations and had been told that they were unacceptable.

Therefore, the Minister of National Defence suggested areas in which economies could be made.<sup>19</sup>

First, the RCAF's auxiliary squadrons could be deleted, as could some naval reserve divisions. The entire Militia was costing too much and should be altered. The Army, which ran the Northern Radio System and the Alaskan Highway, should turn over these activities to the Department of Transport, and the RCN should pass on its icebreakers and northern support ships to Transport as well. The CF-100/Sparrow version could be canceled. Finally, the CF-105 programme could also be reviewed, but "any delay in reaching a decision would mean added costs...the US and the UK

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17. DGHIST, Raymont Collection file 1332, 19 Sep 57, Cabinet Defence Committee, 115th Meeting.

18. Ibid.

19. Ibid.

had urged Canada to proceed with this programme.<sup>20</sup> Diefenbaker took note of the briefing, with little comment.<sup>21</sup>

The COSC received the MC 70 draft in October 1957 and passed it on to the JPC for analysis.<sup>22</sup> MC 70, "The Minimum Essential NATO Force Requirements 1958-1963", consisted of several parts. The first two parts were an analysis of the military situation from both SACEUR's and SACLANT's points of view. Another part consisted of a discussion of the need to adapt new weapons into NATO's force structure, including Intermediate Range Ballistic Missiles (IRBM's). This also included detailed force recommendations for each nation.<sup>23</sup>

The SACEUR section, based on MC 14/2 (revised) and MC 48/2, noted that forward defence was possible and politically necessary. Nuclear weapons were assumed to be available. The aim was to create a uniform line of nuclear and conventional forces opposite the Iron Curtain from Norway to Turkey which would have depth.<sup>24</sup>

The JPC thought that SACEUR's assessment was acceptable. Army forces in Europe should have a nuclear capability, though the recommended Honest John was really a corps-level weapon in Canadian thinking. Little John or Lacrosse was more suitable. Furthermore, the two

20. Ibid.

21. NAC RG 2 vol 1893 file 16 Aug-23 Sep 57, Cabinet Conclusions.

22. DGHIST, Raymont Collection, file 1309A, 10 Oct 57, COSC, 623th Meeting.

23. NAC RG 25 vol 4495 file 50030-E-1-40 Pt. 1, 8 Nov 57, JPC, "SACLANT Minimum Forces Study, 1958-1962, SACEUR Minimum Forces Study, 1958-1962."

24. Ibid.

other brigade groups in Canada should be airportable, with their equipment based in Europe to facilitate their arrival. As for the RCAF in Europe, the JPC saw the air defence role being completely taken over by the Europeans and Canadian influence waning with the elimination of the role. The RCAF members of the JPC "consider[ed] that a transition to a strike role is the logical future of the RCAF in Europe."<sup>25</sup>

The SACLANT section, in terms of its conception of naval war under MC 14/2 (revised) was almost a carbon copy of the RCN/RCAF Concept of Maritime Operations. In the JPC view: "Satisfaction of SACLANT's requirement, therefore, would enhance the direct defence of North America as well as that of the ACLANT area",<sup>26</sup> and was therefore acceptable with two exceptions. SACLANT wanted Canada to acquire a second aircraft carrier. This, from the RCN's perspective, was not economically feasible and would "curtail the DDE/DE replacement programme [i.e., the Restigouche-class]." The RCN thought that helicopter-carrying destroyers, already under development in Canada, would be a better substitute and more flexible. Secondly, there was no way the RCAF could provide forty new maritime patrol aircraft by 1958.<sup>27</sup>

Another element of the MC 70 situation included a special NAC meeting in October 1957. Norstad was called on the carpet by the NAC and interrogated as to the feasibility of MC 70 in light of the Sputnik event. He surprised the NAC by stating that MC 70 took into consideration the fact

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25. Ibid.

26. Ibid.

27. Ibid.

that the enemy would develop ballistic missiles. To British chagrin, MC 70 addressed the problems in developing a balanced force structure:

...[Norstad's] present study showed that we have the means to deal with less than ultimate war by the use of weapons not limited to conventional weapons but without resort to the full nuclear counter offensive. At same time, SACEUR said, it would be very difficult to prevent a limited war in Europe from becoming a general war; therefore it is important to prevent a limited war from starting. We must have the means of providing this deterrent.<sup>28</sup>

European NAC members, of course, were skeptical. Despite the April announcement, would the Americans really provide the delivery systems and warheads to their NATO allies? Norstad had an answer to that, too:

...[the ] availability of nuclear weapons...was beyond his competence, but he had strong views....In spite of some currency difficulties, which he implied involved the USA, he was confident that there were ways of meeting these requirements within the near future without too much difficulty....He had formulated a proposal which he felt would not upset anyone's laws or restrictions. Essentially this is based upon existence of a NATO stockpile of atomic weapons which would not belong to any individual units and which would have a supply system to permit the weapons to be married up [with the delivery systems].<sup>29</sup>

These things would take time to move through the NATO political system and, in Norstad's view, not be ready for the December NATO heads of government meeting. In the meantime, Canadian policymakers urged that there be "maximum consultation between SHAPE and SACLANT and the

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28.NAC RG 25 vol 4500 file 50030-K-40 FP 57-58, 24 Oct 57, message External Ottawa to NATO Paris, "Restricted Meeting of the NATO Council."

29. Ibid.

member governments followed by a full consideration of the Commanders' force recommendations."<sup>30</sup>

After the tussle among SHAPE, COSC, and External Affairs over MC 70 requirements, Foulkes believed that Norstad should visit Canada and brief the COSC. Norstad had come over to Eagle River to do some "fishing". He had met with Deputy Minister Frank Miller to sort out what the brief should consist of.<sup>31</sup> Norstad himself eventually briefed the Prime Minister, probably because of the lack of impact that had been made on Diefenbaker by the COSC in the Cabinet Defence Committee meeting in September.

The Panel assembled on 1 November to coordinate its members' activities in relationship to the upcoming Norstad visit. To ensure that there was no misunderstanding, Foulkes and Leger laid out the chronology of the MC 70 problem for the Panel and determined that "Although the procedure used in circulating the country force allotments was perhaps objectionable, the harm or embarrassment caused by this procedure had already been done."<sup>32</sup> Defence and External, as departments, could now present a united front on the issue.

Pearkes and the COSC pre-briefed Diefenbaker the day before Norstad's arrival. Pearkes slowly explained problems which had been encountered in formulating MC 70 and that Norstad would probably make recommendations as to the future status of the Air Division. The CF-105 could not be adapted for the strike role, so Canada would have to acquire

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30. NAC RG 25 vol 4499 file 50030-K-40 Pt. 4, 31 Oct 57, memo DL1D to USSEA, "Panel on Economic Aspects of Defence Questions: Friday November 1st."

31. DDEL, Norstad Papers, file FOULKES Through FRASER, memo Mare to Norstad, 9 Aug 57.

32. DGHIST file 25/8 Vol. I, 1 Nov 57, POEADQ 47th Meeting.

another aircraft if she chose to accept this role. The Army would need a surface-to-surface missile, but this could probably be acquired under the Mutual Aid Program. Foulkes interjected and pointed out that SACEUR would not speak to specific recommendations regarding Canadian forces unless directly questioned. The purpose behind the briefing was to outline SHAPE's thinking on patterns of war and force structuring to meet it.<sup>33</sup>

There was some concern in the meeting as to what impact this would all have on the December 1957 NATO meeting. Pearkes and Foulkes noted that: "The U.S. would probably offer to give to NATO atomic weapons and warheads to be placed under SACEUR for release when war came. This proposal was not entirely new."<sup>34</sup> They would probably ask whether or not the Europeans wanted IRBM's as well. Other members of the CDC wanted it noted that no decisions would be made in the meeting with SACEUR: It was for information purposes only.

In his Ottawa meeting with Diefenbaker, Norstad emphasized that the December meeting was probably going to be the most crucial one since NATO had been formed. The public display of will, a critical aspect of deterrence, would be on the line in Paris. NATO had to "create an atmosphere that we were moving forward." In SACEUR's view, there were grave consequences "if any members of the Alliance, particularly the United States and Canada, materially reduced their contributions." He needed a nuclear stockpile and delivery systems. He also needed IRBM's in Europe. These were vital elements. When queried as to what he thought

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33. DGHIST, Raymont Collection, file 1332, 12 Nov 57, Cabinet Defence Committee, 116th Meeting.

34. Ibid.

about the air defence effort in North America, Norstad thought that more work needed to be done on an anti-ICBM system. Norstad did not discuss Canadian MC 70 issues.<sup>35</sup> He came away from the meeting with the belief that SHAPE "would continue to receive the Canadian Government's active support, which is so essential if NATO is to maintain its effectiveness."<sup>36</sup> Diefenbaker did not record his reaction or views on the matters at hand in his autobiography, nor did Basil Robinson.<sup>37</sup>

Canadian strategic policymakers wanted to ensure that Canada was as prepared as possible for the December 1957 NATO meeting, given the state of the Diefenbaker policy-making environment. The item of primary interest to Defence and External Affairs was the nuclear stockpile proposal. The departments were less concerned with MC 70 or the IRBM issue (since they viewed them as European-US problems). Consequently, the Panel met twice more to coordinate Canadian policy on the NATO stockpile before Cabinet could formulate policy without professional advice.

Panel members understood that there were several problems which would arise in any Cabinet or NATO discussion on NATO stockpiling.

The first was the problem of control. The aim behind SACEUR's proposed procedures was to: "ensure that these new weapons will not enable any NATO country to embark unilaterally on a nuclear war against

35. DGHIST, Raymont Collection, file 1332, 13 Nov 57, Cabinet Defence Committee, Special Meeting.

36. DDEL, Norstad Papers, file: DIEFENBAKER thru DOVAS, letter Norstad to Diefenbaker, 22 Nov 57.

37. See John G. Diefenbaker, One Canada: Memoirs of The Right Honourable John G. Diefenbaker Volume 2: The Years of Achievement 1956 to 1962 (Toronto: Macmillan of Canada, 1976); H. Basil Robinson, Diefenbaker's World: A Populist in Foreign Affairs (Toronto: University of Toronto Press, 1989).

any other power, or accidentally to provoke a situation which could lead to preventive or retaliatory action by a major power."<sup>38</sup>

These procedures were linked to the problem of responding to alternative and minor conventional threats to the NATO area. If the NAC declared war, would SACEUR have full control over the weapons, or would some control be reserved by the NAC?<sup>39</sup>

Secondly, once the stockpile plan was announced, there would be a violent reaction on the other side of the Iron Curtain, at least from a propaganda standpoint, which might also affect the non-aligned nations and their attitude towards NATO nations. This reaction could be countered by having the United States assure all that the provision of nuclear information and weapons would in fact forestall other NATO nations from embarking on new nuclear weapons programmes (which they might use for their own unilateral purposes), and it would provide assurance that the United States was not abandoning Europe.<sup>40</sup>

The Panel members, particularly Foulkes, agreed that the stockpiling concept was a good system and was the best way to deal with these problems, and that the Canadian position in Paris should be to support it.<sup>41</sup> In fact, Bryce suggested that Canada go one step further. Foulkes had

38. NAC RG 25 vol 4499 file 50030-K-40 Pt. 4, (n/d) Draft by F.G. Hooton, "Stockpiling of Atomic Warheads in Europe: Provision of IRBM's to Europe. The Problem of Control;" NAC RG 25 vol 4499 file 50030-K-40 Pt. 5, 18 Nov 57, memo to the POEADQ, "Stockpiling of Atomic Warheads for Tactical Weapons in Europe."

39. NAC RG 25 vol 4499 file 50030-K-40 Pt. 5, 18 Nov 57, memo to the POEADQ, "Stockpiling of Atomic Warheads for Tactical Weapons in Europe."

40. Ibid.

41. DGHIST file 25/8 Vol. I, 22 Nov 57, POEADQ 48th Meeting.

already noted that there was a Canada-US agreement to use nuclear weapons over Canadian territory in the event of war. Why not have the Prime Minister announce in Parliament that Canada would accept the stockpiling of defensive ASW and air-to-air nuclear warheads in Canada before the NATO meeting? This move would promote the programme. Perhaps it would persuade reticent NATO members, specifically France, to go along with it. The Panel agreed, thought it was a good idea and recommended that it brought up in Cabinet. <sup>42</sup>

There was still some concern on the part of the External Affairs representative in the Panel over control. During the course of the discussion, Foulkes had noted that: "It was unrealistic to expect a military commander to wait for authority from the [NAC] or from governments to use nuclear weapons should a small incident develop quickly into a general war." SACEUR should be allowed to use nuclear weapons in certain situations. He would, "of course use whatever time was available to him for consulting with his political superiors."<sup>43</sup> The External people thought this was far too complicated a question to raise in December. The Panel agreed.<sup>44</sup>

The draft joint submission to Cabinet (External and Defence) was written in simple language and for the most part reiterated material already drawn to the Prime Minister's attention in the September and November meetings. This action was probably deliberate so that there would be no

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42. Ibid.

43. Ibid.

44. NAC RG 25 vol 4499 file 50030-K-40 Pt. 4, 28 Nov 57, memo to USSEA to DL(1), "Meeting of the Panel on the Economic Aspects of Defence Questions;" NAC RG 49 (DDP) vol. 708 file 247-5 vol. 4, 29 Nov 57, POEADQ 49th Meeting.

mistake as to what the issue was and what the professionals recommended. In effect, Canada had certain nuclear weapon requirements. If Canada did not get the weapons, the alternative was to increase conventional forces, which would be prohibitively expensive. Withdrawal from the NATO commitments was not an option. The Army needed a surface-to-surface missile for its units in Europe; the RCN and RCAF needed nuclear depth bombs and nuclear torpedoes; and the RCAF needed a nuclear air-to-air weapon. Canada did not need IRBM's. Storage, maintenance, and control over the warheads posed minor problems, since:

Canadian requirements could be met from stockpiles in other NATO countries under the custody of SACEUR....[RCN and RCAF needs] could be provided from stocks at a United States base in the United States or Canada which could be under the custody and control of SACLANT...If however nuclear warheads should be required by Canadian air defence forces they would have to be stored at each RCAF fighter base in Canada under nominal custody of a United States officer....Minor modifications to regulations would be needed to permit stockpiling of nuclear weapons in Canada for the use of Canadian forces or for use of United States air defence forces at Goose Bay, Labrador and Ernest Harmon Air Base....<sup>45</sup>

However, by early December the Panel withdrew its proposal to get the Prime Minister to announce stockpiling in Canada.<sup>46</sup> The reason was left unstated in the Panel minutes. In all probability, Foulkes and the other members recalled the developing political problems over the NORAD affair. The Americans had by this time made overtures about this subject to the COSC and had linked the defensive weapons stockpiling issue with

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45. NAC RG 25 vol. 4499 file 50030-K-40 Pt. 5, 27 Nov 57, draft memo to Cabinet, "Stockpiling of Nuclear Weapons in NATO Countries."

46. DGHIST file 25/8 Vol. I, 6 Dec 57, POEADQ 50th Meeting.

proposals involving SAC operations in Canada.<sup>47</sup> There was not enough time to examine the long-term political implications of all of these matters. If the Panel pushed on the stockpile issue and drew Canada into other related agreements, it would have made the NORAD issue appear minor in comparison (this will be handled in more detail in Chapters 7 and 8).

The elaborate preparation by the Panel had almost no effect on Diefenbaker. The Cabinet met on 12 December 1957 and barely considered the NATO heads of government meeting and the stockpile issue. It was the last item on the 15-point agenda. Items that had priority over long-term strategic policy with massive political implications included: GATT negotiations regarding rabbit skin tariffs; a capital murder case of an aggressive psychopath in British Columbia; the award of a World Health Organization prize; price support for sugar beets; and the awarding of a medal for UNEF.<sup>48</sup>

What of MC 70? Canadian policymakers so far had decided that MC 70 was not suitable for discussion at the December 1957 NATO meeting. The Americans believed that MC 70 was still under development and was evolving from the SACEUR and SACLANT minimum force requirement studies. The British still wanted changes to any document mentioning any action short of nuclear war.<sup>49</sup>

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47. DGHIST, Raymont Collection file 1309A, 18 Dec 57, COSC Special Meeting.

48. NAC RG 2 vol. 1893 file 12 Nov 57-15 Dec 57, 12 Dec 57, Cabinet Conclusions.

49. National Security Archive [hereafter NSA], Background Paper: NATO Heads of Government Meeting Paris, December 16-18, 1957, "NATO Defense Policy and Strategy," 4 Dec 57; PRO DEFE 6, 13 Dec 57, JPS, "Minimum Essential Requirements-MC 70: Report by the Joint Planning Staff."

The December NATO meeting generally focused on IRBM's for NATO, and the stockpile issue was virtually a fait accompli. The only dissenter was Norway, whose representative conveyed the message that Norway would not accept nuclear weapons on Norwegian soil in peacetime. The British attempted to get MC 70 put onto the agenda, but were foiled by NATO Secretary General Paul Henri Spaak, who told the NAC that MC 70 would be ready in February 1958. Diefenbaker echoed this, ensuring that NATO members understood that future consultation would prevent unpleasant problems in force goals.<sup>50</sup> In effect, NATO accepted the stockpile plan and IRBM acquisition in principle, and the MC 70 odyssey continued into 1958.

The NAC analysis of MC 70 was scheduled 'sometime' in early 1958. It disturbed Foulkes, who expressed concern to Leger. He was concerned that the NAC was not getting the proper advice from the Military Committee and was hell-bent on discussing MC 70 to meet an artificial deadline. The national chiefs of staff in all member nations were being bypassed by this process. In his view, "The implications of MC 70 to Canada may be of a considerable magnitude. Therefore, we should insist on adequate time for study of this paper by national authorities." Foulkes knew from the Canadian SHAPE National Military Representative (NMR), General Sparling, that there was still considerable debate over limited war, and that SACLANT had made a new proposal that a peacetime ASW barrier be established in the Atlantic. How could the COSC provide proper advice to External, which would be representing Canada in the NAC, if it had not had access to the current draft of MC 70 which was then under

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50. NSA, message Paris to US Secretary of State, "Summary of First Closed Session of NATO Heads of Government Meeting," 17 Dec 57; message Paris to US Secretary of State, "Morning and Afternoon Meetings: December 18th," 18 Dec 57.

development based on, Foulkes presumed, the fall MC 70 minimum force studies which were themselves flawed from a Canadian point of view?<sup>51</sup>

When queried, Dana Wilgress in Paris agreed. Wilgress, however, had to attend the end of January NAC meeting without any instructions beyond stall and wait for the final version of MC 70 (many NAC members thought that the meeting was a waste of time, since they had not had time to examine MC 70 yet either).<sup>52</sup> By the end of January 1958, a new version of MC 70 was sent to the COSC, which then presented it to the Panel for discussion.<sup>53</sup>

The British, it turned out, were now far less strident on advocating the trip-wire strategy as opposed to the Shield strategy. This new position would, in Leger's view, make acceptance of Part I (the strategy and threat section based on MC 14/2 (revised) and MC 48/2) easier. The new problem was that Part II (the minimum recommended forces by country and command) would now start to interfere with the 1958-1959 Annual Review process which was getting under way. This problem was similar to the one encountered in 1957, when most nations confused MC 70 with the 1957 Annual Review. The solution, Foulkes thought, would be to push for acceptance by the NAC of Part I and merge Part II with the Annual Review

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51. NAC RG 25 vol 4499 file 50030-K-40 Pt. 5, 22 Jan 58, memo Foukes to Leger, "Future Ministerial Meetings."

52. NSA, message Paris to US Secretary of State, "NAC Meeting-Defence Conference," 30 Jan 58.

53. NAC RG 25 vol 4499 file 50030-K-40 Pt. 5, 25 Jan 58, message NATO Pris to External, "Preparations for Defence Conference;" 29 Jan 58, NATO Paris to External, "Defence Conference."

process that year. This, of course, was easier said than done, but Leger promised to try.<sup>54</sup>

The COSC now had time to examine MC 70 and its implications once again, this time in preparation for the March 1958 Military Committee meeting in which Norstad would bring the members up to date on MC 70. Since Part II had not been re-drafted, the COSC looked at Part I. On the whole, the COSC thought the draft was acceptable with minor changes. SHAPE thought that 1 Air Division should be re-equipped "as a matter of urgency", but Canadian planners were cognizant of the political problems in doing so and wanted more pliable language. MC 70 Part I also stated that ICBM's had not really altered the NATO concept. The COSC believed that "if the developments made possible by the Sputniks increase the accuracy of missiles, this may well affect the whole concept of defence in Europe. We therefore consider that this statement is indefensible and appears to be too arrogant to insert...."<sup>55</sup> There was some concern that there was not enough profile given to the CUSRPG and the relationship of the North American air defence system to NATO.

Once the draft force tables arrived, the COSC grew agitated over what they saw as inconsistencies between the force structure proposals and draft strategy in Part I. They thought that constructing a NATO nuclear strike force based on aircraft and static airfields was not consistent with the assertion that the Soviets held the initiative and would possess mobile nuclear missile launchers. Why should Canada spend a lot of money on a system that was vulnerable to a first strike? This troubling question would

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54. DGHIST file 25/8 Vol. I, 31 Jan 58 POEADQ 51st Meeting.

55. DGHIST, Raymont Collection file 1310E, 13 Feb 58, COSC 619th Meeting.

pose serious problems in the acceptance of the strike role for 1 Air Division in 1959.<sup>56</sup>

Norstad briefed the Military Committee in March 1958. SHAPE had in fact incorporated more information on CUSPRG and NORAD into MC 70. It basically reiterated the same wording used in MC 14 back in 1951. As for the mobile missile versus static airfield problem, Foulkes' report was vague on this point, noting that it had been dealt with informally (this issue will be dealt with later in this chapter and in more detail in Chapter 12). The necessity of ensuring harmony between SACEUR's thinking and SACLANT's thinking had been addressed by this point. There was more credence given to the nuclear missile launching submarine threat, since this would directly affect NATO's ability to reinforce or conduct operations in Phase II. The most surprising thing Norstad revealed was that only eight and one-half of his 18 divisions were up to standard.<sup>57</sup>

Once again, the problem of actions short of general war reared its head in the Military Committee meeting. In a bizarre situation, there was a four-way debate over the definition of the following phrases: effective deterrent, hostile local action, incursion, and infiltration:

The French wanted to take a strong line regarding the definition of 'local hostile action'. The British were frightened that this meant a type of limited war and was being used by the French to interfere with the British reduction of forces; and there is no doubt the further reduction of the UK forces had a great deal to do with this question. The United States...were opposed to a too precise definition of these terms and [suggested that they be deleted from the text]. The

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56. DGHIST, Raymont Collection file 1310E, 13 Feb 58, COSC 619th Meeting, attachment: "Canadian Preliminary Comments on MC 70."

57. DGHIST file 25/8 Vol. I, 20 Mar 58, POEADQ 52nd Meeting. See attachment, "Report by the Chairman Chiefs of Staff Committee on MC 70- Minimum Essential Force Requirements 1958-1963."

Germans took strong objection to any deletion, General [Adolf] Heusinger said that he was under strict instructions to have this matter of terms clearly laid out....This stand was strongly supported by the Italians, the Danes, the Greeks, and the Turks and caused a deadlock. The Chairman did not handle the question well and at one stage wanted to send the paper to the [NAC] without reaching agreement. [Foulkes] objected to this procedure and pointed out that this would be the first time that the Military Committee had failed to reach agreement....

After a long discussion, a break was called and Norstad and [Foulkes] persuaded Heusinger to allow these statements to be removed so as not to delay the approval of the paper, but agreed that the Standing Group [would have to deal with specific language later].<sup>58</sup>

If this still did not satisfy West Germany, the NAC could deal with the language. Heusinger agreed, and the paper was passed on to the NAC. They ran into the language problem and the delay continued, albeit at a higher level. It was nearly approved in April<sup>59</sup> and was accepted in its final form in June.<sup>60</sup>

#### The Atomic Information Problem Re-asserts Itself

As with MC 48 and the 1955 information sharing arrangements between NATO and the United States and Canada and the United States, the

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58. Ibid.

59. FRUS 1958-1960 Volume VII Part 1: Western European Integration and Security: Canada (Washington D.C.: US GPO, 1993) pp. 315-316, message from U.S. Delegation to NATO to State, "NAC Meeting April 23 1958-item II- Minimum Essential Force Requirements (MC 70)," 23 Apr 58.

60. Tuschoff, Causes and Consequences p. 9.

decision taken by NATO to accept an integrated conventional/nuclear force structure and stockpile arrangements necessitated changes in the American Atomic Energy Act. As before, military planners needed accurate and current information on weapons, weapons effects, and available and planned delivery vehicles.

Norstad pushed for an expanded NATO information sharing arrangement in April 1957 so that his integrated planning staff could work on MC 70. He wanted the following:

- a) information on the effective employment of nuclear weapons with regard to military targets.
- b) information on the effects of underwater atomic bursts against all types of ship targets.
- c) atomic weapons training aids for delivery vehicles such as Honest John, Matador,<sup>61</sup> and F-84F.
- d) information on fall-out effects of megaton weapons for defensive planning.
- e) information on the size of the US arsenal of nuclear and thermonuclear weapons.<sup>62</sup>

SACEUR got the go-ahead for all of the items except e), since, in the JCS view:

...it is difficult to determine how the disclosure of the size of the entire U.S. stockpile would contribute appreciably to NATO defence plans. it is quite possible that if certain NATO allies were apprised of such sensitive information, they might be forced by internal political

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61. The Matador was improved later on and called Mace. It was a winged non-airbreathing guided surface to surface missile. See Fred Horky and Grifin T. Murphey, "Mace and Terracruzer Part 2," International Plastic Modelers Society/United States Branch Quarterly Summer 1986 pp. 38-48.

62. NSA, JCS JSPC, "Atomic Support of Allied Forces," 15 Apr 57.

pressures to reduce their national military appropriations, rationalizing such actions on the size of the U.S. atomic arsenal.<sup>63</sup>

Norstad also pushed for the dissemination of nuclear targeting information to AIRCENT and the Allied Tactical Air Forces (2, 4 and 5) within ACE. If his forces were to meet the readiness requirements of MC 48/1 and MC 14/2 (revised), this information was critical. He got the green light on this from the JCS with one proviso: American tactical targeting data which showed targets in West Germany was not to be released.<sup>64</sup> This move was probably done in response to the political hue and cry in West Germany over the damage caused by Ex CARTE BLANCHE. Leftist German newpapers decried nuclear weapons planning after the results of this exercise were leaked. The exercise indicated that a wide belt of West German territory would become irradiated in a Warsaw Pact-NATO confrontation.<sup>65</sup>

NATO nations would need more information if the NATO stockpile plan was to be properly implemented. Weapons effects information was one matter, nuclear weapons safety was another. The Allies needed both. The Eisenhower Administration's policy was to release such information, pending changes to the Atomic Energy Act, but Congress was putting the brakes on such a bill. One member even wanted legal restrictions on the yield of the weapons that might be deployed limited to 2 kt. This thinking,

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63. Ibid.

64. NSA, memo SACEUR to JCS, "Release of Tactical Target Materials," 18 Jun 57.

65. Mark Cioc, Pax Atomica: The Nuclear Defense Debate in West Germany During the Adenauer Era (New York: Columbia University Press, 1988) pp. 21-37.

according to US JCS Chairman Nathan Twining, was "impractical and undesirable."<sup>66</sup> The main problem with amending the Act was a highly complex series of issues involving the new French government under Charles de Gaulle and the United States. Such a detailed discussion is beyond the scope of this study.<sup>67</sup>

It is important to note that there were two distinct types of agreements. The first was between NATO and the United States; these would allow passage of information to NATO commanders and planning staffs. The second type was the bi-lateral agreement signed between a NATO nation and the United States. The bi-lateral agreements covered the same information as the NATO-US agreement. With the 1958 amendments to the Atomic Energy Act, the nature and scope of the information available to NATO members under bi-lateral means changed depending on what the national requirements were. For example, the British gained access to American nuclear weapons design and fabrication information when elements of the 144b portion of the Act were lifted.<sup>68</sup>

The bi-lateral Canada-US information sharing agreement was not signed until 1959. There is no doubt that the domestic political situation on continental defence was the primary factor, but there were legal issues

66. NSA, memo Twining to SECDEF, "Proposed Changes to the Atomic Energy Act of 1954," 12 May 58.

67. For more information see Michael M. Harrison, The Reluctant Ally: France and Atlantic Security (Baltimore: Johns Hopkins University Press, 1981); Wolf Mendl, Deterrence and Persuasion: French Nuclear Armament in the Context of National Policy, 1945-1969 (London: Faber and Faber, Ltd., 1970); and Jean Lacouture, DeGaulle: The Ruler 1945-1970 (New York: W.W. Norton and Co., 1992).

68. Ian Clark, Nuclear Diplomacy and The Special Relationship: Britain's Detrent and America, 1957-1962 (Oxford: Clarendon Press, 1994) pp. 90-92. For example, the British manufactured the RED SNOW nuclear weapon based on American Mk. 28 plans.

involved. If American ships or submarines propelled by nuclear reactors entered Canadian ports, did the USN have to apply for an import permit for fissile material or not? This problem was also entangled with the issue of storing nuclear weapons for SAC at Goose Bay, which in turn was entangled with the larger problem of providing nuclear air defence weapons to both RCAF and USAF forces operating in Canada.<sup>69</sup> This, naturally, did not prevent the COSC or the services from obtaining information using informal methods and continuing their force development programmes.

### The Army and MC 70

The centre piece of Army policy was the West Germany-based brigade group committed to SACEUR. As we saw in Chapter 4, the brigade group worked under I (British) Corps as part of NORTHAG. The defensive line ran along the Rhine. Once West Germany joined NATO, it was not politically feasible to sacrifice 75% of that country in a general war with the Warsaw Pact. With the MC 70 force structure, SACEUR now believed that he could move the line eastwards to the Weser-Lech line (about three quarters of the way across Germany). The ACE concept of operations between 1957 and 1963 was to survive the initial enemy attack, destroy the enemy's ability to use nuclear weapons, stop their land attack as far east as possible, and interdict their ability to continue offensive operations.<sup>70</sup>

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69. DGHIST, Raymont Collection file 1310C, 13 Apr 59, COSC Special Meeting.

70. Maloney, War Without Battles pp. 133.

In northern West Germany, this meant using the Weser River as an obstacle. There were two reasons. First, it was the only major river running north to south. Second, the navigational bombing aids for 2 ATAF nuclear strike aircraft were located on the western side of the river. These aircraft, which mostly consisted of 4 squadrons of RAF Canberra bombers (and B-45's from the 49th Air Division, or carrier-based aircraft from STRIKEFLEETLANT), would be hitting the Pact's second operational echelon forces in East Germany before they could reinforce the first echelon. This so-called '48 hour line' had to be held for that length of time so that the 2 ATAF strikes would be effective and cut down the pressure on the land forces. NORTHAG's conventional land forces would deploy astride the river. The covering force on the east side would monitor and channel the enemy mechanized and armoured forces into killing zones. Nuclear artillery (tube, rocket, or missile) would then destroy these units before they got to the river. Any enemy units that reached the river, including whatever was left of the second operational echelon, would pile up on the river and present more nuclear targets. If all of this failed, the main defence forces would break contact with the enemy and lay down a curtain of nuclear fire to annihilate whatever was left. This concept of operations applied to CENTAG as well.<sup>71</sup>

Under MC 70, the Dutch, West German, British, Belgian, and Canadian units committed to NORTHAG were to be equipped with a variety of delivery systems. (see Table 3). There were some adjustments, as we will see, to the Canadian contribution. That said, the other NORTHAG contributors basically kept to the plan with most of their systems arriving between 1959

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71. Ibid.

**Table 3: NATO LANDCENT Nuclear Delivery Launchers: MC 70**

<b>Army Group</b>	<b>Corps</b>	<b>Divisions</b>	<b>Honest John</b>	<b>8" Guns</b>
NORTHAG	I (Netherlands)	2	12	8
Sergeant SSM: 4 (German)	I (German)	4	16	16
Corporal SSM: 4 (British)	I (British)	3 CDN Bde Gp	12 4	12 0
	I (Belgian)	2	12	8
CENTAG	III(German)	2	12	8
Sergeant SSM: 6 (US)	V(United States)	2	20	52
Corporal SSM: 8 (US)	VII (United States)	2	12	44
	II(French)	2	20	12
	II(German)	2	6	12

Source: USNARA RG 200, McNamara Papers, "Project 1d: Part IV."

and 1961 (The British Corporal units arrived earlier in 1958).<sup>72</sup> In terms of planned level of employment, the Corporal was a NORTHAG HQ resource (the Army level); Honest John was a corps resource, and tube artillery was divisional. This caused some consternation in Canadian Army planning shops, as the brigade group was allocated corps-level artillery on a divisional scale. As noted earlier, the original 1957 MC 70 recommendation to Canada regarding surface-to-surface missiles in Europe was one Atomic Delivery Unit, which was a battalion consisting of two four-missile launcher batteries. SHAPE planners wanted the Honest John unguided rocket across the board in the Central Region since the weapon had been in service since 1954 (it was a mature system and reliable) and for standardization purposes. At that time, the Honest John was considered a corps-level weapon. Since Canada did not possess a corps, the COSC believed that it was excessive, even for the division commitment of which only a brigade group was deployed in West Germany. In 1958, the commitment was tentatively switched to two Honest John and two Little John launchers, and then it changed again to two Little John and two Lacrosse launchers.<sup>73</sup> This change was probably the result of the possibility that the brigade group might change its role into the Central Region mobile reserve, which will be discussed later.

Little John and Lacrosse were still under development in 1958, but these two weapons appeared to suit the Army's needs for the foreseeable future. The Honest John was a large rocket mounted on a truck, with a number of

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72. Ibid.

73. DGHIST, Raymont Collection file 1310E, 10 Jun 58, COSC 623rd Meeting; NAC RG 24 vol 25, file 1200 Pt. 2 v.12, 5 Nov 59, APCC, "Surface to Surface Missiles."

other support vehicles. Little John and Lacrosse were more mobile and airportable with an absolute minimum of preparation. Lacrosse was mounted on the back of a truck, while Little John was trailer mounted and could even be transported by helicopter. Little John was a smaller version of the Honest John and as such was an unguided rocket. Lacrosse, on the other hand, was a guided missile. The US Army had plans to use both and was developing a family of conventional and nuclear warheads for both systems.<sup>74</sup> (see Table 4)<sup>75</sup>

The COSC was able to convince the Cabinet to give approval to a Lacrosse purchase, and the COSC was permitted to explore a Little John purchase. The Little John requirement evaporated when the decision was made to keep the brigade group in its original role. The requirement now became four Lacrosse launchers.<sup>76</sup>

Lacrosse then ran into severe developmental difficulties in 1959. The US Army had acquired eight battalions of the original version and canceled the improved version, which was the one the Canadian Army was interested in. Lacrosse, being a command guided missile, was subject to enemy ECM as well as interference from friendly FM radio sets, clearly not good characteristics for a weapon equipped with a nuclear warhead. In addition, only one missile could be controlled in the air at any one time within a given

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74. Marvin L. Worley, Jr., New Developments in Army Weapons, Tactics, Organization, and Equipment (Harrisburg, PA: The Military Service Publishing Co., 1958) pp. 8-24.

75. Note that the Davy Crockett is included here for comparative purposes since it was briefly considered for Canadian use. Canadian planners did not spend a lot of time on this weapon for obvious reasons.

76. NAC RG 24 vol 25, file 1200 Pt. 2 v.12, 5 Nov 59, APCC, "Surface to Surface Missiles," DGHIST The Raymont Collection file 139, 2 Feb 60, memo Secretary COSC to COSC, "Purchase of Honest John in Lieu of Lacrosse."

**Table 4: Comparison of Surface-to-Surface Missile Systems 1958-1961**

Missile:	Type:	Airportable?	Warheads:	Range:	Availability:
Honest John	unguided rocket	No	W 7: 1-10, 60-70 W 31: 2,20,40 kt	M31A1C: 23 km XM50: 30 km	1953/1954
Little John	unguided rocket	Yes	W 45: 1.5 to 15 kt	15 km	1960/1962
Lacrosse	guided missile	Yes	W 40: 7-10 kt	30 km	1959
Davy Crockett	recoilless rifle	Yes	W 51: up to 2.5 kt	3.2 to 6.5 km	1961

Sources: Hansen, U.S. Nuclear Weapons: The Secret History (New York: Orion Books, 1987) pp. 106-107; Bacevich, The Pentomic Era (Washington D.C.: NDU Press, 1986) pp. 71-103; Worley, New Developments in Army Weapons, Tactics, Organization, and Equipment (Harrisburg, PA: The Military Service Publishing Co., 1958) pp. 8-24; and Department of the Army, The Army Blue Book 1961 (New York: Military Publishing Institute, 1960) pp. 308-310.

radius. These parameters were unacceptable if the weapon had to be volley-fired. Finally, there were an unacceptable number of component failures, which reduced the weapon's serviceability.<sup>77</sup> Needless to say, the Canadian Army dropped Lacrosse and looked briefly at the planned British Blue Water missile, similar in characteristics to the American Sergeant. This alternative would not be available until 1965 and therefore was eliminated from consideration.<sup>78</sup>

An Honest John improvement programme had by 1960 increased the range of the rockets significantly. As it was a mature system and it fit the MC 70 requirement, Army planners looked to Honest John to fulfill it. The argument now shifted to the number of launchers required. SHAPE wanted four located in Europe. A number would be needed for training in Canada. A compromise produced six launchers: two in Canada and four in Europe with 115 rockets, which the planners believed would do for Phase I of a conflict. The acquisition of Honest John was approved by Cabinet with little discussion on 25 March 1960, probably because the nuclear capability of the system was downplayed throughout the process. 1 SSM Battery and 2 SSM(Training) Battery were formed in September 1960.<sup>79</sup>

There is one puzzling problem. The other NORTHAG armies acquired a mix of rocket, missile, and tube artillery equipped for nuclear weapons use.

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77. NAC RG 24 vol 25, file 1200 Pt. 2 v.12, 5 Nov 59, APCC, "Surface to Surface Missiles."

78. DGHIST, Raymont Collection file 138, 27 May 59, memo CGS to COSC, "Lacrosse Surface to Surface Missile," 12 Dec 59, memo CGS to Pearkes, "BLUE WATER Missile System."

79. DGHIST file G8467-9/13, 14 Mar 60, memo to the Cabinet Defence Committee, "Procurement of 762mm Rocket (Honest John) in Lieu of Lacrosse;" 25 Mar 60, record of Cabinet Defence Committee Decision, "Procurement of 762mm Rocket (Honest John) in Lieu of Lacrosse;" UVIC, Pearkes Papers, 18 Feb 71, "Interview with Lt-Gen S.F. Clark."

For example, I (Belgian) Corps on the brigade group's right flank got twelve Honest John launchers and eight 8" self-propelled guns.<sup>80</sup> The British had twelve Honest Johns, eight 8" guns, and four Corporals.<sup>81</sup> Why did the Canadian Army not get nuclear-capable tube artillery which would have been on scale for a brigade group? The answer probably relates to prestige and influence. By going along with MC 70, Canada provided almost 25% of I (British) Corps's nuclear rocket support. These weapons were usually controlled by a corps headquarters, something Canada did not have the right to have given the scale of her Central Region commitment. This capability allowed the Army access to the higher planning levels within the corps and even higher to AFCENT. Possessing the same number of 8" guns which had less impressive range and kilotonnage characteristics would not produce the same level of interest or access.

The role of the West Germany-based brigade group came under debate between 1958 and 1960, flowing from a series of problems in implementing MC 70 in the Central Region. First, III (German) Korps, which was part of CENTAG and on the right flank of I (Belgian) Corps, was slow in training and equipping. This was a serious chink in the Shield, as it was along an Army Group boundary. Second, Norway's government had decided that NATO would not be allowed to place nuclear weapons on Norwegian soil, nor would their forces equip themselves with nuclear delivery systems. Both problems had operational implications in terms of implementing forward defence. If the centre gave way too early, the Shield would be

80. Letter dated 10 Feb 95 from Colonel M. Paulissen, Belgian Army to Maloney. The Belgians eventually acquired Lance SSM's as well.

81. Maloney, War Without Battles pp. 136-137.

undermined. If there were no nuclear weapons integral to the Shield in Norway, this would affect AFNORTH's ability to defend the integrity of the NATO area. The Norway problem also had political dimensions. If Norway did not accept nuclear weapons, would other flank nations do the same?<sup>82</sup>

General Hans Speidel, COMLANDCENT, proposed that the Canadian brigade group should be withdrawn from NORTHAG and converted into the LANDCENT operational reserve (West German defence minister Franz Joseph Strauss used the term "fire brigade," which scared some Canadian planners who thought that it might be used as a response to the developing Berlin Crisis). It would be an airportable, light armoured force. Speidel saw the brigade group's role as consisting of plugging the gap in III Korps temporarily and then functioning as his reserve formation afterwards.<sup>83</sup> In terms of MC 14/2 (revised) and MC 70, LANDCENT needed a formation that could deal with the other conventional threats and incursions. The LANDCENT reserve would be responsible for them given the fact that the Canadian brigade group:

...was the only available force in NATO which is not suspect by the Warsaw Pact peoples and which has the confidence of all non-Standing Group countries.... [Speidel] said there was a strong feeling that if any organization could act as a police forces to help deter war, it would be the Canadian brigade....<sup>84</sup>

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82. NAC RG 25 acc 80-81/022 vol. 64, file 21-14-5-1 pt. 2, 26 Oct 64, memo from Canadian Embassy Oslo to USSEA, "Norwegian Foreign Policy;" USNARA RG 59 box 2878, file 711.5611/2-2758, memo Amembassy Oslo to State, "Possibility of Nuclear Weapons in Norway," 27 Feb 58; Maloney, War Without Battles pp. 149-151.

83. DGHIST file 112.1.003 (D13), 23 Nov 59, message CJSR to Foulkes; 1 Dec 59, letter CGS to Kitching.

84. DGHIST file 112.1.003 (D13), 23 Nov 59, message CJSR to Foulkes.

While this dialogue was underway, Norstad cast about for a brigade-sized formation that could be equipped with portable nuclear weapons and put into Norway at a moment's notice so that the integrity of the Shield could be preserved and the political problem of not having non-Norwegian forces located permanently in Norway solved. There were other vulnerable flank areas, like Thrace, that could also use an airportable nuclear force. Norstad liked the Canadian brigade group because it consisted of regular troops, it was highly professional, and, because of its training, it could handle both conventional and nuclear tasks.<sup>85</sup>

Foulkes and Norstad met to discuss both Speidel's proposal and Norstad's thinking. Foulkes liked Speidel's ideas, and Norstad asked him if he thought that the brigade group should be moved south and co-located with 1 Air Division to facilitate logistics. It would certainly save a lot of money.<sup>86</sup> Foulkes stated that he was not impressed with what he perceived to be a lack of British Corps support for the brigade group. He wanted it to be independent. It should be equipped with Vertol heavy lift helicopters, Bobcat APCs, and either Little John or Lacrosse.<sup>87</sup>

Though he did not bring it up, Foulkes had expressed interest in converting the two other NATO-committed brigade groups based in Canada into airportable formations with this mix of equipment and heavy long-range transport aircraft like the projected American C-121 Starlifter. It was one reason why he wanted Little John instead of Honest John prior to the

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85. Maloney, War Without Battles pp. 149-151; DG HIST file 72/153, 30 Sep 63, "Report of the Ad Hoc Committee on Defence Policy."

86. DGHIST file 112.1.003 (D13), 11 Dec 59, "Notes on meeting Between General Norstad and General Foulkes- SHAPE;" 21 Dec 59, message Kitching to Clark.

87. DGHIST file 112.1.003 (D13) (n/d) "General Foulkes Visit to Fontainbeau."

problems encountered with Lacrosse. General Clark, and even some External Affairs representatives had misgivings. If the brigade group based in Europe was airportable, it would of course become easier for it to be brought back to Canada as quickly as it would be easy to transport the other two brigade groups over by air. Despite the fact that adopting the new role would give Canada a higher operational profile in SHAPE and thus enhance Canadian prestige and satisfy the limited military autonomy tradition, the proposal would also produce a lack of permanency for the land forces commitment. It might pose problems with Europeans who were sensitive about force withdrawals and the nature of the deterrent, particularly after the British withdrawals and push for the 'trip wire' approach.<sup>88</sup>

These points became moot rather quickly. The Belgians were sucked into the Congo situation in 1960, which prompted the withdrawal of a number of Belgian Army units stationed in Germany. There was not enough time to change the role and re-train the brigade group to cover the gap. The British, of course, howled at the potential loss of 'their' prize Canadian formation. The deployment of the brigade group to Norway or Thrace in an emergency at this juncture would weaken the Shield considerably. Finally, there was just not enough money to acquire helicopters and long range transports.<sup>89</sup>

Nevertheless, the brigade group's conventional capabilities were improved after 1958. The formation received more Centurion tanks, spotter aircraft, reconnaissance helicopters, first generation anti-tank guided missiles, and an additional 155mm artillery battery. Though modest in

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88. UVIC, Pearkes Papers, 18 Feb 71, "Interview with Lt-Gen S.F. Clark."

89. Maloney, War Without Battles pp. 149-151.

scale when compared to other NATO formations, the brigade group was an all-arms half-division with divisional nuclear support and was trained for conventional and nuclear warfare. It was a well-balanced and flexible formation capable of fighting within the context of NATO's strategic and operational concept in the Central Region. All it needed was access to Honest John warheads.

#### Canadian Maritime Forces and MC 70

The 1957 RCN/RCAF Concept of Maritime Operations continued as the basis for Canadian maritime operational thinking albeit with some modification. These modifications were dictated by technological developments, previously-planned Canadian air and naval programmes, and the implications of the US-NATO stockpile announcement in December 1957. All three of these factors affected Canadian maritime operations more or less simultaneously.

As we will recall from Chapter 4, the RCN and RCAF created a concept of maritime operations to take into account the pattern of war developed in MC 48 and the evolving maritime force structure, which included surface ships, land- and carrier-based ASW aircraft, and a mix of conventional and nuclear ASW weapons. The adoption of MC 14/2 (revised) did not alter RCN/RCAF thinking, as the planners viewed MC 14/2 (revised) as a minor evolution of MC 48. The planners referred to both concepts as MC 48 well into 1961. The MC 70 requirements for the RCN/RCAF maritime forces did not have a great impact on the concept. Even the stockpile announcement was considered evolutionary to some extent, as Canadian maritime

planners were well aware of American developments in nuclear ASW. In January 1958, the COSC authorized the RCAF and RCN to enter into "exploratory discussions" with their American counterparts to "determine the Canadian requirements for the use and storage of nuclear anti-submarine devices...and then discuss the possible requirements for the storage of American weapons in Canada and what opportunities there might be for joint storage."<sup>90</sup> External Affairs' only concern at this point was that the Canadian commanders ensure that safety precautions were adequate.<sup>91</sup>

New intelligence on Soviet capabilities entered into the picture when the MCC submitted "MCC 600/2: Future Defence Analysis" to the COSC and JCS.<sup>92</sup> MCC 600/2 argued that the Soviets would, by 1961, be able to maintain 41 submarines in the Atlantic and 16 in the Pacific Ocean in peacetime on station off the coasts of North America. Eight of these would be nuclear powered, with the bulk allocated to the Atlantic. Most of these submarines would be equipped with nuclear mines, nuclear torpedoes, or nuclear guided missiles. They would be supported with covert minelayers (merchant ships equipped for this purpose) and long-range aircraft equipped with nuclear weapons. The Soviets were already equipped with a 500-mile-range cruise missile, and its range would extend to 1000 miles by

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90. DGHIST, Raymont Collection file 1310E, 20 Jan 58, COSC 616th Meeting.

91. Ibid.

92. MCC 600/2 discussed both air and naval attack against North America. Only the naval portion will be discussed here at this time.

1961. The accuracy of this weapon would improve. Targets would probably be SAC bases.<sup>93</sup>

MCC 600/2 recommended to the COSC and JCS that a large number of improvements were critical and that the:

- a) the two nations develop an agreed-to ASW concept.
- b) integrate operational plans on both coasts, ensure that these plans resonated with NATO concepts and plans.
- c) improve measures to detect, maintain surveillance of, and identify submarines operating within striking range of North American targets.
- d) provide anti-submarine forces with improved detection and kill capabilities, including provision for the employment of atomic weapons.<sup>94</sup>

The COSC accepted this as a basis for planning and instructed Vice-Admiral De Wolfe to execute it.<sup>95</sup>

It would take time to do so, though the possibility of increased range for sub-launched cruise missiles altered the 1957 Concept of Maritime Operations. MARCOMLANT's Emergency Defence Plan for 1958 used MC 14/2 (revised) as its basis in terms of pattern of war. The EDP recognized that SAC would be the priority target, with industry, government, and population as secondary targets. Canada would have two or three hours warning from the DEW Line for a bomber attack, though submarines might be able to attack earlier. The EDP would be conducted "in the initial stages

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93. DGHIST 112.012 (D1), 1 Jan 1958, "Canada-United States Future Defence Analysis MCC 600/2."

94. Ibid.

95. NAC RG 24 vol. 112 file 096 107.4 v.1, 30 Jan 58, memo De Wolfe to Foulkes, "Co-Ordinated Canada-United States Defence of North America Against Submarines;" DGHIST 112.3M2.009 (D 260), 8 Jan 58, "Extract from minutes of the 615th Meeting of the COSC."

of a war and before SACLANT re-assigns forces to other tasks.<sup>96</sup> In doing so, MARCOMLANT's primary task was the destruction of enemy submarines, followed by the destruction of incoming cruise missiles launched from both submarines and long-range aircraft, and the protection of Canadian ports from nuclear mines and torpedoes.<sup>97</sup>

Existing Canadian maritime forces would be deployed on the Atlantic coast to "prevent submarines from gaining advantageous missile-firing positions" for up to the first thirty days of the war.<sup>98</sup> There would be no time to mobilize the reserve fleet. The force deployment was more modest than the 1957 concept, since the projected forces for the 1957 concept were still under construction. The 1958 EDP had three surface patrol areas for the 20 ASW ships, with the CVL group roaming around as a mobile reserve. The 24 Neptunes and five Lancasters were to operate out from their bases to a range of 500 miles.<sup>99</sup>

The 1958 threat projection confirmed RCN thinking that the 1957 concept required some alteration. If the missile launchers were further out, than the combat zones in the 1957 concept were invalid. The surface ships might have to operate further out in wartime. The implementation of a peacetime ASW patrol in the Atlantic, recommended by the MCC, would also mean that endurance of a surface patrol would have to increase. These assumptions formed the basis for the production of operational support

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96. NAC RG 24 vol. 130 file 098.108, "Maritime Commander Atlantic Emergency Defence Plan-1958."

97. Ibid.

98. Ibid.

99. Ibid.

vessels (AORs) so that these aims could be achieved. They also resonated with MC 48/2, which called for dispersed mobile logistic forces.<sup>100</sup>

The recognition that enemy missile launching submarines could be operating on the west coast of Canada prompted a shift of focus. The RCN established a policy whereby for every two destroyers allocated to the Atlantic, the Pacific would get one. Previously, only a few ships were in the Pacific, and most of them had training responsibilities. Thus, by mid-1958, there were 1 ASW carrier (Bonaventure), 11 destroyers, 7 DDE's (the new Restigouche-class), and 10 frigates in the Atlantic, and 7 DDE's (St-Laurent-class) and 8 frigates operating in the Pacific. The RCAF maritime patrol squadron on the west coast had, in previous plans, been made available to SACLANT in wartime. This situation also changed, and 407 Squadron remained committed to Pacific Ocean ASW operations.<sup>101</sup> Pacific Command had initiated a relationship with USN forces on the west coast and had conducted anti-guided missile submarine exercises in concert with them. These exercises incorporated the use of the Mk. 90 BETTY nuclear depth bomb from USN maritime patrol aircraft into exercise play, and the RCN units participating were indoctrinated with the safety distance and other employment techniques of that weapon.<sup>102</sup>

The maritime patrol aircraft fleet was under constant development during this time. The P2V Neptunes were considered by the RCAF to be

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100. Hennessy, "The Rise and Fall of a Canadian Maritime Policy", pp. 344-345; DGHIST, Raymont Collection file 1310 E, 10 Jun 58, COSC 623rd Meeting.

101. NAC MG 32 B19, vol. 46 file 61-168, 4 Jul 60, memo Campbell to Harkness, "RCAF Maritime Operations-West Coast."

102. DGHIST, 17 July 1958, Naval Board Minutes, 573rd Meeting; NAC RG 24 vol. 8161 file 1660-78, 26 Feb 58, "Report on REGSUBEX, 10-13 Sep 57."

interim aircraft. The replacement aircraft was the CP-107 Argus (both types wound up serving side by side because of the Canadian commitment of 40 MPA's to SACLANT). The Argus was the most advanced and capable LRMPA in NATO and continued to be well into the 1960's. A four-engine aircraft, the design incorporated two huge bomb bays capable of carrying 8000 pounds of weapons. It had superior range and endurance to all existing NATO patrol aircraft. The Argus possessed sensor systems which included MAD, LOFAR buoys, and explosive echo ranging. In terms of weapons, the Argus was originally designed to carry conventional Mk. 54 depth bombs and Mk. 30 and Mk. 43 homing torpedoes. The aircraft's immense capacity, however, was well suited to cater to future technological developments. There were initially three Argus squadrons deployed in 1958 (all assigned to the east coast) for a total of thirty-three aircraft.<sup>103</sup>

With this new capability coming on line and with the NATO stockpile announcement, it should come as no surprise that the RCAF produced more detailed requirements for nuclear ASW weapons. A report by the nuclear weapons requirements team in July 1958 determined that there were two types of USN nuclear depth charges, but more information was required on their comparative characteristics so that a choice could be made. For 30 days of operations in Phase I, the team concluded that the RCAF would need 128 nuclear depth charges.<sup>104</sup>

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103. W.M. Diggle, "Evolution of the Argus," The Roundel May 1958, pp. 2-32; DGHIST file R A/C C, (n/d) Canadair sales pamphlet, "Argus MK II Maritime Patrol Aircraft"; DGHIST file R A/C/ C, (n/d) "Argus Statistics."

104. ATI, 25 Jul 58, Aide Memoire for the Chief of the Air Staff, "Requirements for Nuclear Weapons."

The USN's nuclear ASW capability had exponentially increased between 1953 and 1958. All maritime patrol aircraft in USN service (S2F, P2V, P5M) were capable of using the Mk. 90 BETTY and the new Mk. 101 LULU. The Mk. 101 was a physically smaller weapon and thus could be adapted to wider variety of platforms, like the Sikorsky HSS-1 and HSS-1N helicopters operating from USN ASW carriers. The LULU had a W 34 warhead with a 10-15 kt yield and could be surface-burst against ships as well as against submarines.<sup>105</sup> The follow-on to the Mk. 101 was the Mk. 105 HOTPOINT, deployed late in 1959. The Mk. 80's were retired shortly after that. The Mk. 105 was similar to the Mk. 101 in yield but had a 'cookie cutter' shock absorbing nose and improved aerodynamic shape.<sup>106</sup> The RUR-5A Anti-Submarine Rocket or ASROC was also under development (such a weapon was forecast in the 1953 ALIEX study)<sup>107</sup> and would be deployed in the USN in 1961. ASROC was a stand-off dual capable (conventional or nuclear) missile which was to be mounted on USN surface ships. It had less than a ten-mile range.<sup>108</sup> ASROC carried a W 44 warhead with a 1 kt yield.<sup>109</sup>

Air Commodore W.W. Bean and Commodore Jeffry Brock were assigned to produce a joint Canadian requirement for nuclear weapons in a maritime setting. This requirement was produced in 1959, when the effects

105. Hansen, U.S. Nuclear Weapons pp. 207-208; USN OA, "CinCLANTFLEET Annual Report 1 July 1958-30 June 1959."

106. Hansen, U.S. Nuclear Weapons pp. 207-208; USN OC, "Report of the Commander-in-Chief U.S. Atlantic Fleet Upon Being Relieved, period 1 July 1959-29 February 1960."

107. USN OA SPD box 279 file A1, memo BuOrd to CNO, "Project ALIEX, " 23 Mar 53.

108. Hansen, U.S. Nuclear Weapons pp. 207-208.

109. Cochrane et al, U.S. Nuclear Forces and Capabilities pp. 267-268.

of the anti-nuclear weapons faction in Cabinet was in ascendancy. As such, the authors noted at the beginning of the report that: "Whilst present government policy precludes the use of special weapons, it is considered that the potential of these weapons is such that there is a requirement for their use by Canadian Maritime Forces."<sup>110</sup>

Existing conventional weapons would be less effective against nuclear-propelled or fast conventional submarines. Therefore, the report argued, kill probability could be increased by increasing the weapon's delivery accuracy, increasing the accuracy of the detection and fire control systems, or increasing the lethal radius of the weapon. With existing technological limitations in delivery and detection, the course of action was to increase the lethal radius, and this could be done only with a nuclear weapon.<sup>111</sup>

Notably, both planners believed that there might be limitations on nuclear ASW weapons use. It would be costly to rely solely on nuclear weapons. Tactical and geographical restrictions "precluded exclusive use." In terms of types of weapons, Brock and Bean thought that ASROC was "not suitable for retrofitting in RCN ships", but thought it might be incorporated in later designs. Of the two existing aerial nuclear depth bombs, the Mk. 90 could be carried by the RCAF MPA's, but not the RCN's Trackers or planned helicopters. Thus, the Mk. 101 could fulfill Canadian requirements since it could fit on all platforms.<sup>112</sup>

In terms of air defence nuclear weapons, Tartar and Terrier were still the best bet for the RCN, though the planners noted that:

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110. ATI, February 1959, "Special Weapons Requirements for Maritime Warfare."

111. Ibid.

112. Ibid.

The use of nuclear air-to-air missiles by naval fighters would considerably increase the air defence capability of the fleet and its ability to deal with snoopers and aircraft working in conjunction with submarines. The Banshee and all fighters now produced are capable of nuclear weapons delivery in both air-to-air and air-to-surface operations. Since the RCN has no approved programme for the fitting of missile systems in destroyer escorts or the purchasing of a replacement fighter, the quantity and types of warheads cannot be stated.<sup>113</sup>

Brock and Bean strongly recommended that the maritime forces pursue nuclear weapons acquisition.

The RCN was at this time finalizing its requirements for a new ship-board helicopter and had been operating H04S and HUK2 machines from the carrier in the plane guard role. Successful tests conducted with a platform mounted on the destroyer HMCS Buckingham convinced the RCN that large ASW helicopters carrying dunking sonar, torpedoes, and depth bombs could operate from DDE-sized vessels. SACLANT, on learning of these tests and learning that Canada would not provide a second aircraft carrier, encouraged these developments.<sup>114</sup>

The new machine had to be able to operate independently from its parent ship, as well as in concert with it. This requirement meant that it had to have its own data processing system and detection systems. It had to be able to, with some modification, transport ten full-equipped troops. Most importantly, it had to have the capability of "the carriage and release of one

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113. Ibid.

114. DGHIST, Raymont Collection file 184, 17 Nov 55, "A Paper on the Control and Operation of Helicopters in the Canadian Services;" 10 Apr 59, memo to COSC, "Helicopters for Antisubmarine Warfare."

1,200 lb. weapon in lieu of two homing torpedoes.<sup>115</sup> The Mk. 101 LULU weighed 1200 pounds.<sup>116</sup> The only machine which met these requirements was the Sikorski HSS-1 Sea King then under development in the United States for the USN. The RCN initiated procurement procedures late in 1961 ensuring that the special weapons capability was downplayed, and made plans to modify the St Laurent and Restigouche classes to accept the Sea King in the early 1960s.

As an aside, the RCN became more and more intrigued with the prospect of acquiring nuclear hunter-killer submarines (SSN's) to defeat the missile launching submarine threat. The CNS initiated a study in 1957 and RCN observers on the USN's Anti-Submarine Development Exercise (ASDEVEX) 1-58 provided information on how to employ SSN's in ASW barrier operations. RCN planners uniformly agreed that the best counter to a submarine was an SSN, but any such programme would be extremely costly and would have political ramifications in terms of information sharing.<sup>117</sup>

USN-Canadian relations, already relatively close, grew closer still in 1959. In February of that year, Admiral Wright notified the JCS that: "The increasing threat of Russian submarine capability to launch guided missiles against the United States and the number of Russian submarines

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<sup>115.</sup> DGHIST, Raymont Collection file 184, 9 Sep 59, "Staff Characteristics for an Escort Borne ASW Helicopter."

<sup>116.</sup> Al Adcock, H-3 Sea King in Action (Carrollton Texas: Squadron Signal Publications, 1995) p. 7.

<sup>117.</sup> DGHIST, Naval Board Minutes, 31 Oct 57, 510th Meeting; 531st Meeting, 29 May 57; 564th Meeting, 17 Mar 58; NAC RG 24 vol 11182 file 8100.1 v.2, 25 Jun 58, "Report on ASDEVEX 1-58." ASDEVEX involved 10 SSK's, 2 SSN's and two squadrons of USN Neptunes. It was conducted in the waters between Iceland and the Faeroes. There were three barrier lines: Neptunes, SSK's and then SSN's.

which threaten the shipping necessary to resupply our National and Allied Forces in Europe cannot be destroyed with the forces now available."<sup>118</sup>

Wright recommended that there was a "requirement to accelerate preparations to meet the submarine launched guided missile threat", which entailed increasing the peacetime operational readiness of the USN; the extension, integration, and improvement of the SOSUS system; the installation of a barrier system in the GIUK Gap; and the "rapid procurement of proven ASW hardware",<sup>119</sup> which presumably included nuclear ASW weapons.

This state of affairs did not immediately affect USN ASW policy. In accordance with the 1958 MCC 600/2 estimate, the existing USN policy was based on the diesel submarine threat and a 500-mile range guided missile threat and recognition that the new threat would now consist of nuclear propelled and equipped submarines and 1500-mile range ballistic missile launching submarines. The 1958 USN ASW policy codified previous thinking in that the defence of North America against missile attack launched from submarines was to be based on attack at source; barrier operations in the Norwegian Sea and the GIUK Gap; and barrier operations in Atlantic Ocean, away from the coast. This thinking was passed on to the RCN in July 1959 so that the closer integration of RCN/RCAF and USN concepts would be a smooth process.<sup>120</sup>

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118. USNARA RG 218 JCS 1959 vol. 5162 file CINCLANT (1959), message CinCLANT to JCS, 12 Feb 59.

119. Ibid.

120. NAC RG 24 vol 11182 file 8100-1 v.2, 23 Jul 59, Transmittal of OPNAV Instruction 03360.2B to FOAC and FOPC.

More and better information on USN nuclear ASW requirements and capabilities was passed on to the RCN and RCAF. If Canada required nuclear ASW weapons, the USN indicated that such weapons could be made available from USN stocks that is, Canada would not have to buy them. If Canada chose to base the weapons in Canada, storage facilities needed to be built, with the primary locations being Comox, British Columbia; Greenwood, Nova Scotia; and Summerside, Prince Edward Island. The Greenwood site would handle both RCAF and RCN weapons, while any RCAF MPA deployed to Torbay, Newfoundland could conceivably draw on the USN storage site located on the leased base territory at Argentia. All of this was subject to government-level negotiations which foundered in 1959.<sup>121</sup>

The USN had already embarked on an extensive storage construction programme to support its forces operating in the Atlantic. In 1958, there were three sites: Brunswick, Maine; Norfolk, Virginia; and Jacksonville, Florida. In 1959, the site at Argentia, Newfoundland was completed, followed by Keflavik, Iceland in 1960.<sup>122</sup> The Argentia site would, however, not contain assembled nuclear weapons before 1967:<sup>123</sup> it was another casualty of the Diefenbaker Government's nuclear weapons policy.

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121. ATI, 1 May 59, memo Bean to Campbell, "Special Weapons: RCN/RCAF ASW Requirements;" 28 May 59, memo Bean to Campbell, "Special Weapons Requirements for Maritime Warfare."

122. USN OA, "Annual Report CinCLANTFLEET 1 July 1958-30 June 1959"; "Report of the Commander in Chief U.S. Atlantic Fleet Upon Being Relieved, Period 1 July 1959-29 February 1960."

123. ATI, 27 Jul 67, agreement signed between Admiral T.H. Moorer, USN and Air Marshal F.R. Sharp, RCAF, "Canadian Forces-United States Navy Supplementary Arrangement for United States Naval Forces At A Base in Canada." Note that this agreement does not specifically identify Argentia as the site. CinCLANTFLEET Annual Reports note that not all sites could retain assembled weapons because of political problems, but at least two overseas sites had disassembled weapons in them. See

The RCN and RCAF reassessed their concept of operations in mid-1959, which again was part of the process of harmonizing the American and Canadian concepts. The 1957 concept's three zone idea was less tenable, even with the increase in maritime patrol aircraft availability. The projected target submarines greater endurance and lower noise levels suggested that a better area detection capability was required. Existing passive systems, that is, SOSUS, were

...almost entirely dependent on the fact that a conventional submarine must 'snort' for several hours in every 24 hours in order to recharge its batteries and in doing so raise its noise level to a value which can be detected. On the other hand, a nuclear submarine can stay submerged indefinitely and operate at a noise level which makes its detection by passive means somewhat uncertain.<sup>124</sup>

Assessments of the existing SOSUS varied greatly. This capability was important to Canadian planners, since their operational concept was based on the acquisition of accurate SOSUS information, which in turn affected the selection of weapons which might be employed against a target. One 1959 assessment noted that "the range is still disappointing, it is not much over two hundred miles and is not much use if it will only hold for two hundred miles and they have thousand mile missiles."<sup>125</sup> In another test, the SSK HMS Cachetot was detected only 13 miles from an array and then

NSA, "Report of the Command In Chief of the U.S. Atlantic Fleet Upon Being Relieved Period 1 July 1962-30 April 1963."

124. NAC RG 24 vol. 1 file 098.105, 15 Jun 59, memo to VCAS, "Maritime Warfare: Development of Future Concepts."

125. DGHIST vol. 73/1223 file 2002, "Minutes of a Conference of Air Officers Commanding and Air Officers Held in the Air Council Room at Air Force Headquarters, Ottawa, 17 to 19 March 1959."

long after the submarine had transited the area.<sup>126</sup> On the other hand, the SSN USS Nautilus was detected and held by Shelburne for 30 hours when it was 200 miles off Bermuda.<sup>127</sup> SOSUS performance

...appears to be subject to wide variations from one period to another. Like visual detection in the presence of intermittent fog, SOSUS stations may detect targets at considerable ranges during one period and fail to detect these and even closer targets during a subsequent period. Whether due to variations in target emitted noise, background noise, sound transmission in the sea or some yet unknown cause, these intervals in SOSUS 'visibility' are irregular and unpredictable.<sup>128</sup>

SSN's were more easily detected at high speed than at slower speeds. They were also more detectable than 'snorting' SSK's. There were also problems with classification of the target once it was found by SOSUS. The database was still far from complete and the technology did not exist to store and readily access it. SOSUS could usually detect if submarines were in a particular area but could not classify them yet with absolute certainty nor pinpoint their location. The information would have to be correlated with the locations of friendly submarines.<sup>129</sup>

RCN/RCAF planners had to take these factors into account in the maritime warfare concept and force structure. In addition, SACLANT was

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126. NAC RG 24 acc 83-84/167, vol. 89 file 1270-78-1, 26 Sep 60, Sea/Air Warfare Committee, 39th Meeting, 12 September 1960.

127. DGHIST vol. 73/1223 file 2001, "Brief Prepared for AOsc and Air Member's Conference at AFHQ, 14-18 Jan 57: Maritime Air Command."

128. ATI, (n/d) "ASDEVFORLANT Summary Evaluation Report No. One: Current Operational Capabilities of the Atlantic SOSUS System."

129. Ibid.

planning to establish a Greenland-Iceland-United Kingdom Gap (GIUK) barrier system based on an underwater listening system and CVS-based HUK groups, which is probably one reason why he wanted a second Canadian anti-submarine carrier in MC 70. How would the Canadian system interact with the GIUK system? Would Canada deploy maritime forces to operate as part of the GIUK system?<sup>130</sup>

The 1959 requirements for an RCN/RCAF anti-submarine weapons system, based on the MC 14/2 (revised) concept and MC 70 force requirements, included the following elements: surveillance systems, of which the existing SOSUS system would only be one part; LRMPA's; carrier-based MPA's; ship and shore-based helicopters; surface vessels; and submarines. The purpose of such a system was "to defend Canada and to contribute to the collective defence of the NATO area against attack from the sea."<sup>131</sup>

Though Canadian maritime commanders expressed little interest in participating in the GIUK Gap barrier force, they did not entirely rule it out. Whatever made it out of the pens in the Kola Peninsula, past the barrier forces in the Norwegian Sea, and through the GIUK Gap would have to contend with the RCN and RCAF before getting into missile range. The concept was flexible enough to handle pre-positioned enemy submarines operating off the coasts in peacetime in preparation for a war.<sup>132</sup>

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130. NAC RG 24 acc 83-84/167, vol. 89 file 1270-78-1, 26 Sep 60, Sea/Air Warfare Committee, 39th Meeting, 12 September 1960.

131. NAC RG 24 vol. 89 file 1270-78-1 v.6, 19 Aug 59, "General Requirements for the RCN/RCAF Anti-Submarine Weapons System."

132. Ibid.

SOSUS would generally tell commanders where the threat was. If the targets were using high frequency (HF) communications, the integrated Canada-US shore-based HF detection finding system and RCN SIGINT assets would assist in localizing them.<sup>133</sup> The RCAF wanted to develop a moored sonobuoy system, in effect a portable temporary SOSUS, which could be deployed at a moments notice to cover vital areas. It would be used in conjunction with aerial sonobuoys from maritime patrol aircraft and helicopters, with hull-mounted sonar to localize the target. Geographical considerations would dictate whether nuclear or conventional ASW weapons would be employed. If the target were inshore, conventional weapons would have to be used. Once again, the concept boiled down to the availability of nuclear ASW weapons.

New tactics and techniques were pursued vigorously by both American and Canadian maritime forces throughout 1959 and 1960. The USN inaugurated an ongoing series of exercises called SLAMEX (Surface Launched Atomic Missile Exercise). The first, SLAMEX 1-59, was a disaster. Four conventionally-powered "SSG's" attempted to move into "firing positions" off the American east coast. Only one was "destroyed" before "launch," and the other three made five successful "launches" before being "destroyed" by USN ASW forces.<sup>134</sup> Later SLAMEX's, starting with SLAMEX 1-60, were joint Canadian-American affairs and were conducted

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133. ATI, (22 Oct 59) "Areas of Knowledge Pertinent to Study of Ocean Area Surveillance." Canada posessed an extensive and high quality naval signals intelligence capability. There is virtually no history written on this important Canadian contribution.

134. USN OA, "Annual Report of the Commander in Chief U.S. Atlantic Fleet 1 July 1958-30 June 1959."

on both coasts of North America. SLAMEX's regularly incorporated Mk. 101 LULU nuclear play.<sup>135</sup>

In an effort to increase MPA coverage in the Canadian Atlantic Sub-Area, FOAC authorized the deployment of CS2F Trackers in support of the SOSUS station at Shelburne. There were two Tracker squadrons, VS 880 and VS 881. These units were usually in rotation with HMCS Bonaventure. This left the shore-based rotation squadron with its 30 or so Trackers relatively idle. Operating from HMCS Shearwater, these aircraft lightened the load carried by the RCAF's Neptune and Argus aircraft, which had more range. One consequence was that it allowed the Neptunes and Argus's more time on station further out into the Atlantic.<sup>136</sup>

The Trackers were not just looking for submarines. The RCN/RCAF concept of maritime operations specifically noted the possibility that Soviet merchant ships and trawlers might be equipped with nuclear mines or surreptitious nuclear devices for use against ports and bases. A later threat estimate explored the possibility that IRBM's could be mounted inside a merchant ship (like a Q ship or a Trojan Horse), prepositioned off the coast and brought into action at the start of a conflict.<sup>137</sup>

Dramatically increased Soviet trawler and submarine activity off the east coast of Canada greatly disturbed Canadian maritime commanders. Some

135. NAC RG 24 vol 11147 file 1400-1 vol. 1, 4 Sep 59, COMWESEAFRON to MARCOMPAC, "Proposed Scramble Table;" USN OA "Annual Report of the Commander in Chief U.S. Atlantic Fleet 1 Mar 60-30 June 60."

136. NAC RG 24 vol. 11147, file 1400-1 vol.1, 13 Oct 59, "CANCOMARLANT Trial Instruction 3/59: Control of CS2F Tracker Aircraft."

137. DGHIST file 74/723, 2 Apr 57, "RCN/RCAF Concept of Maritime Operations."

tended to discard the activity and write it off to routine activity. Others, including Air Commodore Clements, warned that:

We have at least seventeen trawlers off our East coast all the time, year in, year out. We have now become accustomed to that. A year ago or less we were having submarine reports and activity. All the Russians have to do is beef up their activity over a period and we become accustomed to that and go asleep again; and they can suddenly spring into action when they like.<sup>138</sup>

CANCOMARLANT initiated Operation GRAND BANKS in 1958 with the express purpose of finding out what the enemy was up to. The trawlers were conducting detailed hydrographic, geographic, and weather surveys and appear to have laid a buoyed underwater system for communicating with their submarines. They were also strongly suspected of conducting nocturnal replenishment operations. In a massive operation, the Bonaventure CVL group, a surface DDE group, and Neptune and Tracker aircraft photographed, buzzed, and hounded thirty five or so Soviet trawlers. A Tracker saw a swirl, gained a MAD contact and tracked one sub by sonobuoys. Shelburne reported a 'snorter' and two MPA's were vectored onto it, which produced MAD and sonobuoys readings. Suddenly, RCN ships reported communications jamming on multiple frequencies. RCN SIGINT facilities reported that Soviets were considerably agitated by the operation.<sup>139</sup> Such operations became annual events into the 1960s.

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138. DGHIST vol. 73/1223 file 2002, "Minutes of a Conference of Air Officers Commanding and Air Officers Held in the Air Council Room at Air Force Headquarters, Ottawa, 17 to 19 March 1959."

139. DGHIST file 73/1132, 11 Apr 58, "Maritime Commander Atlantic Operation Order 2-58: Operation GRAND BANKS III."

What did all of this mean? The trawler/submarine problem highlighted the problem of the transition between peace and war and the need for a mixed, flexible force structure. These enemy forces were pre-positioned in peacetime to support submarine operations in wartime against North America. Because of their stealthy characteristics, submarines could transit to the launch sites before the war started and coordinate with a bomber attack. They could open a hole on radar coverage for bombers to pass through and they could be used to destroy significant SAC elements on the ground. Nuclear ASW weapons could not be used to counter the trawler threat; only conventional weapons could not only for operational but political and geographical reasons. What if a target ship or submarine was close in to the Canadian coast? Nuclear ASW weapons exploded in shallow water would produce "blow out" as the energy of the weapon would take the path of least resistance and blow up and out of the water instead of having the energy radiating around the focal point of the blast. The maritime force structure had to have conventional as well as nuclear weapons.

It did not prevent the RCAF from trying to acquire a dual-capable air-to-surface weapon for the Argus. Enemy submarines equipped with cruise missile had to surface first and then prepare the missile. This could take fifteen minutes. Depth charges were useless against a surface target, though the Neptune could carry conventional rockets. When the projected ballistic missile launching submarine came along, it too would have to surface to launch and it would be equipped with more than one or two missiles. A conventional attack might only damage some missiles. therefore, the probability of kill had to increase to take out the entire submarine quickly before it could ripple launch the missiles. A similar

logic applied to Trojan Horse merchant ships and trawlers laying nuclear mines.

The primary contender for an air-to-surface weapon was the AGM-12D Bullpup, then under development by the Martin company in the United States. This weapon entered USN service in 1959. It had a range of ten miles and came in nuclear and conventional versions. The nuclear version had a W 45 warhead with a 1.5 to 15 kt yield. The French Navy was experimenting with Bullpup at the time and the RCAF though that it could be modified to fire from the Argus. An Argus was sent to Point Magu, California for tests in 1960. Eventually the RCAF concluded that they should not acquire Bullpup. Whether this was for operational reasons, compatibility problems with Argus, or that the RCAF did not want to aggravate the ongoing problem of nuclear weapons acquisition by added yet another weapons system is unclear.<sup>140</sup>

The problem of transition from cold war to hot war continued to be an object of deliberation within the Canadian and American maritime warfare communities. As we have seen, there was a relatively open exchange of information between the three services so that there would be no gaps. Some Canadian planners thought that a NORAD-like command should be established to deal with the guided missile launching submarine threat. Perhaps the Canadian maritime forces and the USN's Anti-Submarine Defence Force Atlantic (ASDEVFORLANT)<sup>141</sup> should come under a bi-

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140. DGHIST file R A/C C "Neptune P2V7, 26 Jan 62, "RCAF Operating Instructions: Neptune P2V7"; DGHIST file 76/264, Air Council Minutes, "GASR 11/58 Anti-Submarine Weapons System;" 8 Feb 60, "Air To Surface Weapons System: Maritime Aircraft Bullpup Evaluation Programme; 25 Oct 61, "Bullpup ASW system for Maritime Aircraft;" Hansen, U.S. Nuclear Weapons pp. 183-184.

141. ASDEVFORLANT was established by the USN in June 1957. Its mission was specifically to protect North America from missile launching and other submarine

national command instead of SACLANT. Perhaps SACLANT should handle everything past Iceland and leave the defence of North America in the hands of national forces under the CUSRPG.<sup>142</sup>

The problem here was that ASDEVFORLANT was an American national command that was not earmarked to SACLANT in war, whereas Canadian maritime forces in the Atlantic were for the most part so allocated. The concern was that if there was no sufficient warning, Canadian forces would be automatically transferred to SACLANT's command and he might task them elsewhere, like the GIUK Gap.<sup>143</sup> Removal of the forces from SACLANT and reassignment to CUSRPG might cause political problems in NATO, even though by doing so the force structure which had been partly justified as a NATO commitment would remain so since CUSRPG was a NATO agency.

The USN was violently opposed to establishing such a command, pointing out that American national forces like ASDEVFORLANT came under CinCLANT, who was SACLANT anyway, who was also triple-hatted as WESTLANT too. Despite the convoluted structure, the chain of command was flexible enough to allow for North American defence operations to go one without affecting other SACLANT operations. This thinking was

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threats. See Tom Compere (ed.) The Navy Blue Book Vol. I (New York: Military Publishing Institute, Inc., 1960) p. 274.

142. NAC RG 24 acc 83/84/167 vol. 1 file 098.105, 14 Oct 58, memo DAPP to CPlansI, "Briefing on NATO and CAN/US Maritime Plans."

143. NAC RG 24 acc 83/84/167 vol. 1 file 098.105, 15 Oct 58, memo COps to CPlansI.

reflected in the USN's 1960 concept of strategic anti-submarine operations.<sup>144</sup>

What was really needed was an understanding that the existing NATO strategic concept MC 14/2 (revised) was ambiguous in its interpretation of what would happen before Phase I. The Canadian and American maritime concepts needed a pre-Phase I concept. Enemy ships and submarines would pre-position themselves advantageously prior to the war and this could have decisive effects on Phase I detrimental to the West.

The 1960 USN concept, authored by the USN CNO, Admiral Arleigh Burke, called pre-Phase I "Cold War," a period characterized by intelligence gathering, surveillance operations (including detecting and locating), and the continuous operation of ASW forces at sea.<sup>145</sup> This was a firm fit with earlier Canadian efforts to sort out the relationship between a pre-Phase I and Phase I, particularly after the Op GRAND BANKS episode.<sup>146</sup>

Consequently, the RCN and RCAF formulated Operation CONCERT and the Beartrap Concept specifically to cater to the pre-Phase I problem. Operation CONCERT consisted of maintaining an Argus and two surface escorts on station in the COMCANLANT Sub-Area at all times. The Beartrap concept was designed to keep watch on and take action against any enemy submarine entering a specific geographical area. Canadian

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144. NAC RG 24 acc 83/84/167 vol. 1 file 098.105, 15 Oct 58, memo COps to CPlansI; USN OA, Burke Papers, CNO to Distribution List, "The Strategic Concept for Antisubmarine Warfare," 15 Jan 60.

145. USN OA, Burke Papers, CNO to Distribution List, "The Strategic Concept for Antisubmarine Warfare," 15 Jan 60.

146. NAC RG 24 acc 83-84/167 vol.1 098.105, 20 Sep 60, CAS to CNS, "CNS Visit to SACLANT."

planners believed that a surprise missile launching submarine attack would be directed against the SAC bases and other targets in New England and certain Canadian ports rather than the target complex envisioned in the 1957 Concept of Maritime Operations. The optimal launching site for such an attack, based on existing enemy systems, would be an ocean area 200 miles south of Halifax, Nova Scotia. In cold war time, Op CONCERT forces could sweep the area randomly. In periods of tension, RCN and RCAF forces could concentrate on this area to deny its use. during the transition to war, anything under the surface of the ocean in the area would be destroyed immediately. Once hot war was underway, the immediate missile launching submarine threat would be dealt with and the Beartrap forces could shift to support other ASW operations further east in the Canadian Atlantic Sub-Area.<sup>147</sup> Though not explicitly stated in the assessment of the concept, the probability of kill for an ASW system to destroy pre-positioned missile launching submarines in this area would have to be high to prevent a launch. This requirement dictated immediate nuclear ASW weapons use by any aircraft assigned to this role. It also meant that preparations had to be made to do so in peacetime for the Beartrap forces, preparations which were blocked by the Diefenbaker Government's stance on nuclear weapons.

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147. NAC RG 24 acc 83-84/167 vol.1 098.105, 9 Jan 61, VCAS to CAS, "Assessment of CANCOMARLANT Concept of Operations;" 7 Apr 60, memo CAS to AOC MAC, "RCN/RCAF Concept of Maritime Operations."

## 1 Air Division and MC 70

As noted earlier, the projected augmentation of the NATO manned interceptor capability with surface-to-air missiles and the expansion of the Luftwaffe reduced the need for continued RCAF air defence forces in Europe. In Chapter 4 we saw that the operational commanders of 1 Air Division, after participating in several exercises, thought that the formation should shift to the nuclear strike role and that in 1957 the RCAF leadership was in favour of replacing the CF-86 and CF-100 fighters with either the F-100 or F-104 for the strike and reconnaissance role. The 1958 version of the SACEUR minimum force study thought that four RCAF squadrons equipped with F-100's would be acceptable as did the MC 70 study, but Foulkes and others were not happy with the process by which this recommendation was generated, nor did they think that it was economically feasible to maintain four different types of aircraft in small numbers in Europe.

SHAPE could not wait for Canada to make up her mind on the matter and its planning for war in Europe continued to evolve. The basic concept of operations in ACE from 1957 to 1963 was the same as the one discussed in the Army section earlier, to whit: SACEUR's forces had to be able to survive the initial enemy attack, destroy the enemy's ability to use nuclear weapons, stop their land attack as far east as possible, and interdict their ability to continue offensive operations. SACEUR's 1958 EDP included a revised aerial Atomic Strike Plan (ASP) which had three programmes which corresponded to the basic concept of operations. these included a Scheduled Plan (enemy nuclear delivery capability targets); Counter Radar Programme (enemy radar and control centres); and an Interdiction

Programme (mobility targets like bridges and rail junctions).<sup>148</sup> Most targets were "deep inside the Soviet sector" in East Germany, Czechoslovakia, and western Poland.<sup>149</sup>

The delivery vehicles for the 1958 ASP were mostly American F-100 and B-66 aircraft and Matador missiles based in Germany, France, and the UK.<sup>150</sup> The British were making great strides to deploy a nuclear Canberra force to 2 ATAF but this would not be available before 1958. MC 70, if fully implemented, would relegate a significant proportion of these targets to other NATO airforces once they had been re-equipped. ACE continued to conduct nuclear strike exercises like Ex FULL HOUSE in 1958, but were increasingly concerned about the poor publicity that could result, particularly after the CARTE BLANCHE episode.<sup>151</sup>

In its deliberations over the 1958 NATO Annual Review, the Panel considered the future status of 1 Air Division. The Canadian chapter maintained that a mixed force was incompatible with Canada's policy of collective forces and that the matter was under continual study.<sup>152</sup> By August, the temporary External Affairs representative to the Panel, D.V. LePan, actually thought that 1 Air Division should be returned to Canada.

148. PRO DEFE 6, 8 Nov 57, JPS, "SACEUR's Emergency Defence Plan 1958."

149. Chuck Yaeger and Leo Janos, Yeager pp. 304-305.

150. Robert Jackson, Strike Force: The USAF in Britain Since 1948 (London: Robson Books Ltd., 1988) pp. 83-89. 5; Tom Compere (ed), The Air Force Blue Book: the USAF Yearbook Volume I (New York: Military Publishing Institute Inc., 1959) pp. 310-311.

151. NSA, memo SHAPE to Distribution List, "Public Information Policy: EX FULL PLAY," 26 Apr 58.

152. NAC RG 49 (DDP) vol. 708 file 247-5 vol. 4, 25 Jul 58, POEADQ Meeting.

Perhaps this would solve the problem. If, LePan reasoned, missiles would take over the air defence job, External Affairs might consider this to be an option, though the brigade group would have to stay to exert Canadian presence in Europe. Foulkes was opposed to removal of 1 Air Division. The implementation of MC 70 in other NATO nations was not going well. Introducing this new variable into the mix would cause greater confusion and could put the whole deterrent effort in jeopardy. Canada could affect some leadership by making up her mind and implementing some positive course of action. Norstad was constantly pressuring Foulkes to do so. Foulkes thought the issue needed greater technical study by the RCAF and favoured delaying tactics while this was done. External Affairs should criticize the British and the French in the NAC for their intransigence on MC 70 to take the heat off Canada.<sup>153</sup>

The RCAF needed specific technical requirements from SACEUR as to roles and missions. It knew that the entire formation would have to be re-equipped with one aircraft type and that type might have to serve multiple roles. If 12 strike/attack squadrons were more than what SACEUR needed, could the number of squadrons be reduced to save money?<sup>154</sup> The entire matter was complicated by the ongoing CF-105 Arrow problem (see Chapter 7). The CF-105 was unsuited to the strike/attack role, yet there was still a requirement for an interceptor for North American air defence. There might not be enough money for both the CF-105 and a new strike/attack aircraft. There was a dilemma: if Canada put money into the strike/attack

153. DGHIST, Raymont Collection, file 25/8 Vol. I, 23 Oct 58, POEADQ 59th Meeting; 6 Aug 58, 56th Meeting; 3 Dec 58, 60th Meeting.

154. DGHIST, Raymont Collection file 1310C, 26 Jan 59, COSC Special Meeting.

commitment and eliminated funds for the CF-105, this would mean that the USAF would have to defend Canadian airspace when the CF-100's wore out. This was politically unacceptable.<sup>155</sup>

For reasons discussed elsewhere, the CF-105 was canceled on 20 February 1959. This action sent shock waves throughout the Canadian strategic policy making community. A vital but costly system had been eliminated. Though disappointing to the RCAF in the air defence field, it assisted in solving the 1 Air Division re-equipment problem.

The RCAF considered 20 aircraft types for the strike/attack role. By February 1959 this list had been narrowed to the following aircraft: the Grumman F-11F-1F Super Tiger; the McDonnell F-4H Phantom, the Lockheed F-104 Starfighter, the Blackburn Buccaneer, the Northrop 156F (later called the F-5 Freedom Fighter), the Republic F-105 Thunderchief, and the McDonnell F-101 Voo Doo.<sup>156</sup>

The RCAF's first choice was the F4H, since it could handle both strike/attack and interceptor roles. It was too expensive and might not be ready by 1961, which was the target date set by the COSC and SHAPE. The 156F did not have the range or the ability to deliver nuclear weapons.<sup>157</sup> The second choice was the F-105 if it could be equipped with the Orenda Iroquois engine (the same engine that the Arrow was supposed to have). This was

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155. DGHIST, Raymont Collection file 1310C, 5 Feb 59, COSC Special Meeting.

156. NAC RG 24 vol 18149 file 981.101.87 vol. 1, 25 Mar 59, message CANAIRHED to DDP.

157. At least according to the RCAF at the time. The F-5 was able to do so, but not until the 1960s.

too expensive and left the Buccaneer, the Super Tiger, and the Starfighter.<sup>158</sup>

The matter was examined during the annual RCAF senior officers meeting in March 1959. As before, multiple factors pushed the RCAF in its decision. The first was cost. Pearkes addressed the gathering, stating that he had to come up with half a billion dollars for the programme. He believed that the programme was so vital that he wanted Norstad to come over and brief the Prime Minister on the nature of the requirement.<sup>159</sup> Chief of the Air Staff Campbell emphasized that any selection would be in part dictated by cost:

...[I know] what we want and I have SACEUR's agreement to accept what is needed. In June we hope to have a decision but I will not forecast that we have a decision. the fact that we are in this rather difficult period vis vis ourselves and the public places demands on the part of the senior officers for the utmost effort and a display of untold leadership and it requires the backing of all the senior officers to transcend this period....It is being done on an informal basis with the backing of the Minister.<sup>160</sup>

This undoubtedly was in reference to the demoralizing Arrow affair and the strain it placed on the RCAF-Government and personal relationships.

The second factor involved NATO as Campbell elaborated:

...the business of re-equipping the Air Division is broader than the RCAF. It should be re-equipped because NATO is comprised of the Big Three and the remainder of the smaller nations and the smaller

<sup>158.</sup> DGHIST, Raymont Collection file 1310C, 23 Mar 59, COSC Special Meeting.

<sup>159.</sup> DGHIST Vol. 73/1223 file 2002, "Minutes of a Conference of Air Officers Commanding and Air Officers Held in the Air Council Room at Air Force Headquarters, Ottawa 17 to 19 March 1959."

<sup>160.</sup> Ibid.

nations look to Canada and if Canada does not see fit to re-equip, it will be looked upon as a dismemberment of NATO and the politicians will not face up to that particular ditch...[the RCAF] is in a strong position, we have a recommendation from SACEUR for the role we should be going into- a strike role-....I am more optimistic than I was recently.<sup>161</sup>

Foulkes had a conversation with Norstad, the gist of which he conveyed to the RCAF senior officers:

Every time we talk to Norstad about this he is adamant. He would be very upset to see [the] Air Division or the Brigade leave. He maintains the Air Division and the Brigade are very good examples for the other people to follow, and it is to demonstrate to the other countries besides the United States can keep its forces at a high state of readiness and make a proper contribution. If we started to make suggestions of withdrawal our first difficulty would be with Norstad and our second would be with the Council [NAC]. The French have just decided to take their Mediterranean Navy from outside NATO command and it has caused a lot of rumblings. But it would cause more rumblings if it looked like North America was going to pull out of NATO...things in NATO are perhaps shakier than they have ever been.<sup>162</sup>

To assist in decisionmaking, Air Vice Marshal Larry Dunlap, who at the time was serving at SHAPE as the Deputy Chief of Staff, Operations, briefed the conference on the nature of the 1959 SACEUR ASP. Within a matter of hours after the go order, strike aircraft would range to a depth of several hundred miles deep into Warsaw Pact territory with the aim of "deny(ing) the enemy both tactical and strategic flexibility and mobility." The first phase of the ASP (not to be confused with Phase I of the MC 48 or 14/2

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161. Ibid.

162. Ibid.

concepts) would be to go after rail, road, and communications systems.

Such targets were:

...quite small in nature, of such a character where you require precision attack, not necessarily a high-yield weapon and in many cases a distinctively low-yield weapon. In the planning of a campaign like this there is a great deal of consideration given to restraint on the application and choice of the weapon. One has to remember that in our operations in this particular zone are...mainly satellite countries. Targets are in East Germany, Poland, Czechoslovakia and if you can accomplish your mission without a great destruction of the civil population, if you can confine your effort to purely military targets, naturally you do so....the whole plan involves, therefore, a very careful choice of weapon and the use of the most accurate means of delivery.<sup>163</sup>

Missiles were not suited to this type of precision work. The small number of IRBM's at SACEUR's disposal had a 1500-mile range and were "operating on targets quite beyond this region", that is, probably the western Soviet Union.<sup>164</sup> A mix of weapons were needed and this included strike/attack aircraft. The enemy would have IRBM's targeted against NATO fixed bases, but Dunlap stated that dispersion and increased states of readiness were partial answers. The IRBM's were not mobile either and thus were just as vulnerable as air fields.

The RCAF generated its operational characteristics for the future strike/attack aircraft by the beginning of April 1959. Dubbed the CF-111 on paper, the stated primary roles of the aircraft were to:

- a) The effective delivery by day or night of nuclear or high explosive stores from low or medium levels, not above 20 000 feet, under

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163. Ibid.

164. Ibid.

- visual or limited blind bombing conditions against pre-selected targets.
- b) The effective delivery by day or night of nuclear or high explosive stores or a variety of air-to-ground weapons from low altitude under visual conditions against tactical targets of every description including armoured vehicles, troop concentrations, lines of communication, air fields, and targets of opportunity.<sup>165</sup>

The CF-111 was to have limited secondary capabilities which included all-weather intercept and photographic recce. Operational radius was to be about 1000 nm. It was to have a fire control system which included a radar which could handle contour mapping and ground avoidance. The bombing system was to be multi-purpose and be able to do low angle toss bombing, high angle ('over the shoulder') bombing, dive bombing, and level bombing. The Circular Error Probable (CEP) of the system was to be 500 feet for visual bombing and 1000 feet in adverse weather.<sup>166</sup>

In terms of weapons carriage, RCAF planners wanted a weapons mix. For the primary role, the CF-111 had to carry a special weapon up to 3000 pounds in weight, two conventional air-to-air missiles, and external fuel. There were various conventional weapons mixes which included 1000-pound bombs, rocket pods, and gun pods. The aircraft was also to be able to carry two air-to-surface missiles as a strike package option. Finally, the aircraft had to be ready by 1961.<sup>167</sup>

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165. NAC RG 24 Vol 18149 file 981.101.87 vol. 1, 1 Apr 59, "Operational Characteristic for a Strike Attack Aircraft."

166. Ibid.

167. Ibid.

Once Campbell had his ducks in a row, Foulkes arranged to have Norstad fly to Ottawa in May once again to address Diefenbaker and the Cabinet. In his view, Norstad stated:

In the past none of the allies had been better in quality than Canada and this quality adapted to the delivery of atomic weapons in the strike/attack role would be an important element in NATO's strength. The Canadian Air Division and the Brigade would, if the Canadian government agreed, have atomic weapons available to them under the same type of arrangements that applied in the case of the United Kingdom. Warheads would be made available on NATO authority in furtherance of NATO plans; they would be located on Canadian bases and guarded by Canadian servicemen; the 'key to the cupboard' would be held by a United States officer, and maintenance would be done by a small group of United States personnel. These weapons could be used only if both Canada and the appropriate NATO authority, acting on behalf of the United States, agreed.<sup>168</sup>

It was not a formal Cabinet meeting, so no decision was taken immediately. When Cabinet next met on 19 June 1959, Pearkes reiterated the need to re-equip 1 Air Division lest "the NATO Alliance would start to disintegrate."<sup>169</sup> Though the Cabinet agreed to the re-equipment of the formation, it was their understanding that they were doing so on the belief that

The RCAF's role in Europe had been essentially defensive. With the new role proposed, it would change to the offense, the political implications of which should be very carefully considered particularly as it would be using nuclear weapons. To this it was pointed out that before the RCAF went into action, the first blow

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168. NAC MG 32 B9 vol. 82, 30 Mar 63, memo G.P.G. Reid to Minister of National Defence.

169. NAC RG 2, 19 Jun 59, Cabinet Conclusions.

would have to be struck by the other side. The new role was really one of counter-attack.<sup>170</sup>

Cabinet did not, however, consider in detail what was meant by 'the first blow'.

The choice was down to the F11-1F Super Tiger and the F-104 Starfighter and the Starfighter won in the 30 June 1959 COSC meeting because it met all of the requirements and it was cheaper than the Super Tiger. Pearkes took it to Cabinet the same day for discussion, where Canadair was given the green light to acquire a contract to build the Canadian version of the F-104, now called the CF-104, in Canada. On 2 July 1959 Diefenbaker announced the decision to the House of Commons and later that month the Canadian representative to the NAC did the same.<sup>171</sup>

Pearkes' speech to the House of Commons elaborated on Diefenbaker's and was interesting in that it mentioned the need to contribute to the deterrent but not the fact that the CF-104 would be delivering nuclear weapons. He noted that there was "a need for aircraft which could penetrate the area between the combat zone and the Russian border for reconnaissance and for strikes on targets of opportunity such as advancing columns of troops."<sup>172</sup> Note that the reconnaissance role was placed ahead of the strike role in the speech. This statement was at variance with the aircraft requirement as explicitly described to Diefenbaker by Foulkes,

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170. Ibid.

171. NAC RG 2, 2 Jul 59, Cabinet Conclusions; DGHIST, Raymont Collection, file 1310C, 30 Jun 59, COSC 639th Meeting.

172. DDEL, Norstad Papers, box 49 file: Canada (2), "Excerpt from a Statement Made in the House of Commons on Thursday, 2 July 1959 by the Canadian Minister of National Defence Concerning the re-equipping of the First Canadian Air Division."

Pearkes, and Norstad. One can only speculate about the origins of the language used in the statement, but Diefenbaker did not contradict it at the time either formally or informally.

The selection of the aircraft was only part of the battle. As noted earlier, all NATO members were having problems meeting the MC 70 recommended minimum force requirements. The European NATO air forces were under a lot of pressure by Norstad to get on with aircraft selection so that the integrated strike planning could commence so that MC 14/2 (revised) and MC 48/2 could be fulfilled as the dominant strategic concepts.

The West German Luftwaffe also selected the F-104 to fulfill its MC 70 requirement late in 1959. There is no direct evidence available that the RCAF's selection of the F-104 in June had a significant impact on this decision.<sup>173</sup> However, it should be noted that there were strong connections between the RCAF and the fledgling Luftwaffe. The RCAF had trained most of the Luftwaffe's CF-86 pilots in the mid-1950s. The RCAF had an Advisory Group at the Luftwaffe's headquarters. The Luftwaffe also had extensive connections with Canadair, who supplied Sabres and spare parts. There were significant operational connections between the RCAF and the Luftwaffe in 4 ATAF, AIRCENT, and SHAPE once the West Germans came on board.<sup>174</sup> West German Defence Minister Franz Josef Strauss and the Chief of Staff of the Luftwaffe, Lieutenant-General Josef Kammhuber conferred with Pearkes, Foulkes, and the rest of the COSC in Ottawa in

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173. Hans-Juergen Becker, Flugzeuge die Geschichte machen Starfighter F-104 (Stuttgart: Motorbuch Verlag, 1992) Chapter 4.

174. Milberry, The Canadair Sabre pp. 285-314.

September 1959 on how to explore programme coordination. The Germans selected the F-104 partly because of its multi-role versatility, as opposed to cost.<sup>175</sup>

The combination of the RCAF and Luftwaffe F-104 selection, combined with Norstad's push for interoperability and standardization and the United State's willingness to supply some aircraft and spares under the MAP, significantly influenced the majority of NATO nations to go with the F-104. The Belgians, the Dutch, and the Italians were directly influenced by the Canadian and German decisions, which in turn influenced Norway, Denmark, Greece, and Turkey.<sup>176</sup>

The question of who would produce the aircraft, provide ground support and spares to them, and ultimately profit by it all is an interesting but intricate story far beyond the bounds of this study. Suffice it to say, Canadair was able to carve out a significant part of the financial action, keep thousands of Canadian workers employed, and dramatically contribute to maintaining SACEUR's aerial nuclear deterrent.

The F-104, as originally conceived, was not specifically created for nuclear strike operations. Designed by Lockheed's legendary Clarence 'Kelly' Johnson using the Skunk Works project management system, the F-104 was a supersonic lightweight fighter design dating from 1952.<sup>177</sup> The

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175. DGHIST, Raymont Collection, file 1311, 23 Sep 59, "Meeting of Minister of National Defence and Associate Minister of National Defence and Chiefs of Staff With the West German Minister of Defence, the German Ambassador to Canada, and Staffs."

176. NAC RG 24 vol. L280 file 1038-110 F-104G, 16 Dec 60, message Canadian Embassey, Bonn to External, Ottawa, "Proposed Special Mission to Europe on Cooperation on the F-104G Programme."

177. Jay Miller, Lockheed Martin's Skunk Works: The Official History (Updated Edition) (Leicester, UK: Midland Publishing Ltd., 1996) pp. 30-61.

USAF selected the F-104A in 1956 to act as an interim aircraft between the F-102 and F-106 interceptors. By 1958, there were four USAF F-104 squadrons in Air Defense Command. The Germans were intrigued with the F-104 and in 1958 wanted a version designed to their specifications (which probably were structured to fulfill the MC 70 requirements). Lockheed complied and created the F-104G to meet them.<sup>178</sup>

The F-104G and the CF-104 differed in some respects. The avionics were different, and the CF-104 airframe was slightly larger. The CF-104 did not mount the M-61 20mm rotary cannon and thus could carry more fuel and had a longer range. The CF-104 had a better radar bombing system, the NASRR R 14A, while the F-104G had an earlier version. In other words, the CF-104 was optimized for the low-level nuclear strike role more than the F-104G.<sup>179</sup>

This was a deliberate decision taken by Campbell, who briefed the Air Council on the CF-104 concept of operations. While, in his view, "the capability to carry conventional weapons could possibly be retained, no provision of this type stores should be contemplated"<sup>180</sup>, in direct contradiction to the April operational requirements. In case anybody on the Air Council did not understand, Campbell explicitly stated that: "All AFHQ staffs concerned with the CF-104 programme are to be made fully aware that the CF-104 and conventional weapons are incompatible and it would be

178. Phillip Fiddell, F-104 Starfighter in Action (Carrollton, Texas: Squadron/Signal Publications, 1993) pp. 4-22.

179. Fiddell, F-104 Starfighter in Action p. 37.

180. DGHIST, Air Council Minutes, 5 Aug 59, "Operational Characteristics for a Strike/Recce Aircraft."

militarily unsound to provide such a capability. nuclear weapons [will] be planned for."<sup>181</sup>

Why would Campbell issue such instructions? The other services as well as the RCAF's Maritime Air Command were leery about accepting a totally nuclear force structure and all recognized the need for flexibility in weapons employment. Why should 1 Air Division be any different?

The answer was a combination of several things. The main factor was the ongoing nuclear weapons problem with the Diefenbaker Government. By accepting the re-equipment of 1 Air Division, they had accepted a nuclear commitment. This acceptance contradicted their stance on nuclear weapons and the air defence of North America and to some extent SAC operations. If 1 Air Division were a strictly nuclear force and there was no ambiguity or potential ambiguity with regards to the role, it would accentuate any appearance of a contradictory policy on nuclear weapons. Diefenbaker's people could not claim that the force was conventional or conventional-capable for political reasons, since it would take a great deal of physical effort and training to re-role the pilots and aircraft. This would expose the existence of a contradictory policy.

There were two reasons why Campbell might want to do this. The re-equipment of 1 Air Division was in part a political device to get other NATO members to stop procrastinating on implementing MC 70, which in turn was a critical factor in ensuring that the deterrent concept was real and credible. If the government changed horses in mid stream and declared that 1 Air Division was not a nuclear force, it would produce confusion

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<sup>181.</sup> DGHIST, Air Council Minutes, 13 Jul 60, "Operational Requirements Status Report on Armament and Recce Equipments of the CF-104."

within NATO and generate further uncertainty in the deterrent concept. The Soviets might take advantage of this.

The second reason is more personal. Campbell and other RCAF senior officers had served overseas in England during the Second World War. The predominant RCAF experience during that war was its extensive participation in the strategic bombing campaign as part of RAF Bomber Command. Many RCAF staff officers were trained at the RAF Staff College Bracknell and thus would have been indoctrinated in British airpower theory which emphasized Sir Hugh Viscount Trenchard's strategic bombing theories. The RCAF's attempt in 1951 to get three bomber squadrons as part of the NATO commitment (the Paris Plan) was foiled and the primary emphasis and allocation of resources was on fighters, radar, and air defence. The re-equipment of 1 Air Division now gave the RCAF the opportunity to re-establish itself in the bombing role.<sup>182</sup>

In Europe, the four CF-100 squadrons would be disbanded and the other eight CF-86 squadrons would convert to the CF-104. Campbell wanted all eight squadrons capable of delivery nuclear weapons and to also have the capability to conduct recce missions with a camera pod. The political situation in France was producing problems from AIRCENT, and de Gaulle was on the verge of ordering out USAF nuclear delivery units. RCAF Headquarters thought this might affect Canadian squadrons based in France. If it happened, two squadrons would become 'recce' squadrons based in France with no nuclear weapons, while six squadrons would be based in West Germany with nuclear weapons. The recce squadrons were to have a pre- and post-strike recce capability, but this capability "might be

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182. Interview with Brigadier Gen Herb Sutherland, Ottawa, 15 January 1992.

considered when the primary nuclear strike capability has been achieved" and not before.<sup>183</sup>

The new role was progressively refined in conversations with AIRCENT. 1 Air Division's division of labour was to "in conjunction with the other NATO air forces, the isolation of the European Combat Zone and the destruction of those enemy forces operating within SACEUR's tactical theatre of operations."<sup>184</sup> Targets would in the future include airfields, missiles sites, radars, and communication centres.<sup>185</sup>

AIRCENT was willing, by 1960, to discuss the special weapons that the NATO F-104 force might employ. SHAPE wanted to use the Mk. 57 bomb which was then under development for use with the USAF's F-105 force.<sup>186</sup> A physically small weapon, the Mk. 57 came in three variants with yields varying from 5 to 20 kt. It was specifically designed to specifications which stated that it was a so-called "limited war" weapon for use against tactical targets like airfields. It could be delivered by helicopter (USN Sea Kings could use it as a depth bomb), it could be parachute retarded, or it could be dropped with no retardation.<sup>187</sup> The RCAF was so enthusiastic about the small size that they asked SACEUR if the CF-104's could be equipped with

183. DGHIST, Air Council Minutes, 5 Aug 59, "Employment of the CF 111 (CF-104 Aircraft) in Europe."

184. NAC RG 24 vol. 6280 file 1035-110-F104G, 26 Oct 60, "Supporting Data for Air Council Meeting: Meeting at AIRCENT on F-104 Aircraft."

185. Ibid.

186. NAC RG 24 vol. 6280 file 1035-110-F104G, 25 Nov 60, "Minutes of the F. 104 Co-ordination Meeting Held at AIRCENT on 8 November 1960."

187. Hansen, U.S. Nuclear Weapons p. 164.

more than one Mk. 54. Norstad indicated that this would not be necessary.<sup>188</sup>

The RCAF was, of course, willing to go along with whatever weapons SACEUR wanted to mount on the aircraft. It did not stop them from some experimentation. The original operational requirement for the CF-104 stated that it should have the ability to carry and launch two air-to-surface weapons of an unspecified type. The best candidate was the Martin AGM-12D Bullpup with its W 45 warhead, ten mile range and 1.5 to 15 kt yield. Such a weapon could provide the CF-104 with a stand-off capability. As discussed earlier, Bullpup was probably a casualty of the nuclear weapons crisis in Canada, though the possible lack of the required CEP and reliability vis-a-vis a gravity bomb may have been a factor given SHAPE's strict accuracy requirements. It also was a dual capable system, which would have disqualified it given Campbell's directive. The Air Council rejected the CF-104/Bullpup configuration.<sup>189</sup>

It would take longer for 1 Air Division to prepare itself for a nuclear delivery role. The Army and the Maritime forces had, by 1960, delivery systems and operational thinking which put them ahead in the game, though both were stymied by the political problems with nuclear warhead access. Canadair had to build the CF-104, the RCAF had to train pilots and ground crew, and the aircraft had to be deployed to Europe before 1 Air Division could even worry about nuclear weapons access. This process would continue through 1963, but the foundations laid here with the

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188. NAC RG 24 vol. 6280 file 1035-110-F104G, 28 May 62, message SACEUR to RCAF.

189. DGHIST, Air Council Minutes, 26 Oct 60, "CF-104 Programme-Bullpup Missiles."

selection for the aircraft and the role it would fulfill were pre-requisites for achieving a nuclear strike capability.

## Conclusion

Two things were necessary to implement the MC 14/2 (revised) strategic concept: an integrated NATO nuclear/conventional force structure (MC 70), and a nuclear stockpile for it. MC 70 was not palatable to all NATO members for a variety of reasons. In Canada's case, the minimum force requirements were not totally compatible with the Canadian defence programme. The stockpile arrangement and the ensuing expanded information sharing agreement improved information flow and facilitated better operational understanding and national force structure planning with regards to nuclear delivery systems. By 1960, the Army had a flexible force structure, operational planning for nuclear weapons use, and the delivery system, in this case the Honest John surface-to-surface missile. The Diefenbaker Government would not sign the stockpile access agreement. Canada's maritime forces had a flexible force structure and appropriate operational planning for nuclear weapons use. Delivery systems included the Tracker, Neptune, and Argus maritime patrol aircraft and plans existed to acquire nuclear-capable ASW helicopters. These aircraft, however, needed modifications to delivery nuclear weapons as well as access to the nuclear stockpile. The Diefenbaker Government would not sign the stockpile access agreement. 1 Air Division's case was different in that its re-equipment was political in nature. The formation was pre-disposed to accept the nuclear strike/attack role and SACEUR

thought that Canada should take the lead and, by taking on this new role, influence the other NATO allies into implementing MC 70. 1 Air Division had an inflexible force structure, by Canadian choice. The stockpile question was less of an issue since the aircraft were not built by 1960 and crews were not trained. Operational planners did have some experience from working in NATO headquarters, but operational planning for CF-104 use was embryonic. The lack of access was inextricably bound to the Diefenbaker Government's confrontation with the United States over the intertwined problems of stationing of SAC weapons and facilities in Canada and accepting nuclear weapons for the continental air defence system, which will be handled in the next two chapters.

CHAPTER 7  
IS POWER NOTHING WITHOUT CONTROL?  
CONTINENTAL DEFENCE PROBLEMS AND DOMESTIC POLITICS. 1957-1959

### Introduction

The main roadblock to achieving a full nuclear capability for Canadian forces was the continental defence *Gestalt*. In effect, the Diefenbaker Government was vulnerable in the domestic political arena. Her Majesty's Loyal Opposition, the Liberals led by Mike Pearson, were well-informed on national security policy matters and rapidly homed in on and exploited the contradictions that their own policy in the previous government had created. The objective was the destruction of the Diefenbaker Government and the re-election of the Liberals. The method involved using the emerging policy contradictions to convince the media and the public that Canada had abrogated her sovereignty to the United States. Because of security reasons the practical aspects of sovereignty and command/control were known only to the practitioners: a Canadian RCAF officer, Air Marshal Roy Slemon, commanded certain American nuclear-capable air defence forces as well as Canadian air defence units in his capacity as Deputy Commander In Chief NORAD.

Despite the rhetoric, important air defence projects were initiated under the Diefenbaker Government, but the shattering of the jewel in the crown, the CF-105 Arrow with its planned nuclear capability resulted in continuing attacks on what was perceived by the media to be an increasingly muddled national security policy. The removal of the Arrow

and its lack of a replacement played into critics' hands. The death of Sidney Smith and his replacement by Howard Green generated further impediment when Green adopted de Gaulle tactics in his dealings with the Americans. The result was an incomplete nuclear weapons agreement which could imperil North American air defence, USAF Strategic Air Command, and maritime operations in Canada, all of which were critical parts of the established deterrent system. This in turn led to the nuclear weapons crisis which would bring down the Diefenbaker Government in 1963 and severely damage Canada's credibility in the West.

### NORAD Redux

When we last examined NORAD, the Diefenbaker Government had accepted the fact that the command would exist and that Air Marshal Slemon would be the deputy commander. The new Secretary of State for External Affairs, Sidney Smith, in consultation with senior bureaucrats in the department, pressed for a formal diplomatic process to recognize the command before the Terms of Reference for its commanders could be formulated and forces assigned. This process was initiated in the fall of 1957 and culminated in the signing of the NORAD agreement in May 1958. This process, however, was not a straightforward one once the Opposition drew attention to what they saw as serious problems with NORAD.

The Opposition firmly shoved NORAD under the Parliamentary microscope from November 1957 to July 1958. There were two periods of intense debate, November-December 1957 and May-June 1958. In the first period, the Opposition prodded the Diefenbaker Government into pursuing

a more formal NORAD agreement, while in the second period, they turned around and bashed them for doing so. Both debates generated a series of unanswerable and arguably unsolvable questions.

Before embarking on a detailed examination of the debate and its implications, it is necessary to establish at the start that the Opposition developed a progressively sophisticated and coordinated attack on the Government. This attack followed in the wake of the Government's September 1957 NORAD announcement. It started out with less notable Opposition members, but former Cabinet members Paul Martin and Mike Pearson took the lead. The purpose generate non-confidence in the Government by pandering to the media through the medium of parliamentary debate. This, of course, is part of the normal political process in Canadian parliamentary democracy.

The Opposition, however, pushed this process to extremes which eventually jeopardized Canadian security and damaged allied confidence in the Canadian contribution to NATO deterrence. The main offspring of the debate was a series of issues regarding Canada's place in the world and her relationship to the United States. These issues were aggravated by Opposition's later focus on nuclear weapons and led to obstructing the Canadian forces' ability to access the nuclear stockpile as the Diefenbaker Government lumbered about trying to address them.

The Diefenbaker Government was a minority government which produced a certain sensitivity to any issue raised in Parliament by the Opposition.<sup>1</sup> If the Diefenbaker Government lost a vote of non-confidence, its

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<sup>1</sup>. Robert Bothwell, Canada and The United States: The Politics of Partnership (Toronto: University of Toronto Press, 1992) p. 74.

ability to accomplish its larger aims would be imperiled. It was in this environment that the debate was initially fought.

The initial engagement in October-November 1957 produced three questions. First, was the NORAD agreement discussed in Cabinet, and had it been the subject of an Order in Council? This issue was aggravated by a media story in which General Partridge, USAF CONAD and CinCNORAD, mentioned that he did not need to consult the American President before ordering his forces into action. Second, could CinCNORAD commit Canadian forces? Third, was NORAD part of NATO? The Government immediately waffled on these questions while the Opposition proclaimed that NORAD was an "inscrutable and intangible arrangement" that might not even be legal. Pearkes tried to explain that NORAD was structured to produce plans and training in peace. When confronted as to whether NORAD could make the decision of when Canada went to war, Pearkes waffled.<sup>2</sup> This produced a further question: Who made the decision to go to war: CinCNORAD or Canada?

The Parliamentary debate accelerated in November. In an exchange between Pearson and Diefenbaker, Diefenbaker stated that NORAD was a bi-lateral arrangement within NATO's Canada-US Regional Planning Group (CUSRPG). Pearson retorted that if this was the case, Dulles had made a public statement that General Partridge (CinCNORAD), an American general, could launch air defence forces without Presidential authorization. What was the role of the North Atlantic Council in this process if NORAD were part of NATO? Pearkes waffled, mumbling that the procedures established in Europe would apply in Canada. A Time

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2. DGHIST, Carstairs Papers, Hansard extracts, 22 October and 4,5,6 November 1957.

magazine article which erroneously stated that the "SAC bombers at NORAD" would be launched without delay caused further consternation. This distortion was deliberately exploited by Pearson (who knew that SAC and NORAD were separate), who pressed again for information on the NATO-NORAD link. If nuclear weapons would be used by NORAD, Pearson mused, would Canada be advised or consulted? Pearkes attempted to defuse this by distinguishing between planning consultation pre-war and operational clearance during a war. Canada would be asked for clearance.<sup>3</sup>

This in turn produced more questions: What was the NORAD-NATO relationship? What was the relationship between SAC and NORAD? To what extent would Canada be consulted on the use of strategic nuclear weapons (as opposed to air defence weapons for NORAD)?

Diefenbaker shot back on all of this, stating that the Second World War Canada-US Ogdensburg agreement was a precedent for placing Canadian forces under American command. This agreement had been signed by a Liberal Government in 1940, and NORAD was just a logical extrapolation of this policy. Paul Martin demanded more information on the pre-delegated authority given to Partridge, citing the Time article. He was cut off as his time was up. Pearson then took over, wanting to know how the 1957 agreement was reached legally, a question which Diefenbaker evaded. Pearson pressed this. Surely Parliament and thus the Canadian people should have access to the same information that the American Secretary of

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3. The American State Department was following the NORAD debate closely. The American Ambassador in Canada, Livingston Merchant, noted at this point that: "Questions may pressue effort to make political issue on alleged transfer [of] sovereignty without consulting parliament, liberal opposition of course agreed to NORAD before [the] last election and present tactic could backfire on them." USNARA, RG 59, box 3218, message Merchant to Dulles, 6 Nov 57. This message notes the controversy generated by the Time magazine article.

State was providing to the American public. Ogdensburg was a dodge. The attempt to portray NORAD as part of the CUSRPG was a dodge. Pearson went so far to state that the air defence of North America was not NATO related at all, which as we have seen in previous chapters, was an outright misrepresentation. Pearson stated that he wished NORAD were part of NATO.<sup>4</sup> It would then be like NATO in its modus operandi, and it should receive the same legal treatment in Parliament that NATO had had in 1949. Why had this not happened? Parliament has the right to be informed. Perhaps NORAD was an interim measure. If so, what was its nature? The Government continued to waffle.<sup>5</sup> These were bold statements coming from the man who negotiated the 1950 Goose Bay nuclear storage arrangement, the 1952 SAC overflight arrangement, and the 1956/1957 MB-1 overflight arrangements, as well as having direct knowledge about the development of NORAD prior to June 1957, without referring any of them to Parliament when he was Secretary of State for External Affairs.

By December 1957, the Diefenbaker Government limply counterattacked. Pearkes announced that CinCNORAD's Terms of Reference were now under study and would be approved with the United States in 1958. In a belated attempt to respond to the Opposition, Pearkes noted that agreed-to Canadian-American air defence rules of engagement had existed since 1951 and had been approved by the St Laurent Government at the time. Pearkes then stated that this had been done to protect SAC and the industrial capacity of North America. This was a serious error on Pearkes'

<sup>4</sup>. And Foulkes was trying to get the US JCS to accept some form of NORAD-NATO relationship but was rebuffed. See note 28 below on the matter.

<sup>5</sup>. DGHIST, Carstairs Papers, Hansard extracts, 26 November 1957.

part: Was the air defence system designed to protect the Canadian population or the American SAC? If it were designed to protect the population, why should Canadian forces be under American command? Pearson continued, asserting that External Affairs had never been consulted on the NORAD issue, which was another misrepresentation.

Pearkes, who had in the interim asked Foulkes to produce a detailed chronology of NORAD's development, informed Pearson that External Affairs had, in fact examined the issue as early as 1956.<sup>6</sup> Pearson backed off. Another Opposition member then queried the degree of civilian control over NORAD. If Norstad corresponded to the North Atlantic Council in Europe, what did Partridge correspond to in North America? What was the constitutional and legal basis for NORAD? Pearkes waffled once again, stating that NORAD was an "interim" measure.<sup>7</sup>

The Opposition continued to harp on the lack of legal congruence between NORAD and NATO well into January 1958. The main line of argument was that SAC was not part of NATO. NORAD protected SAC and therefore NORAD could not be part of NATO. Diefenbaker continued to insist that NORAD was part of NATO. Pearkes continued to insist that NORAD was subordinate to the Canada-US Regional Planning Group (CUSRPG). Pearson slammed the Government, reading aloud from the NATO Handbook (a public document) which stated that CUSRPG was not even a command.<sup>8</sup>

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6. USASK, Diefenbaker Centre, MG 01/v1/108, 22 Oct 57, memo Foulkes to Pearkes, "Integration of Operational Control of Canadian and Continental American Air Defence Forces in Peacetime."

7. DGHIST, Carstairs Papers, Hansard extracts, 5 December 1957.

8. DGHIST, Carstairs Papers, Hansard extracts, 4 January 1958.

We will recall at this point that the CUSRPG functioned as a "front organization" for the Permanent Joint Board on Defence/Military Cooperation Committee to feed sanitized continental defence information, to NATO and give some appearance of coordination. Once the NATO commands SACEUR and SACLANT were formed and the regional planning groups discarded, CUSRPG soldiered on in limbo. At that point neither Canada nor the United States wanted to pass on detailed continental defence information and the Diefenbaker Government was reaping what had been sown back then. It was a mistake for Diefenbaker's people to fall back on CUSRPG.

Pearkes countered stating that NORAD, if not part of NATO, still served as part of the NATO deterrent system. It could not be completely separated from NATO and even used procedures modeled on NATO ones. Pearson accepted this and then shifted his attack to the nature of the command. If Partridge was away, could Slemon command American forces? Would the Americans allow this? Pearkes did not waffle. Yes, Slemon could command Americans. Pearson was not mollified and demanded that parliament should approve these "verbal, shaky" arrangements. There was not enough civilian control over these matters in his view. Pearkes shot back, asserting that civilian control was not a problem since Slemon reported to him and he reported to the Cabinet. What, Pearson argued, would happen if there were a crisis off Formosa and Partridge sent bombers to respond to it? What if he also alerted the air defence system to respond to the crisis? This was another misrepresentation of the facts, which Pearkes pounced on after he talked to Foulkes.<sup>9</sup> SAC and NORAD

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9. DGHIST, Carstairs Papers, 25 Nov 57, memo Foulkes to Pearkes, "Continental Defence."

were different, he stated, despite what an article in an American publication displayed by the Honourable Member from Algoma East claimed.<sup>10</sup>

At this point in time Diefenbaker was in no position to respond to the series of complex questions that emerged in the first part of the NORAD debate. Why was this the case? The existing NORAD arrangements were still under development by the command, particularly since the bulk of the forces provided to NORAD were American and in turn came from the CONAD command. CONAD had US Army, US Navy, and US Air Force units assigned to it and sorting this out took some time. Diefenbaker's haphazard approach to strategic policy and treatment of knowledgeable uniformed advisors, as evidenced in Chapter 5, was another barrier. Diefenbaker was unable to match Pearson's intimate knowledge of the issues and the experience it took to negotiate international agreements. Pearson, in fact, had an inside source either at External or Defence who was feeding him classified air defence planning information.<sup>11</sup> Unclassified information for use in the House of Commons was derived from ill-considered public statements made by American policymakers and commanders to the America media. Pearson was thus able to maintain pace with the developing situation and outmanoeuvre Diefenbaker.

Round two commenced after the Government won a majority in the House of Commons in a March 1958 general election.<sup>12</sup> In May, Sidney

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10. DGHIST, Carstairs Papers, Hansard extracts, 4 January 1958.

11. NAC MG 26 N2, vol. 3 file 100, undated, untitled, detailed single-spaced five page brief on air defence issues.

12. For those unfamiliar with Canada's parliamentary government, if a minority government does not believe that it can effectively govern, or if the opposition successfully acquires a vote of no confidence in Parliament, the Government must hold a general election. The objective is to gain a majority in the House of Commons so that

Smith, who was now Secretary of State for External Affairs, announced that NORAD negotiations with the Americans were complete. These negotiations were initiated by Canada in November 1957 when the really strong Opposition questioning started. The Americans were only too happy to collaborate, and the formal process proceeded until May.<sup>13</sup>

In May 1958 Smith established in Parliament that NORAD was not part of NATO, though it was NATO-like in procedures and it did contribute to NATO. The issue of civilian control was addressed in the Terms of Reference for the NORAD commanders, though Smith thought that NORAD would report to the CUSRPG, the US JCS and the Canadian COSC. Pearson pressed Diefenbaker to bring the NORAD Agreement into the House for debate, but Diefenbaker resisted. Pearson argued that it had not been considered in Cabinet and thus had no legal basis. Diefenbaker retorted that the process was initiated under the St Laurent Government and they should know, since he was not allowed by law to view Cabinet minutes from the previous government. Pearson kept hammering away at the relationship to NATO. Paul Henri Spaak had announced publicly that NORAD was not part of NATO. Why was NORAD not part of NATO? Diefenbaker dodged this one.<sup>14</sup>

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legislation can be passed by the majority government with little interference from the Opposition. In a majority government, the Opposition cannot effectively block legislation unless MP's from the Government vote with them on an issue, which almost never happens. Consequently, the main weapons in the hands of the Opposition are sarcasm, innuendo, media leaks, grandstanding, and any means available to embarrass and harass the Government and its attempt to implement policy. Needless to say, this is a highly adversarial environment.

<sup>13.</sup> USNARA RG 59, box 3218, message Merchant to Dulles, 15 Nov 57; message Embassy Ottawa to State, "Questioning in Parliament on the North American Air Defence Command," 22 Nov 57.

<sup>14.</sup> DGHIST, Carstairs Papers, Hansard extracts, 13, 19, 20, 30 May 1958, 2 June 1958.

Diefenbaker re-grouped on 10 June 1958 and produced an impassioned litany blaming the St Laurent Government for starting the NORAD process in the first place. In his view, the Liberals had given away political control of Canadian forces and breached Canadian sovereignty. The new agreement did not do so, he argued. NORAD was in line with NATO and in the spirit of previous Canadian-American arrangements. NORAD was there to protect SAC. Unfortunately, Diefenbaker segued into SAC matters. Pearson had given SAC permission for nuclear weapons overflights seven years ago and made arrangements to station SAC tankers in Canada. Why were they continually questioning NORAD?<sup>15</sup>

This outburst prompted a reaction from Pearson that, in retrospect, confirms what the former External Affairs Minister's agenda really was. He had privately informed American colleagues that it was his intent to "seek to embarrass the government."<sup>16</sup> Pearson asserted that the Diefenbaker Government was "inept." The matter was not considered in Cabinet and had no legal basis. If Cabinet did not consider and approve matters, how exactly was this government being run? It took the Government ten months to negotiate with the Americans on NORAD. This alone demonstrated incompetence in foreign affairs. There was still this waffling on the NATO-NORAD relationship. NORAD was really serious stuff for Canada, he went on, since SAC would operate under information provided by NORAD.<sup>17</sup>

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15. DGHIST, Carstairs Papers, Hansard extracts, 10 June 1958.

16. USNARA RG 59, message Merchant to Dulles, 30 Apr 58.

17. DGHIST, Carstairs Papers, Hansard extracts, 10 June 1958. American observers in Ottawa noted that this was "primarily an internal wrangle on a constitutional issue rather than a disagreement with the concept of an integrated command itself." See

Pearson wanted to know who exactly controlled the weapons. Could Canadians command American forces armed with certain weapons? Pearson was deliberately vague as to which weapons he was referring to: SAC weapons carried over Canada, or MB-1 air defence overflights. Paul Martin chimed in and elaborated. Could Partridge 'push the button' without consulting Canada? Could Slemon? Martin was, of course, distorting the issue, since Partridge could not order SAC to launch, though information he provided would be used in that decision. The big problem was, how exactly did the West transition from peace to war?<sup>18</sup>

This question could not be answered and Pearson once again changed tracks. The United States would equip itself with missiles equipped with nuclear warheads to replace fighters for air defence. Canada, as far as he understood it, had no plans to do so and would be left behind. Would Canada have to keep pace and get nuclear missiles too? Furthermore, as he understood it, American law prevented foreign commanders from commanding American units equipped with nuclear weapons. The Deputy CinCNORAD was Canadian. If CinCNORAD was indisposed, would the command be left helpless? Pearkes waffled, stating that NORAD did not have command of the squadrons. The subordinate national commanders commanded their own forces. This, of course, was nonsense.<sup>19</sup>

Another Opposition member, Alan Mcnaughton, then attacked NORAD on sovereignty grounds, stating that "[Canada] has not had full sovereignty

USNARA, RG 59, box 3218, message Embassy Ottawa to State, "Further Parliamentary Discussion of North American Air Defense Command (NORAD)," 8 Jan 58.

18. DGHIST, Carstairs Papers, Hansard extracts, 10 June 1958.

19. DGHIST, Carstairs Papers, Hansard extracts, 11 June 1958.

for so long that we can afford to give it away in bits and pieces....political sovereignty is what the great powers tolerate." In his view, NORAD made Canada a junior partner in an alliance, while in NATO Canada was a full partner. In a nuclear war, Canada would become "another Belgium."<sup>20</sup> Sidney Smith was able to recover and respond to this. NORAD was a "temporary delegation of sovereignty" in wartime. Diefenbaker went on the offensive, slamming the Opposition since it was "dangerous for any political party to arouse fear in the hearts of the people,"<sup>21</sup> a hypocritical statement for a man who campaigned in 1957 playing on the fear of Americanization in Canada.

By the end of June 1958, the Government recovered the initiative in Parliament. Diefenbaker lashed back. It was the St Laurent Government who were in the process of giving away Canadian sovereignty when Diefenbaker was elected. The St Laurent Government produced the ambiguous NORAD plan, not the Diefenbaker Government. The rhetoric continued to build and Diefenbaker remarked that "the Canadian people were shown a terrible bogeyman" that did not exist.<sup>22</sup>

Pearson shifted once again to the nuclear issue. Prompted by an article written by James Minifie, a CBC journalist who despised the United States and advocated Canadian neutralism,<sup>23</sup> Pearson formally requested

20. DGHIST, Carstairs Papers, Hansard extracts, 11 June 1958.

21. DGHIST, Carstairs Papers, Hansard extracts, 11 June 1958.

22. DGHIST, Carstairs Papers, Hansard extracts, 19 July 1958.

23. Minifie eventually wrote a book entitled Peacemaker or Powder Monkey: Canada's Role in a Revolutionary World (Toronto: McClelland and Stewart, 1960). This work argued that there was no Soviet threat, so that Canada should become neutral and interpose itself between the superpowers in order to restrain the United States from precipitous action. In Minifie's view, Canada was a mere satellite of the United States, and in order to retain her sovereignty, Canada should divest itself of NORAD and

information from the United States Government on nuclear command and control laws. Minifie had previously reported that foreign commanders could not control American nuclear weapons. This alarmed the American Embassy in Ottawa, which figured that Pearson wanted the information "presumably to see if he can find basis for renewed attempt to trip up the government on NORAD."<sup>24</sup> The American Ambassador, Livingston Merchant, wanted the information for himself so that he could "protect US interests in this matter."<sup>25</sup> It does not appear that Pearson was able to secure what he wanted.

In another attempt to undermine the Government's sovereignty credentials, Pearson asked the House in June 1958 why American squadrons had access to nuclear weapons and Canadian squadrons did not? Sidney Smith had stated publicly that nuclear weapons would not be stored in Canada. Pearson was again deliberately confusing the Goose Bay storage issue with media reports that there were negotiations under way to store USAF MB-1's at American bases in Canada. Why did Canada have to rely on American interceptors commanded by an America general to defend Canada? Could American legislation be changed to accommodate Canada? Would Parliament be consulted this time? Once again, the Diefenbaker Government did not have the answers and had to waffle for some time on the matter.

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NATO. The book was avidly read by university intellectuals, students, pundits, and young bureaucrats in the 1960s. It contributed to the creation of a mindset which viewed Canadian efforts at generating future strategic policy as futile, a mindset that dominated Canadian thought into the 1970s and 1980s.

24. USNARA RG 59 box 3218, message Merchant to Dulles, 27 Jun 58. Minifie's article, publication uncited, is described in this message.

25. Ibid.

In the end, Parliament approved the NORAD agreement 200 to 8 in June 1958. The only dissenters were the socialist Co-operative Commonwealth Federation. Passage of the agreement was not really in doubt since the Diefenbaker Government held 207 of the 265 seats.<sup>26</sup>

Canadian media reaction to the whole affair was mixed. Most media outlets appeared to support the idea of NORAD but were unhappy with the apparent inconsistencies of both the Opposition and Government arguments.<sup>27</sup> It would take some time, but the larger questions posed by the thirteen problems would receive more attention as time went on and formed the basis for further opposition attempts to harass the Government on the nuclear weapons issue.

With respect to NORAD itself, NORAD HQ, the COSC, and the US JCS closely followed developments as the debate progressed from November 1957 to May 1958. Slemon and Partridge had put their heads together and generated NORAD terms of reference, which were accepted by the COSC

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26. USNARA RG 59 box 3218, message Thompson to Dulles, 13 Jun 58; message Merchant to Dulles, 20 Jun 58.

27. It is interesting to note that American State Department message traffic from Ottawa to Washington regularly included press attitude surveys and summaries on a wide variety of issues. The NORAD affair was no exception. Until someone embarks on a systematic study of Canadian media attitudes towards defence issues in the 1950s, these survey must suffice for now. See, for example, USNARA RG 59 box 3218, messages Merchant to Dulles for the dates 14 November 1957; 21 May 1958; and 2 June 1958.

and the JCS in the spring of 1958.<sup>28</sup> These terms of reference, when distilled for public consumption, became the language used in the formal NORAD agreement in May 1958. It is important to note that there was little change in the wording and substance of the terms of reference between October 1957 and May 1958.<sup>29</sup> The Parliamentary debate did not affect the terms of reference at all; it merely forced Diefenbaker to take the arrangement to Parliament, where the Opposition could have a crack at the Government.

Briefly summarized, the terms of reference indicated that NORAD was to be a joint Canada-US command, and the commander and deputy commander were not to be of the same nationality. A headquarters and staff would be established called the North American Air Defence Command, it would have Canadian and American members and it would report to the COSC and the JCS. CinCNORAD would exercise operational control over the Mid Canada Line, the DEW Line, the air defence forces in Alaska, Canada, and the continental United States. NORAD would develop plans and conduct exercises. Without explicitly referring to the command and control of nuclear weapons, the terms of reference noted that the Deputy

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28. Ironically, Foulkes and the COSC wanted some connection between NORAD and NATO but the JCS did not agree and would not be convinced to do so. A phrase that Slemon and Partridge included in their original terms of reference included 'cooperation with NATO commands' was deleted. The JCS motives are obscure, but were in line with their 1950-51 desire to keep continental defence matters at arms length from NATO. Canadian planners thought that security was an issue. Both Canadian and American planners did not want to submit their plans to the NAC in the way SACEUR had to with reference to the MC 70 problem. See DGHIST, Raymont Collection, file 1310E, 24 Jan 58, COSC 617th meeting, and DGHIST file 112.3M2.009 (D208), 11 Feb 58, Joint Staff, "NORAD Integration with NATO." See also DGHIST, volume 73/1223 file 2002, Air Officers Commanding Conference, March 1958, Foulkes discussion.

29. DGHIST file 112.3M2.009 (D208), 8 Oct 57, "North American Air Defence Command (NORAD) Proposed Mission and Terms of Reference;" USNARA RG 59 box 3218, "Revised Terms of Reference for the Commander in Chief, North American Air Defense Command," 16 May 58.

Commander in Chief would have the same authority if the Commander in Chief was indisposed for any reason in all situations and cases.<sup>30</sup>

In other words, Air Marshal Roy Slemon had operational control of American nuclear air defence weapons when General Partridge was absent and the weapons had been released by the American President:

Initially Canada was not privy to the highly classified nuclear part of the business, and after we had been functioning for three months-it was US Eyes Only on practically all of this stuff- Pat Partridge got hold of me. He said, "Roy, I'm supposed to be the Commander in Chief of NORAD and you're supposed to be the Deputy Commander in Chief. When I go out on a trip, inspecting units or go away to have a little fun, you have the responsibility and the authority. I can't go away on these trips and have any peace of mind because you don't know what the hell goes on with respect to the weapons. So as of this minute you are privy to all that is necessary with respect to the nuclear weapons." He never referred that to Headquarters or anyone. He made the decision right then and there and the word was passed on. I got a concentrated education on all of these weapons from the staff....He was never rebuked by his superiors....It could have cost him his commission, because the security on those weapons is top....

So I was able to take on the task meaningfully and thank God; a couple of things happened that, if I hadn't had the knowledge, would have been rather difficult....Partridge retired and General Lawrence Kuter became [CinCNORAD], a very clever, highly intelligent man, but not with the same sort of human understanding as Pat. But he, unfortunately, was sick about a third of the time, in the hospital and so on, so I was in the hot seat....And Kuter retired and General Don Gerhart became [CinCNORAD] and I was his Deputy [too].<sup>31</sup>

The media gave great play to an interview conducted with Partridge by The New York Times in the fall of 1958. Partridge allegedly stated in a NORAD press briefing that he had predelegated authority to release and employ nuclear air defence weapons if necessary. This article prompted

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30. Ibid.

31. DGHIST, 20 Oct 78, Slemon-Douglas-McAndrew Interview.

harried communications between External Affairs and the State Department, probably generated by the lingering political sensitivity of the 1958 NORAD debates. The State Department investigated and the facts emerged. Partridge was double hatted in that he was CinCNORAD (the bi-national command) and CinCCONAD (the national commander of the American component of NORAD). CinCCONAD had been granted pre-delegation by President Eisenhower to "use nuclear weapons against hostile aircraft within the area of that Command," that is, over the continental United States and in adjacent waters. This authority was in fact pre-delegated all the way down to US Air Defence Division commanders in CONAD.<sup>32</sup>

Some members of the State Department wanted to bring in the Canadian Ambassador and explain the details. Others noted that Eisenhower had given the authority that it "be held on a most restricted basis" within the US government only. The close hold people won out but thought that the matter should be raised when the Canadian government requested access to nuclear air defence weapons in the future. The Canadian Government was so informed.<sup>33</sup> Canadian planners rapidly figured out the nuances delineating CONAD and NORAD authority. Foulkes recommended to the Government that any and all Canadian commanders at NORAD be granted

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32. USNARA RG 59 box 3218, memo from Jandrey to Murphy, "Canadian Embassy Enquiry Regarding Article Entitled "Air Defense Unit Has No Atom Curb" by Jack Raymond in the Octover 7 edition of The New York Times, box 2879, message to distribution list from State, "Defense Text," 9 Oct 58; message State to Distribution List, 7 Oct 58.

33. USNARA RG 59 box 3218, memo from Porter to Murphy, 13 Oct 58; memcon, Canadian embassy officials and U.S. State Department representatives, 14 Oct 58.

pre-delegated release authority from Canada as well, so that there would be no misunderstanding.<sup>34</sup> They would not get this authority until 1964.

To sum up: Partridge had pre-delegated nuclear release for CONAD forces in the continental United States prior to and/or during the outbreak of war, as did his American subordinate commanders. Once nuclear weapons were generally released by the President of the United States, Slemon had operational control of them if Partridge was indisposed.

In any event, NORAD was formally established on 12 May 1958.<sup>35</sup> The problem for Canada was the need to improve RCAF air defence forces to bring them into line with American air defence forces so that there would be interoperability, continuity, and thus credibility in the combined air defence system.

### Genies Almost Out of the Bottle

The Canadian air defence system in 1959 had deteriorated. There were the nine CF-100 squadrons with minimal capability against advanced bomber types and no replacement aircraft on the horizon. The BOMARCs would not be available until 1961 at the earliest and this assumed that a nuclear weapons sharing agreement could be produced and signed. There was, however, a fine early warning system which was manned by both

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34. NAC RG 25 vol. 4499 file 50030-K40 pt. 5, 14 Nov 58, memo to Undersecretary of State for External Affairs, "Acquisition of Defensive Nuclear Weapons by Canada."

35. DGHIST file 88/175, "Agreement between the Government of Canada and the Government of the United States of America Concerning the Organization and Operation of the North American Air Defence Command (NORAD)."

Canadian and American personnel. In terms of capability, RCAF ADC compared poorly with CONAD (see Table 5). The bulk of USAF ADC was nuclear-capable. The drawn out air defence debate in Canada in essence appeared to leave the air defence of Canadian air space in American hands. This statement must be qualified. The USAF interceptor squadrons operating in Newfoundland at this time were not equipped with MB-1's. The USAF ADC aircraft operating from bases in the 'lower 48' did have MB-1, but could reach out only to the limit of their aircraft range, which covered only the southern-most regions of Canada. There was no depth save for those ADC squadrons based in Alaska and at Thule, Greenland (the Thule squadrons were equipped with the conventional version of the F89 Scorpion). (see Figures 7 and 8)<sup>36</sup>

There was, therefore, a critical need to improve the capability of the system until the full BOMARC plan could be implemented by 1961. There were several possibilities. The Newfoundland-based USAF ADC squadrons could be equipped with MB-1. The MB-1 overflight agreement could be expanded. USAF ADC interceptors equipped with MB-1's could deploy to Canadian bases at clearly defined alert levels. All of these avenues were clearly at odds with the sovereignty problems established during the NORAD debates and would encounter resistance in their implementation.

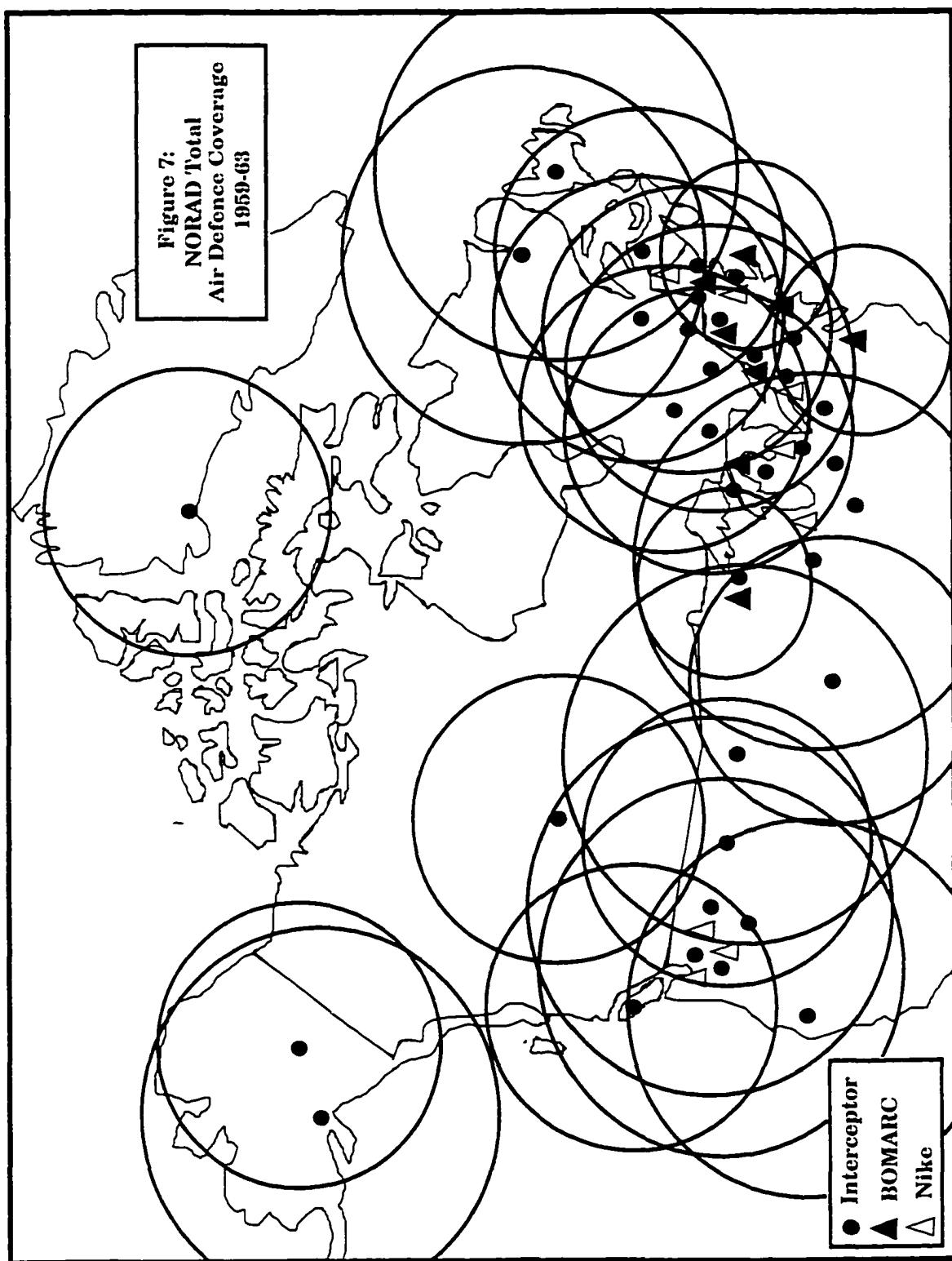
As we will recall from Chapter 4, the St Laurent Government authorized the COSC in December 1956 to establish a formal arrangement so that MB-1-armed USAF ADC interceptors could fly over Canadian airspace and use the weapons in an emergency. These weapons would only be used once a conventionally-equipped interceptor clearly identified an incoming hostile

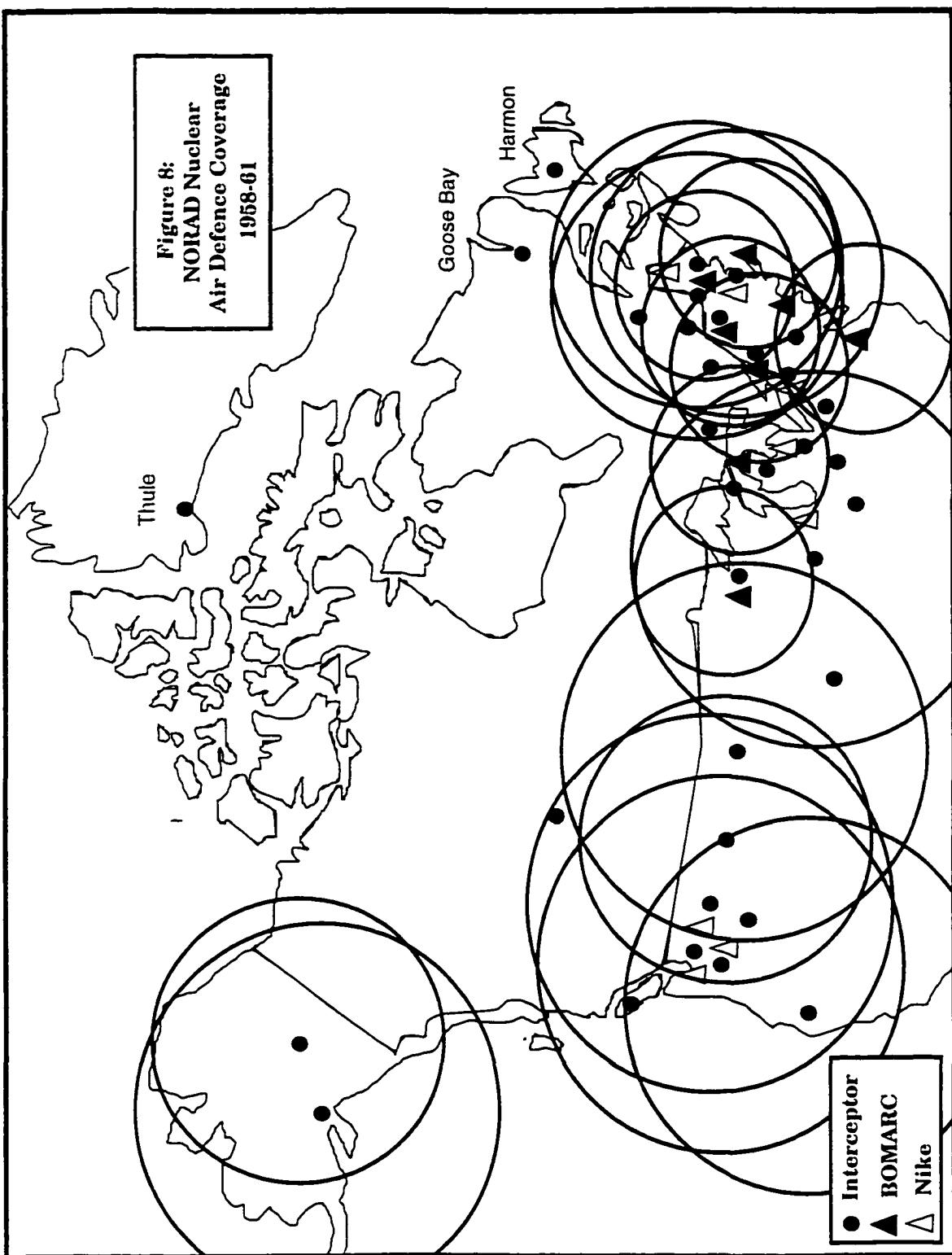
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36. Schaffel, The Emerging Shield pp. 225-230; NORAD History Office, "NORAD Resource Statistics Book 1958-1976."

**Table 5: Continental Interceptor Forces, 1958-1960**

		<b>1958</b>	<b>1959</b>	<b>1960</b>
<b>Missiles (US)</b>	<b>BOMARC A (nuclear)</b>	nil	17	111
	<b>BOMARC B (nuclear)</b>	nil	nil	nil
	<b>Nike Ajax (conventional)*</b>	2844	2040	2088
	<b>Nike Hercules (nuclear)*</b>	96	912	1152
<b>Aircraft (CDA)</b>	<b>CF-100 (conventional)</b>	162	162	162
	<b>CF-86 (conventional)</b>	144	nil	nil
	<b>Total:</b>	306	162	162





aircraft. In terms of safety, any accidents involving MB-1's would be under RCAF jurisdiction pending the arrival of American clean-up teams. Finally, if the USAF wanted to station MB-1's in Canada, the government would be consulted first. The overflight agreement would be in effect until 1 July 1957, when the "emergency period ended" (the Suez Crisis).<sup>37</sup>

During Canadian-American discussions on the overflight agreement, some mention was made about permanently stationing MB-1's at USAF bases in Canada. As the RCAF representative understood it, the USAF did not plan to station MB-1's in Canada during the six-month period covered by the agreement, though plans existed to store them at two bases in the future. General Coiner (the USAF representative) implied that there were presidential restrictions on stationing MB-1's outside the continental United States but that this might change by 1958.<sup>38</sup>

The temporary COSC-USAF arrangement was formalized and modified in February 1957. It had always been the intent of both parties that an exchange of notes through the PJBD would produce them, and it took several weeks, with most of the time taken up with how to handle the media.<sup>39</sup> It was also delayed because Pearson was dealing with the UNEF

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37. USNARA RG 59 box 3219, memorandum for files, "Canadian Revisions to Draft Notes on use of air-to-air nuclear weapons over Canadian Territory by the United States Air Force," 8 Jan 57.

38. Ibid.

39. USNARA RG 59 box 3218, memcons Canadian Embassy-US State Department, "U.S.-Canadian Air Defense Arrangements," 15 Jan 57 and 6 Feb 57.

deployment to Suez at the time.<sup>40</sup> Meanwhile, American negotiators were hopeful that extensions to the agreement, perhaps even permanent ones, could be made and they believed that:

...the successful conclusion of the...negotiations may well hinge on both our being prepared in the near future to make Canadian fighter aircraft compatible with our nuclear missiles and our readiness to provide Canada with some of those weapons. the legislative and other authority for us to do the latter is lacking at this time.<sup>41</sup>

One sticking point developed over allowing American nuclear-tipped surface-to-air missiles to attack targets over Canada. Phraseology covering this was removed at Canadian insistence, and the agreement remained MB-1 oriented.<sup>42</sup>

On 19 February 1957, the Canadian Government formally accepted that USAF aircraft equipped with MB-1 would:

...enter Canadian airspace only in the event of an air defence warning yellow or red is declared. In such an event, the USA planes will confine their activities in the main to Canadian territory bordering on the Great Lakes and extending northward to about 50 degrees north latitude...[aircraft armed with] MB-1 weapons...will be authorized by the Canadian Government to land at, or take off from,

40. USNARA RG 59 box 3218, memcon US State Department, "U.S.-Canadian Air Defense Questions," 29 Jan 57. There was also some concern by both parties that if the arrangement were announced in the NAC, it would cause some irritation over 'preferential treatment'. See memcon State Department, "U.S.-Canadian Air Defense Arrangements," 1 Feb 57.

41. USNARA RG 59, box 3219, memo to Dulles from Elbrick, "Proposed Agreement Permitting Use of Air-to-Air nuclear Missiles over Canada," 17 Jan 57.

42. USNARA RG 59 box 3218, memcon State Department, "U.S.-Canadian Air Defense Arrangements," 5 Feb 57.

Canadian bases in the territory over which they have authority to operate.<sup>43</sup>

Note that this was a temporary emergency agreement which expired on 1 July 1957. By May the Americans were looking for a one-year extension to July 1958 with some more modifications, though they saw this as another temporary delay until a more comprehensive agreement involving equipping RCAF aircraft could be worked out.<sup>44</sup> The Americans got their additional 12 months on 28 June 1957. It squeaked in under the wire just before Diefenbaker took office.<sup>45</sup>

The ongoing expansion of the USAF ADC base complex prompted the Americans to request a change in the MB-1 overflight agreement in January 1958. Essentially, the only change was to extend the operating area to 54 degrees north latitude and to lower the level of alert necessary to send the aircraft over Canadian airspace.<sup>46</sup> The Diefenbaker Government, now in power, in between NORAD debate rounds and running a general election, gave a hurried 'yes' but wanted to emphasize that the new agreement would not involve "the equipment of the USAF squadrons at Goose Bay with the MB-1 Rocket, or the storage of the MB-1 rocket or of any

43. DGHIST, Raymont Collection file 629, 8 Oct 58, memo for Cabinet, "Acquisition and Storage of Defensive Nuclear Weapons and Warheads in Canada." Appendix "A" has the appropriate chronology.

44. USNARA RG 59 box 3218, memo to Mc Elroy from Sprague, 21 May 57; box 3219, memo Loper to Nugent, 5 Jun 57; memo to Elbrick from Parsons, "Proposed Extension of Agreement Permitting Use of Air-to-Air Nuclear (MB-1) Rockets over Canada," 5 Jun 57.

45. DGHIST, Raymont Collection file 629, 8 Oct 58, memo for Cabinet, "Acquisition and Storage of Defensive Nuclear Weapons and Warheads in Canada."

46. USNARA RG 59 box 3218, letter Elbrick to Robertson, 29 Jan 58.

other atomic or nuclear weapons in Canada."<sup>47</sup> Note that, as discussed earlier, the Americans had approached the Canadian delegation after the December 1957 NATO meeting in which the US-NATO stockpile proposal was announced. The Americans had indicated that a comprehensive agreement involving MB-1 storage, SAC storage, interceptor operations, and the integration of nuclear weapons into the Canadian forces should be considered.

Ignorant of the domestic political storm brewing in Canada over air defence and the lack of attention that could be directed by the Diefenbaker Government to the detailed matters at hand, Assistant Secretary of Defense Mansfield Sprague urged State Department officials to pressure Canada to remove the language relating to MB-1 storage and equipping the USAF ADC squadrons in Newfoundland with the weapons.<sup>48</sup> The pressure was not applied, and the amendments to the MB-1 overflight agreement were accepted on 12 May 1958.<sup>49</sup> A further extension was granted by Canada for the period 1 July 1958 and 1 July 1959.<sup>50</sup>

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47. USNARA RG 59 box 3219, memo from Jones to Murphy, "Prposed Amendment to MB-1 Rocket Overflight Agreement with Canada," 3 Jan 58.

48. USNARA RG 59 box 3219, memo Sprague to Murphy, 25 Mar 58.

49. DGHIST, Raymont Collection file 629, 8 Oct 58, memo for Cabinet, "Acquisition and Storage of Defensive Nuclear Weapons and Warheads in Canada;" USNARA RG 59 box 3218, Robertson to Dulles, "Exchange of Notes," 12 May 58.

50. DGHIST, Raymont Collection file 629, 8 Oct 58, memo for Cabinet, "Acquisition and Storage of Defensive Nuclear Weapons and Warheads in Canada."

## The Air Defence System: Two Steps Forward, 105 Back

Despite the public debate on NORAD, 1957 and 1958 were big years in the development of a nuclear capability for Canadian air defence forces and other projects designed to improve air defence capability.

As we saw in Chapter 4, the RCAF/DRB Combined Air Defence Study and the reappraisal of the CF-105 development programme concluded that Canada should pursue the acquisition of the BOMARC area defence missile, the CF-105 manned interceptor, and a point defence missile (either Nike B or Talos) which would constitute, with existing and additional radars, an air defence system. We will recall that all three weapons were to have a nuclear capability in order to obliterate incoming enemy bombers and/or render their nuclear bombs ineffective. BOMARC and the CF-105 were under development and the point defence system acquisition was in some doubt because of cost, inter-service problems, and the belief among some that point defence was useless in the era of megaton-yield nuclear weapons.

In the United States, BOMARC and the Semi-Automated Ground Environment (SAGE) were increasingly seen by planners as partner systems. General Earle Partridge, who was at the time head of the USAF's Air Research and Development Command prior to his accession as CinCCONAD in 1954, was the driving force behind this. He eventually came to think that a BOMARC/SAGE combination might, in the future, be able to bring down ICBM's.<sup>51</sup> A SAGE computer took incoming data from radar sites and converted it to digital form so it could be sent via telephone lines at

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51. Schaffel, The Emerging Shield pp. 199-200.

high speed to combat control centres which would in turn direct intercept aircraft or missiles against enemy targets. In theory, targeting data from a given radar site could be fed directly to the BOMARC missile itself prior to or after launch, whereby the BOMARC's own pulse doppler radar system would kick in and the missile would track and destroy the target.<sup>52</sup>

Both SAGE and BOMARC were technologically immature projects when the USAF and RCAF had them under consideration. Between February 1956 and September 1958, the planned number of BOMARC A's dropped from 40 squadrons of 120 missiles each to six with 28 missiles each. There were delays in construction, delays in equipment calibration and delays when test missiles could not hit sub-sonic drones with a conventional warhead. Eventually, the IM-99 B or BOMARC B, with a solid-fuel motor and nuclear warhead was chosen to supersede the A model. This produced further delays. Congress saw BOMARC and Nike-Hercules systems as a duplication of effort and wanted to cut funding to one or the other, which resulted in a compromise. Both systems would be acquired by the United States but on reduced scales.<sup>53</sup>

Canadian air defence planners observed, and actively participated in the development of joint air defence thinking through the mediums of the CONAD liaison staff,<sup>54</sup> the Canada-US Military Study Group, and the MCC.

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52. 15 Apr 96, letter Lloyd Burnham to Maloney; D.S. Terrell, "What is SAGE?" Roundel June 1961, pp. 21-23.

53. McMullen, Interceptor Missiles in Air Defence pp. 41-64.

54. There also was an "Air Force-Canada Committee" which probably was the American name for it. This entity referred back information from the USAF's coordination staff in Ottawa which was established to act as the American liaison for USAF-oriented projects on Canadian soil. For the scant documentation of the AF-Canada Committee, see USNARA RG 341 box 82, minutes 9 December 1955; 16 December 1955; 9 March 1956; 19 March 1956; 6 April 1956.

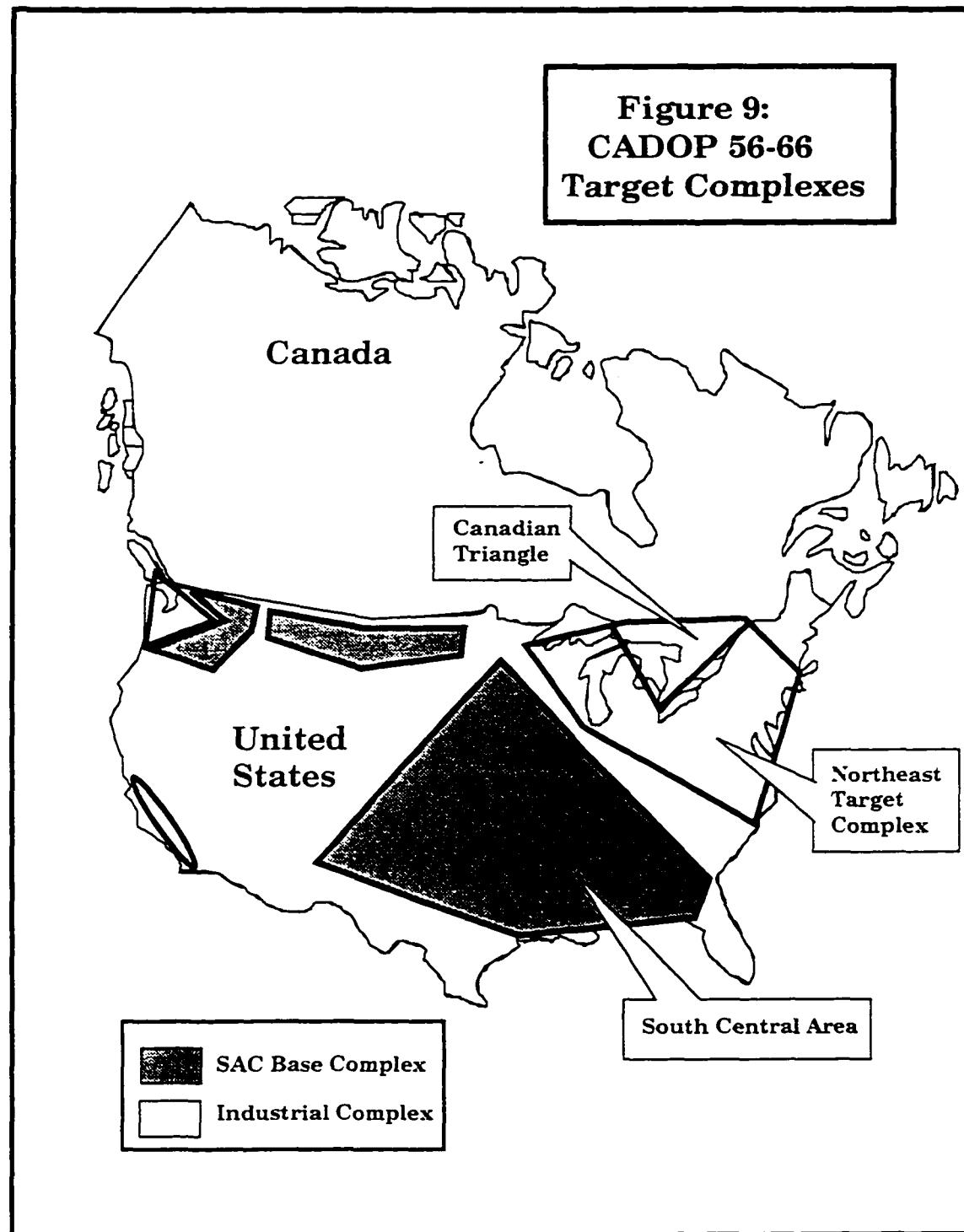
USAF CONAD produced a "Continental Air Defense Objectives Plan 1956-66 (CADOP 56-66)" which had RCAF and DRB input. This was passed on to the MCC for discussion in February 1957 and formed the basis for BOMARC deployment planning in Canada. The threat would include manned bombers, intercontinental cruise missiles, submarine-launched missiles, and ICBM's. The enemy would use ECM and decoys to spoof the air defence system. Notably, the threat would continue to be a multi-purpose one and not shift totally to ICBM's. The targets would fall into five major areas with eight possible routes of attack (see Figure 9); each would require multi-layer defence. This would include long-range interceptors (F-101) and medium-range interceptors (CF-105, F-102, and F-106) for a total of 69 USAF and 12 RCAF squadrons,<sup>55</sup> long-range missiles (BOMARC) for a total of 40 USAF and 2 RCAF squadrons, plus short-range missiles (Nike B or Talos), a total of 95 US Army SAM battalions, with detachments in Canada to protect Goose Bay. There were to be two headquarters to command all of this, one in Canada (possibly Trenton, Ontario) and one in the United States (possibly Great Falls, Montana). Two of eight SAGE-equipped headquarters would be located in Canada; one at North Bay, Ontario and the other at Calgary, Alberta.<sup>56</sup> The entire radar network south of the DEW Line and the

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55. Of which 2 USAF squadrons would go to Alaska, 2 to North East Canada, 59 to CONUS, and 12 RCAF squadrons across Canada. See DGHIST file 112.3M2.009 (D 208), 5 Feb 57, Army LO to ADC to DMO&P, "Continental Air Defence Objectives Plan, 1956-66."

56. DGHIST file 112.3M2.009 (D 208), 26 Feb 57, memo CGS to DMO&P, "Continental Air Defence Objectives Plan, 1956-66." The selection of Canada to host SAGE actually went back to a CUSMSG recommendation in September 1956 and the Cabinet Defence Committee took note of this and agreed that SAGE would be good for Canada. See (13 Nov 57) DepCinCNORAD to HQ USAF, "Installation of SAGE in the North Bay Sector;" NAC RG 24 acc 83/84/167 vol. 222 file 1400-14 Pt. 2, 9 Nov 56, memo to CDC, "Introduction of Automaticity into the Air Defence Control System in Canada."

**Figure 9:**  
**CADOP 56-66**  
**Target Complexes**



Mid-Canada Line would also have to be expanded and upgraded to support the new plan.<sup>57</sup>

Detailed information on BOMARC started to flow from Boeing Aircraft and the USAF early in 1957, while the RCAF wanted clarification on government policy regarding nuclear air defence weapons since the CF-105 project was reaching a juncture where a decision had to be made on how the aircraft would be equipped.<sup>58</sup> The RCAF was still juggling Sparrow II and Sparrow III, with MB-1 as the fallback position. After cancellation of Sparrow II, the RCAF was still keenly interested in acquiring a guided nuclear air-to-air weapon, including the planned Sparrow X instead of the unguided MB-1, even if it would take longer to arrange. Each weapon required a different fire control system, however. Canada had the indigenous ASTRA system under development, which it was hoped could handle any or all of the weapons. There were other fire control systems (FCS) available, but they were American and thus tailored to American requirements. There were proprietary as well as sovereignty problems associated with buying 'off the shelf'. ASTRA had developmental problems which contributed to slowing down the whole CF-105 programme and increasing the cost. RCAF planners considered abandoning ASTRA to speed things up, which is what eventually happened. This left the CF-105 saddled with the Hughes MX-1179 FCS, optimized for use with the Hughes Falcon missile, which at this point had no nuclear capability (an early nuclear warhead for the Falcon was canceled roughly at the same time as

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57. DGHIST file 112.3M2.009 (D 208), 29 Nov 57, RCAF HQ to COSC, "Air Defence Combat Zone Ground Environment in Canada."

58. DGHIST file 79/429 vol. 7A, Divisional Items of Interest, Weeks Ending 8 February 1957, 1 March 1957.

the USN canned the Sparrow II, though a nuclear version of the Falcon, the AIM-26A, was deployed in the 1960s). The fire control/missile system for the CF-105 quickly became the bane of the entire programme.<sup>59</sup> The June 1957 election temporarily disrupted planning in all spheres.

The Canadian air defence programme was ambitious and expensive plan. Diefenbaker called the Cabinet Defence Committee together to review strategic policy and equipment expenditures in September 1957. Pearkes, having laid out the strategic concept and where each piece fit into it, noted that the future costs of upgrading the forces to meet the concept would be great. Therefore, he proposed, there were some areas in which economies could be made. The RCAF's Auxiliary Squadrons and the RCN's Naval Reserve Divisions should all be re-aligned, reduced or even eliminated. The Militia should be re-organized for national survival operations. The Sparrow/CF-100 programme could be eliminated. The biggest cost was the CF-105 programme. In the end, the Cabinet Defence Committee determined that they would review the CF-105 situation in October.<sup>60</sup>

The COSC examined the CF-105 issue in October 1957. Foulkes was "gravely concerned with the delay in the CF-105...[unless the project was accelerated] it might appear that a great deal of money was being spent on an aircraft and its associated missile and ground environment which would be outmoded before it became fully operational."<sup>61</sup>

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59. DGHIST Hendrick Papers, Daily Diary, 25 March 1957; 16 April 1957; 28 August 1957; Stewart, Shutting Down the National Dream pp. 198-203; Hansen, U.S. Nuclear Weapons pp. 106-107.

60. DGHIST, Raymont Collection, file 1332, 19 Sep 57, Cabinet Defence Committee, 115th Meeting.

61. DGHIST, Raymont Collection, file 1309A, 24-25 Oct 57, COSC 613th Meeting.

What was going on? Campbell and Zimmerman noted the developmental problems with the Sparrow II and III missile and that Sparrow II could not take a nuclear warhead. It would cost more money later to change over to a nuclear capability if Sparrow II was selected. This in turn affected the selection of an appropriate fire control system for the aircraft. De Wolfe questioned whether the aircraft would be needed in the ICBM age, while Graham thought the whole programme should be reassessed in detail from top to bottom, perhaps even abandoning it altogether.<sup>62</sup>

Campbell, supported by Foulkes, continually stressed to the COSC (and even to some RCAF "heretics" who favoured BOMARC to the exclusion of manned aircraft) that missiles and manned aircraft were complementary systems. No one weapon could do everything under all conditions. Missiles would be volley-fired in the event of a mass raid and it might take up to a week to replenish and reload the sites. Missiles could not conduct reconnaissance missions or identify targets in peacetime. Finally, manned bombers would continue to form part of the threat even after the introduction of ICBM's.<sup>63</sup>

The RCAF heretics, Air Vice Marshal Max Hendrick believed, were:

...conditioned on the assumption that our budget was going to be restricted and, therefore, we could not do the Arrow and the other things. this unnecessary restriction to our thinking has dominated a lot of the deliberations and influenced the recommendations unfairly in my view since the size of the budget is not for the Air Force to assume. We should state our requirements to meet the military problem and leave the Politician to decide how much money he will give us to meet the threat....If you assume that you won't have enough

62. Ibid.

63. DGHIST Hendrick Papers, Daily Diary 29 October 1957.

money before you start there is no future except continual retreat as the politician forces you to economize.<sup>64</sup>

Cabinet eventually approved the acquisition of 29 preproduction aircraft later in October, noting that the CF-105 was part of a system which included BOMARC, SAGE, and an expanded radar system and its development would continue as well.<sup>65</sup> This coincided with the first major NORAD debate in the House of Commons.

By early December 1957, during the residual NORAD debates in the House of Commons described earlier, Campbell tabled proposals on BOMARC and SAGE in a COSC special meeting. BOMARC should go into North Bay, near the planned SAGE site (the Calgary SAGE site was abandoned due to cost and the perceived lack of enemy targets in western Canada) and near Ottawa. The CGS, General Graham, raised the issue of the ICBM threat. If this was going to supersede the bomber threat, why did Canada need an anti-bomber force? British strategic assessments indicated that this was where the Soviets would place their resources. Frank Miller, the Deputy Minister, countered that "if it were the intention of the United States to proceed with their present plans for the installation of BOMARC, failure of Canada to contribute her share of the overall plan would leave a gap in the defence that might place [Canada] in an almost untenable position."<sup>66</sup>

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64. Ibid.

65. DGHIST, Raymont Collection, file 10, 28 Jul 58, memo to CDC, "Air Defence-CF 105 (Arrow) Aircraft Programme."

66. DGHIST, Raymont Collection, file 1309A, 3-4 Dec 57, COSC Special Meeting.

Either Canada had to establish BOMARC on her own territory (which was expensive), let the Americans build and control BOMARC on Canadian territory (which was not politically acceptable given the tenor of the NORAD debate), or opt out completely (which was not morally acceptable). If the Americans continued with their plan to establish BOMARC sites on the periphery of the United States, these weapons would be used over Canadian airspace. The prospect of malfunctioning nuclear missiles falling into the Canadian industrial triangle from BOMARC bases in Michigan and New York was not palatable to Canadian planners.

The solution was to sound out the Americans on a cost-sharing arrangement to cover the cost of building Canadian BOMARC bases and equipping them with missiles.<sup>67</sup> The problem would be getting access to American nuclear warheads for the BOMARC and there appeared to be significant legal barriers.

It was at this point that the Americans proposed the NATO stockpile plan at the December 1957 NATO meeting in Paris. As noted in Chapter 6, the Canadian delegation was informally approached by American representatives to discuss deploying nuclear air defence weapons to Canada both to support the USAF interceptor squadrons based in Canada and RCAF interceptors. They also indicated that the SAC storage agreement for Goose Bay might be included in a larger agreement.<sup>68</sup>

Formal discussions started right after the NATO meeting in December 1958. State Department officials and General Herbert B. Loper, the

67. Ibid.

68. DGHIST, Raymont Collection, file 995, 12 Dec 57, message Canadian Embassy, Washington to External, "USA Proposals re: Closer integration of Atomic Capabilities in Defence of North America."

Chairman of the Military Committee to the Atomic Energy Commission, met with Norman Robertson to discuss expanding on the 1956-1957 MB-1 overflight arrangements. These arrangements had been renewed in June 1957 and were due to expire on 1 July 1958. The Americans felt that it was only fair to allow their closest ally access to similar weapons since this would benefit both parties. Specifically, Loper wanted to discuss the following in the near future:

- a) ways and means under the Atomic Energy Act of supplying MB-1 Rockets to RCAF interceptors.
- b) the provision of atomic warheads to any BOMARC units that might be established in Canada.
- c) possible Canadian requirements for Nike-Hercules type weapons with atomic warheads.<sup>69</sup>

These items would, perhaps, be included with MB-1 storage plans for USAF interceptors in Canada. The US Navy was "prepared to undertake separate discussion with the Canadian Navy concerning an item of more urgency, namely, the introduction of nuclear anti-submarine devices at the leased base in Argentia."<sup>70</sup> Before any action was taken, however, the Americans insisted that it was imperative that Canadian views on these subjects were known before they made further plans at the military level. As an aside, the Americans also noted that they wanted to re-examine the SAC storage arrangement at Goose Bay.<sup>71</sup>

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69. Ibid.

70. Ibid.

71. Ibid.

Robertson was taken aback. What about the Atomic Energy Act and other restrictive American legislation regarding nuclear weapons? Loper assured Robertson that "the limitations of present legislation required USA custody, but that this was one of the detailed matters which it was hoped to explore further...."<sup>72</sup> As for SAC weapons, the USAF already had experience in dealing with the British on the same issue, and this could be the basis for an arrangement.

The COSC, minus Foulkes who was in Paris, eagerly examined this policy change. They thought that the Goose Bay storage expansion was fine, since it enhanced the deterrent in line with the existing strategic concept. This, of course, would have to go to Cabinet. The stand-in External Affairs representative in the COSC, J.J. McCardle, was skittish on SAC storage. He was concerned that there would be snowball effect whereby SAC would then want to place ICBM bases in Canada after getting SAC storage and then MB-1 storage. Nobody really wanted to deal with this issue at this time.<sup>73</sup>

In January 1958, Cabinet approved further discussions with the Americans on both nuclear air defence weapons and SAC storage. The COSC asked for and got a USAF briefing team. Canadian requirements included MB-1's and BOMARC warheads for air defence and nuclear ASW weapons, while the Americans needed SAC and MB-1 storage at Goose Bay

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72. Ibid.

73. DGHIST, Raymont Collection, file 1309A, 18 Dec 57, 20 Dec 57, COSC Special Meeting.

and Harmon and ASW storage at Argentia.<sup>74</sup> Once the details of these requirements were established in terms of safety, numbers, and delivery systems then both countries could move forward and query Cabinet. This delay was deemed necessary by Foulkes since the RCAF had not determined which weapon would be mounted on the CF-105, what the final status of the CF-100/Sparrow upgrade was, or what the status of the BOMARC programme was.<sup>75</sup> It was put off until April 1958, when it was deferred yet again because of the pressing need to give attention to the air defence system. The CF-105, BOMARC, and the other supporting air defence programmes occupied more than 75% of the COSC and Cabinet Defence Committee's time from April to September 1958. The development and funding of each component of the air defence system became more and more dependent on each other as time went on.

More importantly, the COSC approached the whole air defence issue with caution. They did not want to be expendable scapegoats for the Diefenbaker Government or the Opposition if there were problems. They did not want to be accused of pushing the Government into any arrangement or rushing any of the programmes through. The Government, on the other hand, "became intrigued by the possibility that the relatively cheap BOMARC offer by the United States might reduce, if not eliminate the need

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74. DGHIST, Raymont Collection file 995, 3 Jan 58, memo to the CDC, "United States Proposals for Closer Integration of Atomic Capabilities in the Defence of North America;" 13 Jan 58, memo Foulkes to COSC, "United States Proposals for Closer Integration of Atomic Capabilities in the Defence of North America," file 1310E, 20 Jan 58, COSC 616th Meeting.

75. DGHIST, Raymont Collection file 995, 21 Jan 58, Foulkes to Sparling, "United States Proposals for Closer Integration of Atomic Capabilities in the Defence of North America."

for [the CF-105].<sup>76</sup> After the 1957 NORAD debate, the Government also "recoiled from having to reach a decision", given domestic political factors revolving around the budget deficit and increased unemployment in the Toronto area, where most CF-105 contractors and sub-contractors were located.<sup>77</sup> Another curious factor thrown into the mix was Howard Green, who at this point was acting Minister of Defence Production. Green was "adamant that defence expenditures will be for items produced in Canada completely without regard either to the extra cost involved or to the delay which might prejudice the military posture....Mr. Green is supported in this by Mr. Diefenbaker."<sup>78</sup>

This was a contradictory position for Green, since the CF-105 was designed to fire nuclear-tipped missiles to protect Canada against aircraft carrying nuclear bombs. Green abhorred nuclear weapons. Clearly Green's calculus was geared towards political factors (employment, sovereignty) as opposed to moral ones in this case, or perhaps Green was deliberately sabotaging the entire air defence programme by insisting that the fiscally impossible be achieved and hoping that the RCAF would back down.

There were other factors delaying the production of a final air defence plan early in 1958. If the COSC were to recommend that money be poured into SAGE, BOMARC, the CF-105 and an expanded radar system, this decision had to be based on a sound up-to-date threat assessment.

Unfortunately, the American National Intelligence Estimate (NIE) dealing

76. DGHIST, The Raymont Study, pp. 249-250.

77. Ibid; DGHIST, Foulkes Papers, Arrow Folder 14-2, "The Story of the CF-105 AVRO Arrow, 1952-1962."

78. DGHIST Hendrick Papers, Daily Diary, 22 April 1958.

with the bomber and missile threat, the NATO Standing Group's assessment, and the Canadian JIC views all differed, and this prevented the production of a combined Canadian-American threat estimate from which to base the joint air defence system plans on. The question was, would the Soviets continue to expand their bomber force along with expanding their missile force, or would the Soviet bomber force size plateau after 1960? In November 1957 the American threat NIE and the NATO Standing Group analysis thought that there would be expansion and improvement of the Soviet bomber force, while the Canadian JIC and JPC thought it would plateau by 1960. The USAF agreed with the threat NIE but thought that improvements would cease after 1962. However, the January 1958 NIE on the threat flip-flopped on this view and supported the Canadian position, which posed a problem in the MCC.<sup>79</sup>

The NORAD intelligence staff also briefed RCAF planners. NORAD was at this time developing the North American Defence Objectives Plan (NADOP) 1963. The January threat NIE assumed a number of things. First, it assumed that there would be warning so that SAC could get off the ground, it assumed that the United States would possess lots of ICBMs so that not all could be taken out in a mass raid by enemy ICBMs. The NIE assumed that "a mass attack by manned bombers would throw away the initiative of surprise....and therefore they will consider this weapon as not worth continuing or exploring further."<sup>80</sup> Thus manned bombers would not be pursued by the enemy and ICBMs would.

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79. DGHIST file 112.3M2.009 (D 260), 8 Jan 58, Extract from COSC 615th Meeting; Extract from COSC 616th Meeting.

80. DGHIST Hendrick Papers, Daily Diary, 30 May 1958.

NORAD HQ disagreed. There was absolutely "no assurance whatsoever of a warning of an attack...a sneak attack by bombers is feasible and, therefore, likely to be followed by the mass attack."<sup>81</sup> NORAD planners believed that there was too much "fallacious thinking" going around which argued that a nuclear deterrent was enough to maintain the peace. The West had stated clearly that it would not attack first and thus nullified the first point. As for the second point:

The second assumption was correct when only the west had nuclear power, but now that both sides have it in equal quantity an unprotected deterrent by itself (particularly when it is now open to surprise) is no protection whatever. This leads to the essential need for defence to support the offense....<sup>82</sup>

Consequently, NORAD's concept of operations revolved around fighting the air battle as far away from the targets as possible, both SAC and population/industry. In terms of attack style, NORAD believed that up to 1960:

...the attack will be a manned attack by infiltration aimed at [SAC]. This will be followed within 8 to 24 hours by a mass raid over the North Pole of again manned bombers against both SAC bases and centres of population.... [in 1965] threat is envisaged as a surprise attack by ICBM's attacking primarily SAC bases and missile sites, followed again by a mass raid of manned bombers over the Pole.<sup>83</sup>

Both attacks would consist of bombers, ECM support aircraft, and older or obsolete aircraft like the TU-4 acting as decoys. NORAD wanted a family

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81. Ibid.

82. Ibid.

83. Ibid.

of weapons to include long- and mid-range interceptor missiles, a long-range interceptor aircraft, medium-range SAM's (BOMARC and Nike Zeus), and an ABM system (Nike Zeus).<sup>84</sup>

The implications were clear. How much money should be allocated to the air defence system and how much should go into research and development of an anti-ICBM system? The COSC was concerned enough about the matter to send a letter to US Director of Central Intelligence Allen Dulles requesting that the situation be resolved.<sup>85</sup>

In lieu of any American consensus, Canadian planners relied on JIC analysis produced in January 1958 in their review of the air defence situation, which was commissioned by Foulkes and the COSC In May 1958. The JPC was asked to answer the following questions:<sup>86</sup>

- a) Does Canada need more radar cover in eastern Canada to exploit Canadian weapons and more in western Canada to exploit American weapons?
- b) Should SAGE be used in the Ottawa-North Bay region?
- c) Should BOMARC be used in the Ottawa-North Bay region?

In terms of the threat, the JIC determined that:

The period between 1961 and about 1965 is one of transition during which the long-range ballistic missile threat will sharply increase. Long-range ballistic missiles will be suitable for attack on area targets, "soft" ICBM sites and SAC bases, but unsuitable for "hard" ICBM sites. Manned aircraft and submarine-launched missile attacks will continue to be employed, particularly the early part of the

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84. Ibid.

85. DGHIST, Raymont Collection, file 1310E, 3 Apr 58, COSC Special Meeting; 18 Apr 58, COSC 620th Meeting.

86. DGHIST file 112.012(D260), 14 May 58, "Report by the Joint Planning Committee to the COSC on the Review of Air Defence Against the Manned Bomber Threat."

period...but the need to employ these weapons will progressively reduce.<sup>87</sup>

(for the numbers and types of aircraft projected to constitute the threat, see Tables 6 and 7)

The new enemy aircraft would have a ceiling of 50 000 feet, whereas the existing radar net was geared to 40 000 feet. Therefore, radars needed to be improved. The increased number and speed of enemy aircraft would overload the manual control system. Therefore SAGE was necessary. Better GCI radar stationed further north was required to exploit weapons like the BOMARC and manned interceptors equipped with guided missiles. More effective aerial weapons were therefore necessary as well.<sup>88</sup>

Regarding BOMARC, the JPC assessed the system as having several advantages. It could be operational by 1961/62 along with SAGE. Since bombers would be part of the threat until 1970, it would not be a temporary stop-gap investment. The "B" version was suited to Canadian needs, that is, volley firing ability (five per minute), a nuclear warhead and the fact that a SAGE site could control 75 of the missiles simultaneously. Two sites in Canada would complete the chain that the Americans proposed and would provide added depth to protecting SAC bases in the northeastern United States and would provide immediate area defence for the Canadian industrial region of southern Ontario and Quebec. If the enemy developed a

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87. Ibid.

88. Ibid.

**Table 6: Joint Planning Committee Bomber Threat Estimate May 1958**

<b>Year:</b>	<b>TU-4 BULL</b>	<b>TU-16 BADGER</b>	<b>M4 BISON, TU-20 BEAR</b>	<b>Supersonic Bomber</b>
1958	650	1100	100	nil
1959	500	1050	150	nil
1960	350	1000	195	10
1961	200	950	195	80
1962	nil	900	180	160
1963	nil	850	170	200
1964	nil	750	150	200
1965	nil	650	130	185
1966	nil	500	100	170
1967	nil	350	80	160

Source: DGHIST file 112.012 (D260), 14 May 58, "Report by the Joint Planning Committee to the COSC on the Review of Air Defence Against the Manned Bomber Threat."

**Table 7: Actual Soviet Strategic Bomber Threat to North America 1955 to 1968**

Type:	Variant:	Weapon:	Year:	Estimated Number:
TU-4 BULL		Gravity Bomb	1952	1000 (one-way missions, two-way with forward basing)
TU-16	BADGER A	Gravity Bomb	1954-1955	2000 (two-way mission with in-flight refuelling: limited number of tankers, many non-nuclear variants reduce number of available bombers)
	BADGER B	Missile Carrier	1961	
	BADGER C	Missile Carrier	?	
	BADGER D	Missile Carrier	1968	
TU-20	BEAR A	Gravity Bomb	1956	(1960- 48) (1964- 105) 15
	BEAR B	Missile Carrier	late 1950s	
M-4	BISON A/B/C	Gravity Bomb	1955	(1961- 58)

M-50	BOUNDER	nil	1960?	supersonic B-58 equivalent never produced in quality
TU-22	BLINDER A BLINDER B	Gravity Bomb, Missile Carrier	1961 1967	(1961-90) (1967-60)  total TU-22: 150 plus 35 recce versions (two-way mission with in-flight refuelling and stand-off missile use)

Sources: Zaloga, Target America: The Soviet Union and the Strategic Arms Race 1945-1964 (Novato: Presidio Press, 1993) pp. 251-275; Cochrane et al, Soviet Nuclear Weapons (Cambridge, Massachusetts: Ballinger Publishing Co., 1989) pp. 228-247; Bock, TU-16 BADGER In Action (New Carrollton, Texas: Squadron Signal Publications, 1990) pp. 6-8.

cruise missile for their bombers, BOMARC would be effective against these as well.<sup>89</sup>

On the down side, BOMARC was limited in low-level intercepts by the lack of a doppler seeker in the "A" model. More radars dedicated to low-level coverage would be needed. More critically, BOMARC used mid-course guidance provided by the radar network, which was vulnerable to enemy ECM. BOMARC could, however, be equipped to home in on significant ECM transmissions and the provision of different types of ground radars would ensure that the enemy would be incapable of jamming them all.<sup>90</sup> Canada should acquire SAGE, BOMARC, and better radars.

An independent DRB study supported the JPC report. Where the JPC focused on the air defence system, the DRB looked at the problem in light of SAC operations. The existing system (1958) was seen as inadequate, and the DRB predicted that 30% to 50% of SAC bases would be destroyed within 15 minutes of first warning by low-level air attack and submarine-launched missiles. Mass bomber raids were "unlikely, unless preceded by a short warning attack to reduce retaliatory potential since the ready retaliatory force could destroy a high proportion of Russian targets unless so reduced."<sup>91</sup> Thus, sea-launched missiles and some bombers would open holes for larger raids and at the same time reduce SAC's immediate ability to reduce enemy follow-on attacks. To counter this, SAGE and BOMARC should be used along with the CF-105, which was compatible with SAGE. BOMARC was ten times better than the CF-105 in terms of "kill potential"

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89. Ibid.

90. Ibid.

91. DGHIST file 112.012(D260), 12 May 58, "DRB Air Defence Study-Conclusions."

but the CF-105 was necessary to provide depth to the missile line. Thus, all three improvements were necessary.<sup>92</sup>

The COSC considered these reports carefully in June 1958. The Army, temporarily represented by Major General George Kitching was hot off the mark. The Army started pushing for Nike Hercules acquisition to handle the low-level threat (see Table 8). Nike Hercules, they argued, was cheaper and more effective. It was already operational in the United States and it had a bigger nuclear warhead. BOMARC would not be available until the 1960s. More importantly, Nike Hercules could be upgraded to Nike Zeus, an anti-ballistic missile then under development in the United States. The Army did not believe that BOMARC would be able to handle the ICBM threat. The Nike Hercules, furthermore, would have a wider variety of nuclear warhead which could be used in different situations, whereas the BOMARC had one type of warhead.<sup>93</sup>

Foulkes reiterated long-standing arguments about point defence and megaton-yield weapons and the potential demand by the population to extend expensive point defence protection to every population centre across the country. This is exactly what happened to the Americans when they placed Nike Ajax around SAC bases and then were forced by public pressure to extend the same protection to major population centres.

Recommendations for SAGE and BOMARC would go to the Minister. As for

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92. Ibid.

93. DGHIST file 112.012(D260), 5 Jun 58, D Arty to DMO&P, "Review of Air Defence Against the Manned Bomber." The Army continued throughout 1958 to incorporate Nike Hercules into the system but to no avail. See DGHIST 112.1(D 184), 27 Jun 58, D Arty to CGS, "Air Defence Plan."

**Table 8: BOMARC-Nike Hercules Comparison**

	BOMARC "A"	BOMARC "B"	Nike Hercules
<b>Target Types:</b>	Manned Bombers	Manned Bombers and Cruise Missiles	Manned Bombers and Cruise Missiles
<b>Range:</b>	250 nm	400 nm	75 nm
<b>Altitude:</b>	80 000 feet	100 000 feet	90 000 feet
<b>Speed:</b>	Mach 2.5	Mach 2.3 to 2.7	Mach 2.7 to 3.5
<b>Fuel Type:</b>	Liquid	Solid	Solid
<b>Warheads:</b>	Conventional Nuclear: W 40 7-10 kt	Nuclear: W 40 7-10 kt	Conventional Nuclear: W 31 1-2 to 40 kt
<b>In US Service:</b>	1959	1961	1958

As for the Atlantic Ocean, NATO was to use it to project nuclear weapons in support of NATO forces and against the Soviet Union; to maintain the vital SLOC to resupply and reinforce Europe in Phase II; and to "reduce to the minimum the number of his units which can penetrate to the broader reaches of the Atlantic and threaten" those SLOCs.

MC 14/2 (revised)'s companion piece, MC 48/2, presented succinct force requirements amplifying those established in MC 48/1. Extrapolating from the logic of MC 48/1, if NATO were to fight a sustained (30 day) nuclear war, it would need intelligence and warning systems, a high degree of readiness, an alert system, a decentralized civil and military command system with delegated authority, and better civil defence measures so that the population base could exist to fight Phase II, all in addition to Shield (tactical nuclear and conventional forces) and Sword forces (strategic nuclear forces). Nuclear weapons had to be ready for immediate use, and forces with their logistic and support elements were to be dispersed.

After some debate, both documents were accepted by the NAC by 9 May 1957. The British still were against accepting alternative forms of conflict, since they believed that "[NATO] must never allow the Soviets to think that there is a NATO concept of limited war....to do so would invite the Soviets to start such limited wars." In the NAC meeting, they attempted to amend MC 14/2 (revised) yet again. The Canadian representative, Dana Wilgress, headed off the British effort, stating that the NATO planners' intent was to have the ability to respond to any level of aggression that the Soviets chose to initiate. If the force structure was not designed to handle such alternative courses of action, NATO would be constrained in its response to Soviet aggression. The rest of the NAC members backed Wilgress, pressured the

the CF-105, further discussion would have to wait until the disposition and costs of the SAGE and BOMARC programmes could be ascertained.<sup>94</sup>

The RCAF's leadership viewed a classified USAF film relating to the BOMARC programme in July 1958. A surprisingly balanced product, the film clearly highlighted the technical problems encountered in the BOMARC programme, which ones had been overcome, and which ones remained unresolved. It also showed a test of the conventional warhead, but it only had an effective radius of 60 feet. Some thought that the "the film is a good one to show to the higher echelons." However, the Vice Chief of the Air Staff, Air Vice Marshal D.M. Smith, thought that "This is dangerous because it might lead to a re-examination of the Arrow."<sup>95</sup>

The ongoing COSC debate on air defence produced an unwanted effect. The delays in the programme which in part were prompted by the air defence system re-appraisal triggered union and other forms of political pressure orchestrated by the AVRO company and directed at the Diefenbaker Government. This "intense lobbying annoyed the Government, especially the Prime Minister, who suspected the military, particularly the [RCAF] of leaking information to [AVRO]."<sup>96</sup> This in turn led to a

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94. DGHIST, Raymont Collection file 1310E, 10 Jun 58, COSC, 623rd Meeting. It should also be noted that the DRB was continually trying to extend the air combat zone along with its radars and interceptor bases further north away from the population centers in eastern Canada. This would, in the COSC's view, add unacceptable costs to an already costly system since the locations that the DRB wanted to place these units in were in completely undeveloped wooded country. See DGHIST file 112.3M2.009 (D 208) (n/d) memo to COSC, "DRB Proposals for Northward Extension of the Air Defence System;" 5 Jun 58, memo to S/ORG, "Canadian BOMARC and Interceptor Installations."

95. DGHIST Hendrick Papers, Daily Diary, 9 July 1958.

96. DGHIST, The Raymont Study, p. 251.

confrontation between Diefenbaker and the COSC, in which the COSC members were dressed down verbally by Diefenbaker.<sup>97</sup>

This in turn produced even more caution on the part of the COSC. Foulkes then ordered that all air defence alternatives be placed on the table before he and Pearkes went to Cabinet for a decision. These were:<sup>98</sup>

Plan A: Acquire 167 CF-105, two BOMARC sites, SAGE, and additional radar

Advantages: flexible, better performance in an ECM environment.

Disadvantages: cost is \$1.5 Billion and this would leave no money for 1 Air Division re-equipment or ABM projects.

Plan A1: Same as A without BOMARC. Saves money but reduced probability of kill versus bombers.

Plan B: Acquire 37 CF-105, arm them with MB-1, stop ASTRA/Sparrow development, acquire SAGE and BOMARC

Advantages: Saves money, allows for nuclear weapons use by CF-105, allows money for 1 Air Division and ABM programme.

Disadvantages: political problems re: AVRO

Plan C: Cancel CF-105 programme totally, acquire three BOMARC sites (one for the west coast), acquire SAGE.

Advantages: considerable savings, allows for 1 Air Division re-equipment and ABM programme.

Disadvantages: inflexibility in an ECM environment, creates political problem with regards to explaining away the 400 million dollars sunk into the CF-105.

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97. Ibid.

98. DGHIST, Raymont Collection file 1310E, 14 and 15 Jul 58, COSC, Special Meeting; Special Meeting.

Plan D: Build 60 CF-105, persuade the USAF to buy 60 more for squadrons at Goose Bay,<sup>99</sup> get SAGE and two BOMARC sites.

Advantages: same as "A"

Disadvantages: delay re-equipping 1 Air Division and ABM programme.

Foulkes stalked off to discuss the CF-105 funding situation with the Panel on Economic Aspects of Defence Questions.<sup>100</sup> Pearkes, meanwhile, was able to get Diefenbaker to allow the Americans to expand and improve the GCI radar system and to allow SAGE negotiations to begin. Diefenbaker wanted cost sharing with the United States on SAGE, however.<sup>101</sup>

The COSC reluctantly concluded that "military and economic considerations did not justify the continuation" of the CF-105 on the scale originally envisioned. Pearkes then briefed the Cabinet Defence Committee on 15 August 1958.<sup>102</sup> This was an "acrimonious meeting" in which Canada's senior military leaders were "accused of not providing all the relevant information. It was alleged that the officials were holding back to

99. This had, in fact been discussed by the Panel back in January 1958. The USAF was unable to do so because of its commitment to the F-102, F-106, F-108 series of aircraft. The USAF strongly encouraged CF-105 production and "were interested in seeking ways of helping Canada financially to introduce CF-105's into RCAF service. One way of doing this might be for the [US] to purchase the CF-105's and then return them to the RCAF for Canadian use. A factor in the USAF's unwillingness to buy CF-105s for their own use was the proposed reduction in manned interceptor squadrons and the stretching out of their own contracts as the US tried to answer their own policy questions." See DGHIST, 31 Jan 58, POEADQ, 51st Meeting.

100. NAC RG 25 vol. 4501 file 50030-K-2-40 pt. 1, 29 Jul 58, POEADQ, 54th Meeting.

101. DGHIST, Raymont Collection file 1332, 28 Jul 58, Cabinet Defence Committee 119th Meeting.

102. DGHIST, Raymont Collection file 1332, 15 Aug 58, Cabinet Defence Committee, 120th Meeting.

cover up the shortcomings of the previous [government] in failing to curb the expansion [of the CF-105 programme]."<sup>103</sup>

Diefenbaker then forced Foulkes to "produce a dossier on the whole project showing complete documentation....[it was] produced without delay but with some qualms about ...furnishing confidential information of the previous administration. This was contrary to normal custom."<sup>104</sup>

In due course, the reasons were narrowed down to the costs of developing the Iroquois engine; the ASTRA/Sparrow system; and a reduced planned production run.<sup>105</sup> The original 1953 planned run of 500 aircraft had been reduced to 100 later on once the BOMARC began to be factored into air defence requirements.<sup>106</sup> This was coupled to the lack of a vigorous AVRO and/or Government marketing campaign to Commonwealth and NATO allies, which in turn contributed to the decrease in numbers to be built and thus increased cost.

Diefenbaker held several lengthy Cabinet debates on the CF-105 in August and September. Note that Cabinet meetings did not include the COSC and that Pearkes represented the defence establishment's point of view without direct professional support. He told Cabinet that manned bomber would continue to be a threat but the COSC thought that it would "be more economical to procure a fully developed interceptor of comparable

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103. DGHIST, The Raymont Study, p. 252.

104. Ibid.

105. Ibid, p. 255.

106. NAC MG 32 B19 vol. 22 file 201-250/58, 22 Aug 58, memo for Cabinet, "Recommendations of the Cabinet Defence Committee: Air Defence Requirements."

performance in the U.S.."<sup>107</sup> SAGE and BOMARC, because of the potential cost sharing agreements with the Americans and the fact that BOMARC would have a nuclear warhead and would be cheaper and more effective than the CF-105 both in manpower and cost. The CF-105, in Pearkes view, should be abandoned. Other Cabinet members noted that if the CF-105 project were not abandoned, it would mean a \$400 million increase in the defence budget for several years. They raised the specter of "increas[ed] taxes....Adding it to the present overall rate of deficit would mean the wrecking of Canada's credit and the stimulation of inflation."<sup>108</sup>

There were, however, sovereignty issues at stake, as some members noted. If Canada became dependent on American air defence equipment, what would this mean in Parliament? Cabinet inexorably started to convince itself (despite three years of air defence planning which emphasized that fact that manned interceptors and missiles complemented each other) that BOMARC could replace the CF-105, that the threat would diminish, and that no replacement interceptor aircraft was required. There was, apparently, "an inclination to exaggerate the potential of the BOMARC (especially when armed with a nuclear warhead) ...to soothe any uneasiness about the diminution of the air defence of Canada and to forestall any clamour about provision of an alternative interceptor aircraft."<sup>109</sup>

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107. NAC RG 2, 28 Aug 58, Cabinet Conclusions.

108. Ibid.

109. DGHIST, The Raymont Study, p. 256.

Unfortunately, Cabinet continued to defer a decision on the CF-105 due to AVRO, union, Opposition, and media pressure.<sup>110</sup> Under pressure to make a decision so that the other programmes could get under way, the other issues were shunted to the Cabinet Defence Committee which then approved the SAGE and BOMARC acquisitions in September 1958.<sup>111</sup>

On 5 September 1958, Diefenbaker secretly conferred with Robert Bryce, who was at the time Secretary to the Cabinet and also sat on the Panel with Foulkes and the others. Bryce recommended to the Prime Minister that the CF-105 be canceled, that Canada acquire BOMARC as well as 40 to 50 F-106C interceptors from the United States and to "make available to the RCAF under arrangements similar to those in the United Kingdom, nuclear warheads for use on the BOMARC and air-to-air weapons to be used on the F-106C's."<sup>112</sup> Bryce also recommended that Diefenbaker should "[announce] forthwith that because of the improvement in missiles (both defensive and offensive) in recent years, and the changes in the size and nature of the bomber threat, we are introducing the BOMARC missile and proposing to introduce atomic warheads into Canadian air defence."<sup>113</sup>

Bryce had changed his mind on the matter and thought that the Arrow was too expensive. He thought Pearkes was playing for time and delaying

110. RG 2, Cabinet Conclusions, 28 August 1958, 3 September 1958, 7 September 1958; DGHIST, The Raymont Study, p. 250.

111. DGHIST The Raymont Collection file 1332, Cabinet Defence Committee, 121st Meeting, August 21, 1958; file 629, "Record of Cabinet Decision Meeting of September 8th, 1958: Air Defence Requirements Recommendations of the Cabinet Defence Committee."

112. USASK, Diefenbaker Papers, MG 01/v1/Arrow Conf file, 5 Sep 58, memo Bryce to the Prime Minister Re: The 105 Problem.

113. Ibid.

the inevitable. It is important to keep in mind that Bryce had a reputation in Ottawa for being an impartial economics wizard and this is probably why Diefenbaker sought his advice. Bryce examined the cost-benefit of the Arrow versus the BOMARC and, given the information that he had, saw the obvious course of action to him.<sup>114</sup>

Subsequently the Panel explored possible cost-sharing arrangements on BOMARC/SAGE, thus behaving as though the CF-105 were already canceled (Bryce chaired these discussions, and Foulkes was absent). Essentially, the Panel members thought that Canada could build, maintain, and man the sites if the Americans provided the ground support equipment, missiles, and warheads. USAF "security regulations...with those missiles with atomic warheads" were unknown, and there might be "some restrictions on Canadian maintenance."<sup>115</sup> US Secretary of Defense Neil McElroy was approached directly, and responded within 48 hours that he thought this was a good plan, but did not have the authority to approve the American end of it. He would have to ask the President. The Panel came up with another incentive. Seaward extensions to the DEW Line would need a long-range, high-endurance aircraft. Perhaps Canada could trade an AEW version of the CL-44 Yukon transport aircraft for BOMARC support (this was discarded after some debate by the Americans).<sup>116</sup>

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114. Ibid.

115. NAC RG 25 vol. 4499 file 50030-K40 Pt. 5, 11 Sep 58, "DND Suggestions on Cost Sharing."

116. NAC RG 25 vol. 4499 file 50030-K40 Pt. 5, POEADQ, 57th Meeting 10 September 1958; 58th Meeting, 12 September 1958; USNARA RG 59 box 3218, memcon Norman Robertson and Woodbury Willoughby, "Canadian Proposal to Supply U.S. Air Force with the Canadair CL-44 Airframe," 17 Sep 58; message State to Embassy, Ottawa, 6 Nov 58.

The Panel drew up a contingency plan which could form an umbrella that would share costs for all Canadian-American North American defence projects. The cancellation of the CF-105 would remove the main Canadian-produced component in the air defence system. Canada was "in danger of slipping into much too high a degree of dependence on [the] United States in the development and production sphere."<sup>117</sup> Canadian industrial objectives, next to providing for the defence of the nation, were "high activity, properly diversified, and at economic rates." High cost and limited numbers posed a problem for purely Canadian systems. Integrated production was desirable, that is, components developed and produced in both nations combined in one nation or the other to produce a complete system. It was too late to do this with SAGE, BOMARC, and the radars now. Perhaps the first such project should be an ABM system. This should be done as rapidly as possible if the CF-105 were canceled to prevent the loss of the industrial and technological base developed during the CF-105 programme.<sup>118</sup> These trends would have important implications for the decision to re-equip 1 Air Division with the CF-104 later in 1959.

As it turned out, the USAF was amenable to accepting a cost-sharing formula for SAGE, BOMARC and the radar system expansion. The package included seven heavy radars, 45 'gap-filler' radars (to cover the low level gap), a SAGE command centre, links to SAGE from existing radars, and two thirty missile BOMARC squadrons. Canada would cover one-third of the cost (CAN\$128.8 Million) and the Americans would handle the other

<sup>117.</sup> NAC RG 25 vol. 4499 file 50030-K40 Pt. 5, 30 Sep 58, POEADQ paper, "Sharing of Production Tasks in North American Defence."

<sup>118.</sup> Ibid.

two-thirds (CAN\$249.2 Million). Canada would cover construction and most of the manning, while the Americans would cover technical equipment.<sup>119</sup>

The MB-1 issue remained dormant until fall 1958. An extensive Cabinet discussion on MB-1's ensued on 15 October 1958, while the future of the Arrow programme and BOMARC systems acquisition plans were examined. Several programmes were placed on the table by Pearkes. If Canada got BOMARC, she would need nuclear warheads for it. The MC 70 requirement for Lacrosse was at this point still under discussion, but it would need nuclear warheads too. The Arrow would need a nuclear warhead. American squadrons at Goose Bay and Harmon AFB needed MB-1 to be fully effective, as would maritime forces.<sup>120</sup>

Pearkes briefed the Cabinet on the NATO stockpile arrangements and controls. Nuclear warheads would be placed in SACEUR's and SACLANT's custody and released during wartime. CinCNORAD should also have custody if Canada got nuclear weapons for air defence:

Although this procedure might appear cumbersome, there were advantages in not requesting special arrangements for the defence of North America. Ownership of the weapons would remain with the U.S. and hence the cost could be expected to be borne by the U.S., at least until the time came to use the warheads.<sup>121</sup>

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119. NAC MG 32 B9 vol. 22, Black File, 2 December 1958, Memo to Cabinet, "Joint RCAF-USAF Air Defence Program: Pinetree Extension, SAGE and BOMARC Cost-Sharing."

120. NAC RG 2, 15 October 1958, Cabinet Conclusions.

121. Ibid.

This reflected Foulkes' thinking on the matter.<sup>122</sup> Pearkes and Foulkes wanted to get on with negotiations that had been delayed since January, but because of the Diefenbaker policy process, only Pearkes could be in Cabinet.

Cabinet was agitated about the possibility that such negotiations would be leaked. It was, in their view, "highly desirable...[that] no information should reach the press."<sup>123</sup> The most pressing problem was the sovereignty issue. The cumulative effects of the NORAD debates were taking their toll. The custody plan would cause problems and it would be:

...desirable to impose conditions to preserve Canadian sovereignty so far as possible and ensure the proper use of these weapons. It would be highly distasteful to have these weapons stockpiled in Canada to be released only with the permission of the U.S.. Such restrictions were understandable for offensive weapons but these were for the joint defence of North America....in the proposed negotiations it should be said that they would be used in and over Canada only with the agreement of Canadian authorities.<sup>124</sup>

It is unclear from the minutes who was making this point. It was probably not Pearkes, though the statement that "The alternative to not coming to some agreement...was that Canadian forces would not be equipped with the best weapons available"<sup>125</sup> was probably his. Pearkes was

122. DGHIST Vol. 73/1223 file 2002, Air Officers Commanding Conference, 17-19 March 1959, Foulkes discussion.

123. NAC RG 2, 15 October 1958, Cabinet Conclusions.

124. Ibid.

125. Ibid.

instructed to allow the COSC to initiate negotiations provided that ensured that:<sup>126</sup>

- a) a minimum of other persons be informed of them.
- b) as much freedom as possible be obtained for Canadian use of these weapons.
- c) every effort be made to ensure that the Canadian government or its designated representatives would also have to authorize the use of these weapons in or over Canada by U.S. as well as by Canadian forces.

Foulkes then met with General Loper of the AEC and presented Canadian requirements for warheads. With regard to warheads for Canada's NATO forces, Loper thought that the current series of US-Italian agreements on custody and control of Jupiter IRBM's might be used as a basis for a future US-Canadian agreement. North America would be something different, though. The law stated that:

...custody [was] to remain in American hands by which is meant that American citizens protect the weapon under conditions which would require the use of force by an outside party to gain access to the weapons. In the case of a single-seated aircraft, this would mean that the pilot would have to be an American citizen....<sup>127</sup>

Thus the agreement would have to deal with this after the law was changed. The best way, Loper explained, was to do another bi-lateral agreement with the appropriate language for training and information exchange once this other purely American step was done. Loper "felt that perhaps we should handle the problems of storage, transportation, and

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126. Ibid.

127. DGHIST, Hendrick Papers, Daily Diary, 27 October 58.

custody in Canada first, and leave the rather difficult problem of the release for use to later."<sup>128</sup>

Foulkes also asked about safety and salvage in the event of a crash in Canada. Loper passed on unclassified information and suggested that the RCAF follow up for classified information at some vague point in the future. Foulkes, however:

...made the point that there were outstanding agreements requested by the Americans for the flight of MB-1's over Canada and for the storage of MB-1's at Goose Bay and indicated that consideration of these requests would be linked with adequate resolution of Canada's desire to have atomic [war]heads for its own defence. He pointed out that Canada could not accept the position where [her] armed forces were unfavourably armed vis a vis American forces doing the same task, ie: defending the United States....the adequate resolution of Canada's ability to police its own country was related to the desire of the Americans to fly strategic missions over Canada and that is this were adequately resolved, the permission to make these flights might well be withdrawn.<sup>129</sup>

The message was clear: no nuclear warheads for Canada, no more SAC flights over Canada, and maybe no SAC storage at Goose Bay. Foulkes then told Loper that Canada did not want to own the weapons, since this would cost too much in the initial purchase and later when the weapons were upgraded and new ones introduced. Having the NATO commanders handle everything was better, since:"By using the NATO commander in his US role and having him arrange for the supply of these weapons to Canada, we had an American advocate to argue our case on operational grounds, who had direct access to Washington. Therefore, it was more likely to get

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128. Ibid.

129. Ibid.

results...."<sup>130</sup> Presumably from men like John Diefenbaker and Howard Green.

Foulkes met with Nathan Twining, who assured Foulkes that "the Joint Chiefs and the [US] Air Force would lean over backwards to provide [for Canadian] requirements within the law."<sup>131</sup> Emergency plans for salvaging nuclear weapons in the event of an accident became an issue that Foulkes used. If there was no Canadian capability to handle salvage and there was a crash, this would mean that American teams would have to be brought into Canada. This was unacceptable for a sovereign nation. If this happened, Foulkes told Twining, the Prime Minister might prohibit SAC overflights altogether. This contributed to breaking loose more information on the weapons themselves and the establishment of RCAF nuclear weapon recovery teams.<sup>132</sup>

Eisenhower's National Security Council (NSC) considered the matter of Canadian access to the nuclear stockpile throughout the fall of 1958. This examination was part of a larger discussion in the NSC which reflected American concern about their relationship with their northerly neighbour and the problems associated with defence issues:

...the Canadian Government is confronted with a dilemma. On the one hand, the Government has emphasized the rights of Canada as a sovereign power and the relationship of defense production to Canadian industrial and scientific growth; on the other hand, it is faced with the economic reality that Canada does not have the resources to finance the more expensive weapons systems for modern defense. [This] is exemplified by its recent decision to reduce

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130. Ibid.

131. DGHIST, Hendrick Papers, Daily Diary, 28 October 1958.

132. DGHIST, Hendrick Papers, Daily Diary, 14 November 1958.

drastically the production of the Canadian-developed CF-105 supersonic interceptor aircraft and to introduce into the Canadian air defense system the U.S.-produced BOMARC missile in its stead....<sup>133</sup> [Canada] can be expected to be sensitive over any future defense production sharing arrangement which create the impression that Canada will produce only minor components for joint defense projects....Unless Canadian defense industries do remain healthy, the United States probably will not receive the same excellent cooperation in the joint defense effort that has prevailed in the past.<sup>134</sup>

Initially the NSC discussed ways of helping Canada increase cash flow, such as reducing American restrictions on oil imports, or giving increased preferential treatment to Canadian defence contractors and a better exchange of industrial information.<sup>135</sup>

The Canada-US Committee on Joint Defence, consisting of Foulkes, Pearkes, Smith, Dulles, and U.S. Secretary of Defense Neil McElroy, met on 15 December 1958 to discuss nuclear weapons for continental defence. At this meeting, Pearkes and Smith tabled a draft statement that they planned to take to Diefenbaker so that he could make a statement in the House of Commons to keep the public informed. The purpose was to focus the discussions specifically on the nuclear weapons issue. In effect, the draft statement argued that nuclear weapons were necessary not only for the defence of Europe, but for North America as well. Canada agreed that this was necessary but so was "the importance of limiting the spread of nuclear

133. Note that the NSC planners did not understand that the BOMARC and Arrow were complementary systems and that Canada was not replacing the CF-105 with BOMARC.

134. USNARA RG 273, "NSC 5822: Certain Aspects of U.S. Relations with Canada," 12 Dec 58.

135. Ibid.

weapons at the independent disposal of national governments",<sup>136</sup> the continuing need for arms control negotiations, and the continuing need for collective security and deterrence. The main issue was control. NORAD would command nuclear air defence forces over Canada and release would be by mutual consent of the Canadian and American governments. Canadian nuclear weapons use in Europe would be subject to further negotiation with SACEUR.<sup>137</sup>

Dulles attempted to make a connection between defensive nuclear weapons stored in Canada and offensive SAC nuclear weapons stored in Canada. This was fobbed off by Smith, who told Dulles that this matter was not up for discussion at this time and should not have any bearing on defensive weapons acquisition by Canada. With regard to joint NORAD control over defensive nuclear use, McElroy had no problem, as long as the military commanders were consulted. There were some technical problems. If the planned American ICBM's were launched over Canadian territory, did the United States have to inform Canada first? McElroy considered ICBM's to be defensive weapons. Did Canada really want joint control over these? In reality, the Canadians were more concerned about MB-1 and BOMARC use instead.<sup>138</sup>

In the main, both sides agreed that a public statement should be made but that detailed discussions on release procedures should start as soon as

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136. NAC RG 24 vol. 20711 file csc 2-3-2 pt. 6, 15 Dec 58, "Draft Statement regarding the Acquisition and Control of Nuclear Weapons for Possible Use in the House of Commons."

137. Ibid.

138. NAC RG 24 vol. 20711 file csc 2-3-2 pt. 6, 15 Dec 58, "Problems Connected with the Acquisition and Control of Defensive Nuclear Weapons in Canada."

possible and that nuclear information agreements be promulgated so that they could be implemented. Dulles came away with the impression that "the meeting served more as scenery than as a place for substantive debate...."<sup>139</sup>

In the wake of the Smith-McElroy meeting, the NSC concluded that Canada should be given defensive nuclear weapons without the restrictions the Americans planned to impose on its NATO allies. In an annex to the NSC 5822/1 dated 30 December 1958, the NSC recognized that "the early attainment of an operational nuclear delivery capability for Canadian continental defense forces would contribute significantly"<sup>140</sup> to the defence system. There were discussions already underway, and Canada would probably ask for access to nuclear weapons, but the NSC believed Canada did not have access to information needed to attach weapons to existing delivery vehicles, information to "assure the operability of the nuclear warhead and information necessary for safety in the employment of the weapons."<sup>141</sup> A new agreement was needed.

The NSC noted that:

...whether or not the Canadians themselves request actual custody of and authority to use nuclear weapons, such custody and authority...will be required for optimum effectiveness if we are to assure a...fully effective continental defense posture...[this can only be met if] Canada has actual custody and authority to use the nuclear warheads in question. For example, if MB-1 rockets are provided, the Canadian forces should be allowed to carry the weapon aloft, in

139. USNARA RG 59 box 3218, file 742.5/12-15-58, message Dulles to Eisenhower, 15 Dec 58.

140. USNARA RG 273, "Annex to NSC 5822/1: Canadian Access to Nuclear Weapons in Peacetime," 30 Dec 58.

141. Ibid.

preparation for an attack, on the same basis that U.S. forces carry such a weapon. If nuclear anti-submarine weapons are provided, the warhead should be aboard the Canadian vessel and subject to procedures for use identical with those for U.S. vessels. In the case of any fast reacting air defense missiles systems the utility of the weapon would be degraded if involved bi-lateral procedures delayed weapon launching.<sup>142</sup>

Furthermore:

It is considered that the transfer to Canada of custody and the authority to use nuclear weapons should be in accordance with agreed procedures for the expenditure of nuclear weapons by U.S. forces.<sup>143</sup>

There would be problems with the Atomic Energy Act and with the NATO allies, the NSC assumed. As for Canada, if NATO-type procedures were used, it would "carry an implication of distrust or a limitation on the partnership status envisioned under our continental defense arrangements....Canada itself might not desire preferential treatment."<sup>144</sup>

In conclusion, the NSC thought that initially, Canadian forces should use American custodians, and that nuclear information dissemination be expedited. Pending a change in the Atomic Energy Act, "It is in the U.S. security interest to transfer to Canada at an appropriate time the custody of nuclear components for continental defense....In no case should action be

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142. Ibid.

143. Ibid.

144. Ibid.

taken outside the Executive branch without prior knowledge that Canada desires such custody."<sup>145</sup>

The COSC wanted the Government's authority to continue discussions on the matter of nuclear warhead access and storage. Cabinet met to examine the issue in December 1958 prior to the annual NATO meeting. Some members thought that the mere fact the only the President could release nuclear weapons infringed on Canadian sovereignty, though someone pointed out that, while it took Eisenhower to release weapons, their actual use by Canadian forces would be subject to Canadian control. This amounted to more hair splitting on the control issue which continued to ignore the fact that there might not be time to consider and then issue joint orders. The Americans still wanted to link defensive MB-1 storage with SAC storage. Cabinet was adamant that "It would be impossible to agree to the storage of offensive nuclear weapons at Goose Bay until Canadian forces were in the position of being able to use...modern defensive weapons as U.S. forces."<sup>146</sup>

In other words, SAC storage was hostage to Canadian access to MB-1's, nuclear depth bombs, and Honest John warheads. The possibility that the Americans might entertain transferring the custody of nuclear weapons to Canada did not occur to Canadian policy makers. Foulkes and Pearkes previous beliefs that it would increase the already strained defence budget negated any possibility of Canadian consideration of this course of action.

Now, Canadian access to nuclear weapons was subject to the legalities of a bi-lateral Canada-US agreement on nuclear information sharing. The

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145. Ibid.

146. NAC RG 2, 9 Dec 1958, Cabinet Conclusions.

Americans had already modified their Atomic Energy Act in July 1958 to allow for a wider distribution of information. Once the Americans backed off on the SAC storage and SAC overflight issues (which will be handled in detail in Chapter 9), the Diefenbaker Government was amenable to signing the bilateral agreement. For all intents and purposes, the 1959 agreement was similar to the 1955 agreement. The only difference was that the appendix listing the types of information that would be made available would be expanded.<sup>147</sup> Delays on the agreement continued into 1959.

In January 1959, the USAF released MB-1 installation drawings to the RCAF, which then forwarded them to AVRO "to assist in the design of the MB-1 installation in the Arrow." Other material on the way included a study for equipping the CF-100 with MB-1.<sup>148</sup> Why was this done? Some of the RCAF leadership was still hopeful that something from the CF-105 programme could be salvaged. Any decision to cease production of the Arrow would still leave Canada with 29 partially completed aircraft. There was no reason why these machines should be wantonly discarded. The RCAF was clearly hedging its bets. If the 29 aircraft were retained, they could be equipped with the cheaper MB-1 system. If the Arrow was canceled, the CF-100 could carry MB-1 until a replacement aircraft was acquired. The CF-100 lacked the altitude to deal with some threats, but provision was made to modify the MG-2 fire control system to fire the MB-1 in a snap-up action. A snap-up manouevre had been developed by the USAF ADC squadrons employing the F-89J/MB-1 combination. The launching

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147. DGHIST, Raymont Collection file 1310C, 4 Apr 59, COSC 629th Meeting.

148. DGHIST file 79/429 Vol. 9, VCAS "Divisional Items of Interest For Week Ending 30 Jan 59."

aircraft ascended at a sharp angle towards the target until the interceptor's ceiling had been reached and flipped the MB-1 beyond the ceiling at the high flying target. The CF-100 was capable of performing the manouevre.<sup>149</sup>

The Arrow affair came to a head in February 1959. The COSC met in no less than four special meetings to re-consider the air defence programme. Campbell was increasingly concerned that if the Arrow did not go through, no provision had been made to acquire a replacement for the CF-100. He started to push for the American F-106 as its replacement, the F-108, was still under development (the F-108 was never completed). The DRB 'boffins' were called in to give their views on the ballistic missile threat and the possibility of defending against them. They were pessimistic about the prospects of an effective ABM system, though they thought the manned bomber threat would continue until at least the mid-1960's.<sup>150</sup>

Pearkes met with the COSC, who then told him that if the CF-105 were canceled, alternative arrangements would have to be made with the Americans to protect Canada. Canada should acquire 100 to 150 American interceptors, allow the USAF ADC to occupy more than two bases in Canada, allow USAF ADC to disperse to Canadian air bases, and make arrangements for USAF BOMARCs to operate in Canada. The CF-100s could handle BADGER but not BEAR or BISON aircraft. The initial enemy attack would consist of about 100 aircraft (BEAR, BADGER, and/or BISON) and there was no clear evidence that a Soviet supersonic bomber was in production. Pearkes interpreted this as a lessening of the manned bomber

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<sup>149.</sup> DGHIST file 79/429 Vol. 9, VCAS "Divisional Items of Interest For Week Ending 13 March 59.

<sup>150.</sup> DGHIST, Raymont Collection file 1310C, 10 Feb 58, COSC Special Meeting; 12 Feb 58, COSC Special Meeting.

threat and therefore he believed the announcement of the CF-105 cancellation could be based on this factor. Campbell tried to get Pearkes to go along with a replacement aircraft but to no avail. Pearkes sent the brief recommending canceling the CF-105 to Diefenbaker without getting the COSC's consent.<sup>151</sup> This was done "in order to cover up this dissension among the Chiefs of Staff at a time when feeling was running high."<sup>152</sup> Attempting to use the sovereignty issue as a means to protect the CF-105 had failed. Apparently some members of the Air Staff openly wept after the decision was made.

On 20 February 1959, Diefenbaker told the House of Commons that Arrow was dead and that Canada would, as a compensatory measure, discuss with the Americans provision for nuclear warheads for BOMARC and MB-1 Genies. The Arrow decision not only put 25 000 skilled aerospace workers on the street, damaged the industrial base and caused further political problems: it killed Canada's only locally-designed and built nuclear delivery system.<sup>153</sup>

The political fallout from the CF-105 cancellation joined the dust that was already in the atmosphere lingering from the NORAD debates. Though the Opposition had taken continual shots at the delays and cost of the CF-105

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151. DGHIST, Raymont Collection file 1310C, 19 Feb 58, COSC Special Meeting; The Raymont Study, pp. 258-259.

152. DGHIST, Foulkes Papers, Arrow folder 14-2, "The Story of the CF-105 AVRO Arrow, 1952-1962."

153. It is not my intention to go into the sordid details of the decision to torch the existing CF-105 aircraft and precision production equipment at the AVRO facility at Malton. This has become the subject of a vast mythology which has taken a life of its own in the popular imagination and in the existing scholarship.

programme since 1957 and it got worse after 20 February.<sup>154</sup> Foulkes noted that:

Some of the criticism appeared to be advanced for purely political purposes, particularly the sarcastic sallies regarding the lack of enterprise in securing markets for the CF-105. The most caustic and inaccurate comments came from the [Member of Parliament] for Trinity, the Toronto constituency where the facts of the CF-105 had created some hardships and this doubtlessly accounted for Mr. Hellyer's exaggerated and irresponsible charges.<sup>155</sup>

Long a defence policy critic, Paul Hellyer would eventually become Minister of National Defence under the Pearson Government in 1963.

What did the end of the Arrow mean in relationship to the 1957-1958 NORAD debates? The lack of a manned interceptor would leave a hole in the defence system. SAC's vulnerability would increase, and its deterrent value decrease; therefore risk would increase. If USAF interceptors filled the hole, then this process was nullified. This produced an additional problem. It would mean more American personnel and American bases on Canadian soil and more American aircraft flying overhead, which would add to the appearance that Canada could not participate in her own defence, which would result in an even greater erosion of sovereignty. This is exactly what the Diefenbaker Government had been elected in 1957 to prevent in the first place.

There was another aspect to the problem. With no manned interceptor squadrons, what could Canada contribute now to legitimize her equal

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154. DGHIST, Raymont Collection file 631, 19 Aug 58, "Report on the Development of the CF-105 Aircraft and Associated Weapons Systems 1952-1958." See the Hansard extracts attached.

155. DGHIST, Foulkes Papers, Arrow folder 14-2, "The Story of the CF-105 AVRO Arrow, 1952-1962."

partner status in NORAD? Sixty BOMARC missiles for which bases had not been built yet, nor nuclear warhead agreements signed for yet? A SAGE command centre which was not even under construction? Nine aging CF-100 squadrons was not enough 'currency'. There was, of course, the geographical contribution and the early warning system, but Canadian airspace needed to be patrolled and defended by Canadians. In other words, cancellation of the Arrow exacerbated the multitude of problems raised during the NORAD debate.

In the end, the Arrow was canceled because the Diefenbaker Government would not allocate more money to the defence budget so that Canada could maintain a balanced force structure in Europe and North America.<sup>156</sup> As the Chief of the Air Staff noted in the aftermath, "they came in with an avowed intention of cutting military expenses and raising old age pensions, etc. and it all costs money...they are holding it at the present level dollar-wise and taking a chance of being under the wing... of the

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156. The existing literature on the Arrow affair assigns several different reasons for the cancellation. Jon McLin's Canada's Changing Defence Policy, 1957-1963: The Problems of a Middle Power in Alliance (Baltimore: Johns Hopkins University Press, 1967) p. 84 states that the project was cancelled due to sheer cost. Murray Peden's Fall of an Arrow (Toronto: Stoddart Publishing Co. Ltd, 1987) agrees that it cost too much but goes on to state that this was done to maintain a balanced force structure. Grieg Stewart's Shutting Down the National Dream: A.V. Roe and The Tragedy of the Avro Arrow (Toronto: McGraw-Hill Ryerson, 1988) reaches no specific conclusion. E.K. Shaw's There Never Was An Arrow (Toronto: Steel Rail Educational Publishing Ltd., 1979) p. 124 argues that there was a loss of Canadian confidence in its dealings with the United States coupled with a cultural inferiority complex. This prevented the full realization of the aircraft's potential. Palmiro Campagna's Storms of Controversy: The Secret Avro Arrow Files Revealed (Toronto: Stoddart Publishing, 1992) pp. 163, 173 presents a convoluted conspiracy thesis which attributes the aircraft's demise to the American's pushing BOMARC as a replacement to the CF-105, or that the CIA deliberately undermined the programme since the Arrow could shoot down the U-2 and SR-71 aircraft. James Dow's The Arrow (Toronto: James Lorimer and Co. Publishers, 1979) pp. 140-141 suggests that the problems and costs involved with the weapons system got out of control under both the St Laurent and Diefenbaker Governments and that this was recognized too late and there was not enough money to complete the project.

[United States]."<sup>157</sup> The bright light in the affair was that the re-equipment of 1 Air Division could start. The unemployment ramifications were slightly alleviated when Canadair got the contract to build the CF-104 in Canada but the whole Arrow matter left a bad taste in everyone's mouth.

### Howard Green Enters the Cockpit and Takes Flight, Pearkes Prepares to Bail Out

Sidney Smith died on 17 March 1959, and Diefenbaker temporarily became Secretary of State for External Affairs once again in addition to being Prime Minister. In Cabinet, Diefenbaker stated that the planned nuclear agreement was not really an agreement at all since the wording was 'imposed' by the Americans. He wanted to know what the US-UK agreement contained, as he had been reliably informed that the British would get access to more information than Canada. Pearkes soothed the Prime Minister, noting that the British were more advanced than Canada in nuclear weapon design and production and therefore were entitled to more information. The Canada-US agreement was tailored to Canadian requirements established by Canadians. The expanded areas included:<sup>158</sup>

- a) information on new weapons and the delivery systems to which they would be attached.
- b) information on safety features so that Canadian teams could recover weapons involved in accidents.
- c) information on military reactors.

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<sup>157</sup>. DGHIST, volume 73/1223 file 2002, Air Officers Commanding Conference, March 1958. Campbell discussion.

<sup>158</sup>. DGHIST, Raymont Collection file 1332, 22 Apr 59, Cabinet Defence Committee.

- d) a section permitting the transfer of non-nuclear components of nuclear weapons to Canada.
- e) the easing of restrictions on discussing released information with other nations with bilateral arrangements with the United States.
- f) a section on patents.

Initially, Diefenbaker wanted to wait and see what the US-UK agreement language was. Fortunately, he was dissuaded from doing so, and the Prime Minister approved negotiations with the United States.<sup>159</sup> A.D.P. Heeney signed the documents on 22 May 1959.<sup>160</sup>

This was only one step in acquiring a true nuclear capability. The American formula established for doing so included a multitude of agreements. The 1959 bilateral information sharing agreement allowed Canada access to non-nuclear components, this is, delivery systems minus the attachment hardware and some electronic systems necessary for weapons arming and delivery. Then a government-to-government general agreement had to be signed to formally allow Canada to acquire these components, safety training from American sources, and actual access to stockpiled weapons under the custodial system. Once the government-to-government agreement was signed, the actual implementation of these three things was conducted by the signing of several service-to-service agreements. This was the formula in its ideal form.

The reality was that Canadian forces already possessed varying degrees of nuclear weapons training, safety, and tactical employment information.

<sup>159.</sup> Ibid.

<sup>160.</sup> NAC MG 26 N2, Pearson Papers vol 112. file: National Defence Debate Material (3), 25 May 59, "Notes for Statement by the Prime Minister in the House of Commons of the Agreement with the United States for Co-Operation on the Uses of Atomic Energy for Mutual Defence Purposes."

They already had American delivery systems, which had been acquired before the Americans modified their own versions to deliver nuclear weapons. Future Canadian delivery systems acquisition was already in progress and had been initiated based on certain information that had been made available to Canadian planners.

Negotiations for the general agreement to follow the information agreement commenced more or less immediately but then ran into a number of problems, some relating to a renewed MB-1 overflight agreement and the proposed MB-1 storage arrangements, and some relating to SAC operations and consultations on declarations of alerts.

CinCNORAD noted a number of operational limitations in the interim MB-1 overflight agreements and sought to rectify them, while DOD thought that a permanent agreement should be signed to replace the six-month renewable one, perhaps concurrent with the NORAD Agreement time-frame. Specifically, the original agreements mentioned only the MB-1 weapon and there was no provision for technological change in the agreement. Secondly, new interceptor aircraft were now able to extend their range beyond the 54th parallel. Finally, the USAF wanted to drop the alert level for nuclear overflights from Yellow or Red to the lower state of Air Defense Readiness, but only if declared by CinCNORAD as opposed to CinCONAD.<sup>161</sup> Analysis demonstrated that there would not then be enough warning time to launch the interceptors.

To facilitate the passage of the agreement, the Americans acknowledged that the interception ROE's for USAF interceptors over Canada would adhere to RCAF ROE's and that:

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161. USNARA RG 59 box 3219, message Willoughby to Merchant, "Proposed Revision of MB-1 Overflight Agreement with Canada," 17 Mar 59.

...[the US] will continue to take the utmost precaution in designing nuclear air defense weapons...to insure a minimum possibility of public hazard when employment of such weapons is necessary. Representatives of the [RCAF] will continue to be thoroughly informed by the [USAF] concerning both storage and operational safety measures [and] will take measures to insure that the Canadian Government is immediately notified of any crash in Canadian territory....<sup>162</sup>

What appeared to be a logical and prudent modification to an already existing agreement to Canadian and American defence and foreign policy cognoscenti was viewed differently by Canada's new Secretary of State for External Affairs.

Unable to handle the External Affairs minister portfolio and the Prime Ministership at the same time, Diefenbaker assigned Howard Green, who was at the time Minister for Public Works and had previously been Agricultural Minister, to the position. Green took on the duties in June 1959.<sup>163</sup> Like Diefenbaker, Green was a lawyer, a Westerner (Vancouver, B.C.) a monarchist, anti-American, and a First World War veteran. Green apparently thought that God had put him on earth to use Canada's influence to rid it of nuclear weapons.<sup>164</sup> He was fixated on preventing nuclear testing to the detriment of his other responsibilities. In a conversation with US State Department officials, Canadian Ambassador to the United States A.D.P. Heeney noted that Green did not like "soldiers,

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162. USNARA RG 59 box 3219, memo to Mr. Parker, "Revision of MB-1 Overflight Agreement," 6 Feb 59.

163. Hilliker and Barry, Canada's Department of External Affairs Volume II, pp. 148-150.

164. UVIC, Pearkes Papers, "Interview with General Charles Foulkes, June 5, 1967."

weapons, or policemen." His counterparts remarked that "such an attitude made cooperation in the political-military field rather difficult, because agreement is occasionally needed on some positive project."<sup>165</sup>

Green was just as suspicious of military leaders (both Canadian and American) as Diefenbaker was, and the two of them fed off of each other. For example, at the Montebello summit meeting between Diefenbaker and Eisenhower in 1960, General Nathan Twining, Chairman of the JCS, inadvertently provoked Green in discussions over nuclear weapons release procedures. Green's worst fears about the "lack" of civil-military control of nuclear weapons was "confirmed", and he continued to be "apprehensive over the possibility that the USAF and other elements of the armed forces carried on an existence rather independent of civilian control and were inclined to be trigger-happy."<sup>166</sup> Green's *Weltanschauung* interpreted the resumption of American nuclear tests after the moratorium as "evidence" that "the military and the AEC had triumphed over civilian opinion and that the United States under the present administration would be unreliable in the event of the sharpening of tension and might provoke a conflict."<sup>167</sup>

On the NATO front, Major General George Kitching (Canada's National Military Representative at SHAPE) remembered a meeting in Paris in which: "Green shook me by denigrating NATO and all it stood for, implying that we were a bunch of warmongers wasting taxpayers' money which

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165. USNARA RG 59 E 3077 250/62/30/3 Box 1, file: Basic Policy: Canada 1.15, memcon Heeney and Armstrong, 29 Aug 60.

166. Ibid.

167. Ibid.

could be better spent feeding the poor of third world countries. He went on to say that Canada's foreign policy was going to change; in future it would be to get to know and love and help the small countries of the world."<sup>168</sup>

Green was happy to run External Affairs in an almost anti-hierarchical fashion. He frequently jumped down several levels in the structure to directly imprint his vision, actions which caused Norman Robertson some consternation. Green also had a habit of categorically dismissing advice from the more experienced External personnel.<sup>169</sup>

External Affairs people were appalled at Green's personal behaviour at NATO meetings. The French, British, and American delegations grew tired of being lectured by Green on various topics relating to disarmament. W.H. Barton, chief of External's Defence Liaison Division, noted that "Green is not at his best in meetings of this kind since he does not have a background of experience in diplomacy, does not have the same intellectual sophistication, and refuses to wear a hearing aid despite the need for one."<sup>170</sup>

Despite Green's behaviour and views on nuclear weapons, NATO, air defence, and deterrence, it is important to note that Green was in favour of handling peripheral operations (as defined in MC 14/2 (revised)'s alternative threat section) with conventional forces. He believed that the UN should be used by NATO to put out such brush fires before they got out of

168. George Kitching, Mud and Green Fields (St. Catherines: Vanwell Publishing Ltd., 1993) p. 274.

169. Hilliker and Barry, Canada's Department of External Affairs Volume II: Coming of Age, 1946-1968, pp. 148-151.

170. USNARA RG 59 E 3077 250/62/30/3 Box 1, file: NATO 1959-62 3/A, memcon W.H. Barton and Rufus Z. Smith, "NATO Ministerial Meeting in Oslo," 22 May 61.

control. He pushed this argument often with his counterparts in NATO, so much that they grew weary of it after a while.<sup>171</sup> Though not unbiased observers, Americans in the State Department thought that "the most dangerous Minister from the standpoint of the United States is Green, because of his strategic position, political ambitions, stubborn concern over Canadian sovereignty, and influence with Diefenbaker."<sup>172</sup> As the Diefenbaker era progressed, Pearkes lost ground to Green in Cabinet and thus lost influence with Diefenbaker. There was considerable animosity directed by Green against Pearkes, particularly over nuclear weapons.

The new nuclear air defence weapons overflight agreement was stalled. American observers initially believed that it was not necessarily "motivated by a desire to take a stand opposite of the United States, but rather represented some fuzzy thinking on the part of Norman Robertson and possibly other high officials in External Affairs."<sup>173</sup> McElroy asked Pearkes what was going on, Pearkes asked Foulkes, and Foulkes discovered that the agreement was on Green's desk and remained unsigned. Foulkes thought that if Green continued to stall, he could get Bryce or Robertson to "expedite" it.<sup>174</sup> This was done, and the new arrangements were approved with some modification as Diefenbaker did not want the agreement

171. USNARA RG 59 E 3077 250/62/30/3 Box 1, file: NATO 1959-62 3/A, "Canadian External Affairs Minister Green's Remarks at Oslo," 9 May 61.

172. USNARA RG 59 E 3077 250/62/30/3 Box 1, file: Nationalism, Neutrality, Anti-Americanism 1960-62 1.14, memo Tyler to McGhee, "Canadian Nationalism," 9 Mar 62.

173. USNARA RG 59 E3077 Box 1, vol 250/62/30/3 file: NATO, memo Byrnes to Parker, "Recent Instances of Canadian Opposition to US Positions in NATO," 21 May 59.

174. DGHIST Hendrick Papers, Daily Diary, 19 June 1959.

concurrent with NORAD for fear of Opposition repercussions if they found out.<sup>175</sup> (Green also reluctantly approved some of the SAC overflight arrangements at the same time, but these will be dealt with in Chapter 8).

A.D.P. Heeney, who replaced Norman Robertson as Canadian Ambassador to the United States, recorded Green's response to a briefing on the status of the various nuclear weapons agreements, the Berlin situation, and NATO. Heeney informed Green that the Americans had made a "conscious effort...to meet reasonable Canadian demands (Mr. Green injected that we should not expect them to meet requirements which were unreasonable). I believed that the senior members of the Administration were engaged in a genuine effort to restore Canadian confidence in the United States."<sup>176</sup> Green then:

...referred to the number of requests which were being received from the United States in defence matters (he had reference in particular to those relating to NORAD and SAC, overflights of U.S. aircraft with special weapons, alerts, etc.). Mr. Green said that he felt that the United States should be "held down" in these matters, should not be given all they asked for....He felt, particularly in view of the attitude which he had adopted in Opposition and in the recent elections, that he had a special responsibility to safeguard Canadian sovereignty.<sup>177</sup>

Heeney desperately tried to get Green to understand that these measures were taken as part of a joint defence effort. Canadian and American interests were the same on these matters since, he believed "it was true that

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175. NAC MG 32 B9 vol. 24 file 151-200/60, 30 Jun 59, diplomatic note from Herter to Heeney; 22 Jun 60, memo to Cabinet, "MB-1 Overflight Agreement"; DGHIST Hendrick Papers, Daily Diary, 24 June 1959.

176. NAC MG 30 E144 vol.1 file: US-Ambassador to Washington, 30 Jun 59, memo for file, "Conversation with the Minister (Mr. Green)."

177. Ibid.

Canadian sovereignty must be protected but surely it must be protected from the north as well as from the south....I [told him that] in certain quarters he was regarded as being prejudiced against the United States or even anti-American.<sup>178</sup> This was to no avail and the situation got progressively worse.

There is no direct evidence, but it is possible that Green was inspired by shifting French nuclear weapons policy. Charles de Gaulle's accession to power in January 1959 produced a firm policy statement in June. There would be no nuclear weapons stored in France unless they were under French control. The usual American custodial arrangements were not acceptable on French soil for sovereignty reasons (though they were acceptable for French forces stationed in Germany). Norstad promptly moved 250 USAF tactical aircraft to bases in Germany and the United Kingdom.<sup>179</sup>

Green was increasingly able to influence Diefenbaker on nuclear matters and harped on the sovereignty issues raised during the NORAD debates. During a meeting with US Secretary of State Christian Herter:

The Prime Minister stated that his government faced a difficult problem from the viewpoint of both public opinion and the opposition parties in connection with the storage of nuclear weapons in Canada. He added that the lack of any Canadian share in the control of their storage or use was a great worry. [limiting American overflights] was to strengthen the government's position in handling opposition questions.<sup>180</sup>

178. Ibid.

179. Harrison, The Reluctant Ally, pp. 121, 135; DDRS 1978 frame 74 C & D, State Department study, "France and NATO," 25 Sep 65.

180. FRUS 1958-1960 Vol. VII Part 1 p. 759, memcon, "Secretary's Conversations in Ottawa," 11 Jul 59.

All three proposed storage arrangements were stalled well into the fall of 1959, as were modifications to SAC overflight operations, modifications which were made in response to the developing Berlin Crisis. According to one Canadian observer:

...the situation is very awkward because Mr. Green says no to all American requests on principle and his External staff are helping him in this attitude. General Foulkes is very embarrassed by the attitude of Mr. Green....Mr. Robertson [is] assisting in this attitude by presenting the requests in poor light and causes considerable pressure on national defence to get action.<sup>181</sup>

It is somewhat unclear as to what prompted Norman Robertson to contribute to this behavior. Robertson was cognizant of the direction of Canadian strategic policy and had supported it until now. There are several possibilities, and they may have overlapped to produce a change in Robertson's views. According to Basil Robinson, Robertson attended classified briefings at NORAD and SAC in March 1959 which were blunt in describing the effects of a nuclear attack on North America. He "became visibly appalled and distressed", an effect which was probably exacerbated by SAC's activity during the 1958 Lebanon Crisis (see Chapter 8), the ongoing Berlin Crisis, and the increased possibility that an attack might actually occur.<sup>182</sup> Taken with Green's moral repugnance regarding nuclear weapons, this created a catalyst for obstruction. It is also possible that Robertson and Green positively viewed Charles de Gaulle's policy for

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<sup>181.</sup> DGHIST Hendrick Papers, Daily Diary, 8 July 1959.

<sup>182.</sup> Robinson, Diefenbaker's World p. 108.

dealing with the United States (refusal, obstruction, intransigency, and manipulation)<sup>183</sup> and sought to emulate it.

There is another possibility. Air Vice Marshal Max Hendrick was convinced that Robertson was motivated by fear of the United States' deliberately or inadvertently provoking the Soviet Union into a nuclear confrontation. In June 1958, Foulkes informed Pearkes that SAC had initiated a series of Fail Safe flights in which SAC bombers were launched during periods of crisis on pre-arranged flight plans towards designated targets in the Soviet Union.<sup>184</sup> Once the bombers reached a pre-determined point in airspace, they waited to receive further orders (see Chapter 8). Events which triggered Fail Safe flights included the increase "in the number of unknowns that appear in the air defence system [and/or] unusual activity on Soviet bomber bases or a Soviet long-range air force exercise."<sup>185</sup> At this point (1958) Fail Safe flights were not conducted over Canadian airspace:

The United States has never asked for authority for one of these "Fail Safe" flights; nor would I anticipate that they would because these flights are sent off at very short notice and in contemplation of a possible strike. The United States is well aware that we would not grant authority for the use of Canadian air space on such a flight without full consultation with the Government. Therefore it is our conjecture that any of these flights which take place go in other directions than over Canadian territory....any unexplained flights

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183. Harrison, The Reluctant Ally p. 51.

184. See Scott D. Sagan, The Limits of Safety (Princeton, New Jersey: Princeton University Press, 1994) pp. 163-164. Note that "Fail Safe" is a different concept from the later "Airborne Alert" concept, though the movie *Fail Safe* confuse the two. The movie *Dr. Strangelove* correctly identifies the activity depicted in the movie as Airborne Alert.

185. DGHIST, Arnell papers, 3 Jun 58, memo from Foulkes to Pearkes, "USAF Flights Carrying Nuclear Weapons Overflying Canadian Territory."

would be picked up by our early warning systems and we would soon hear about this situation.<sup>186</sup>

An additional related point was that Foulkes informed the RCAF leadership in March 1959 that "United States authorities" were so concerned about the possibility of the initiative resting with the Soviet Union "that they are looking at the forbidden preventative war approach" as a serious option.<sup>187</sup>

We probably should conclude that Robertson knew about SAC operations and general thinking. In addition to Fail Safe flights, SAC and even RAF Bomber Command conducted even more provocative activity which could have influenced Robertson's views. 'Ferreting,' or the deliberate aerial penetration of enemy territory to gather intelligence, was not a new activity in 1958.<sup>188</sup> However, between 1953 and 1959, General Curtis Le May ordered SAC to conduct a series of operations to penetrate the Soviet air defence system. In one case, three groups each consisting of seven B-47 bombers and two RB-47 recce aircraft approached the Soviet Union. At the last minute, the B-47's peeled off and returned to base while the RB-47's dropped down and entered Soviet airspace to overfly the Kola Peninsula and gather

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186. Ibid.

187. DGHIST, Raymont Collection, file 2006, 19 Mar 59, "Address by General Charles Foulkes to Air Officers Commanding Conference."

188. There were continual Ferret operations throughout the 1940s and 1950s which sometimes resulted in shootdowns of American and British aircraft. One of the more spectacular missions involved the simultaneous night penetration of the Soviet Union by three RB-45's wearing RAF markings. These aircraft were conducting radar mapping operations for SAC and V-Force navigation. There were, of course, the U-2 missions which started in July 1956. See Ben R. Rich and Leo Janos, Skunk Works (New York: Little Brown and Co., 1994) pp. 145-147; James Bamford, The Puzzle Palace (New York: Penguin Books, 1983) pp. 232-245; Paul Lashmare, "Skullduggery at Sculthorpe", Aeroplane Monthly October 1994, pp. 10-15.

photographic and signals intelligence.<sup>189</sup> In another reconnaissance series, Project HOMERUN, 146 RB-47 flights were conducted from Thule over the North Pole against the Soviet Union.<sup>190</sup> The Soviets were vocal in their opposition to such activity, and it is likely that Robertson knew about similar operations, since Canadian SIGINT facilities routinely monitored USAF Ferret flights departing Thule and Alaska.<sup>191</sup>

Conversely, Robertson should also have known about the frequent Soviet penetrations of NORAD's early warning systems.<sup>192</sup> External Affairs was informed of one particular case in which a TU-16 BADGER crashed at a Soviet Arctic drift ice station right on the boundary line between Canadian and Soviet waters. RCAF Lancasters from 408 Squadron overflew the site several times (especially when the Soviets were engaged in recovering the aircraft) and brought back the West's first close-up detailed pictures of this Soviet nuclear bomber type operating from a forward ice runway just outside Canadian territorial waters.<sup>193</sup>

The abortive 1959 NORAD Exercise SKY HAWK was the perfect example of a Robertson nightmare come true. It also produced further delays in

189. See the BBC documentary programme "TimeWatch" episode entitled "Spies in the Sky" which aired on 9 February 1994.

190. R. Cargill Hall, "The Truth About Overflights", Military History Quarterly Spring 1997 Vol. 9 No. 3, pp. 25-38.

191. DHIST. Arnell Papers, 3 Jun 58, memo from Foulkes to Pearkes, "USAF Flights Carrying Nuclear Weapons Overflying Canadian Territory."

192. ATI, NORAD has, unfortunately, divested itself of the pre-1978 Soviet penetration of North American airspace statistics.

193. NAC MG 32 B 19, vol. 11 file 15-90, 2 Sep 58, memo CAS to MND, "RCAF Reconnaissance Mission;" 28 Aug 58, memo Director of Air Intelligence to CAS, "APEX ROCKET-408 Squadron." RG 25 at NAC has several still-classified files relating to this and similar operations.

nuclear weapons storage and overflight agreements. As originally conceived, this exercise was to be a comprehensive test of NORAD and was called by CinCNORAD with Slemmon's concurrence. It would involve the entire NORAD area and all NORAD-assigned forces. SAC bombers would realistically penetrate the defence system. All non-military air traffic was to be grounded for the duration of the exercise. This was done as full jamming capabilities were to be tested, which would interfere with civilian radar systems as well as military ones. SKY HAWK would employ over 1500 fighter aircraft and all SAM units in North America. Joint Canadian-American planning for SKY HAWK had been in progress since January 1959, and the exercise was scheduled for October. It would last six hours from 0100 hours to 0700 hours to reduce any interference with the civilian population.<sup>194</sup>

There are no indications that SKY HAWK was deliberately structured to signal the Soviet Union over Berlin, and in fact the dates of the exercise were explicitly changed so as not to coincide with Soviet Premier Sergei N. Khrushchev's visit to the United States.<sup>195</sup>

National Defence and Department of Transport had been coordinating with their American counterparts through NORAD for several months. Green suddenly claimed late in August that External Affairs had not been consulted (this only after a draft press release was forwarded to External from the US State Department on the prompting of the US JCS), that the exercise was unnecessary, and that jamming would disrupt civil air

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194. USNARA RG 59, box 3219, (no date) "Proposed Press Release- Operation SKY HAWK."

195. USNARA RG 59, box 3219, memo Dale to White, "NORAD-SAC Exercise, "Operation SKY HAWK," 12 Aug 59.

traffic.<sup>196</sup> There had been some miscommunication between McElroy and Pearkes in early August (Pearkes did not fully understand the relationship between airborne jamming and the need to ground civil aircraft) but this was a side issue. The State Department found it hard to believe that "the Canadian Cabinet bases its decision on a press statement that has not been approved for publication rather than the merits of the matter."<sup>197</sup>

The matter then went to Cabinet and the Prime Minister sought to cancel the exercise. Diefenbaker then called in the American Ambassador Richard B. Wigglesworth, who believed that:

...[Diefenbaker] was much agitated and it was clear that his views were influenced by two factors. First of these was the late date at which he and other high officials heard of the project....Second factor is that opposition criticism of NORAD has stressed the theme that military people, primarily US, make decisions which are shoved down the throats of Canadian civil officials.<sup>198</sup>

The situation was serious enough for Eisenhower to communicate with Diefenbaker directly. Eisenhower asked him to reconsider canceling the exercise and assured him it would not be provocative in light of the summit.<sup>199</sup> Diefenbaker replied that, from discussions with Green, he took the position that SKY HAWK was unduly disruptive and provocative and

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196. DGHIST Hendrick Papers, Daily Diary, 28 August 1959; USNARA RG 59, box 3219, message Embassy Ottawa to State, 3 Sep 59.

197. USNARA RG 59, box 3219, memo Byrns to Rewinkel, "Proposed Press Release for Operation SKY HAWK," 4 Sep 59.

198. FRUS 1958-1960 Vol. VII Part 1 p. 765, message Wigglesworth to State, 29 Aug 59.

199. FRUS 1958-1960 Vol. VII Part 1 p. 767, message Eisenhower to Diefenbaker, 1 Sep 59.

that it should be reduced in scale.<sup>200</sup> Diefenbaker was also concerned that the cancellation should be kept secret so that the Opposition would not use it against him.

It is clear that Robertson was influencing Green, Green was influencing Diefenbaker, and Diefenbaker was influenced indirectly by Pearson. Robertson was concerned about provocation, while Green was interested in obstructing the Americans. Diefenbaker was worried about being attacked by the Opposition. The upshot of the whole affair was that SKY HAWK was canceled, an even bigger rift appeared in Canadian-American relations, Cabinet looked befuddled, and Foulkes personally tried to ensure that Norman Robertson was kept out of the loop on defence matters in the future.<sup>201</sup> NORAD could not effectively evaluate itself, which in turn produced operational uncertainty and possibly weakened its value as a component of the deterrent system. Livingston Merchant, now the Deputy Under Secretary of State, saw the episode as "one more manifestation of Canada's softer approach to the Communist world. A tough education job, therefore lies ahead to convince Canadian Cabinet leaders that we must deal with the Soviets from a position of strength."<sup>202</sup>

Despite the SKY HAWK debacle, CinCNORAD re-opened negotiations for storing MB-1's for the USAF squadrons based at Goose Bay and Harmon AFB's in October 1959. The COSC had discussed this in July (Robertson was present for all four meetings and continually pushed for minor rewording

200. FRUS 1958-1960 Vol. VII Part 1 p. 768, message Diefenbaker to Eisenhower, 6 Sep 59.

201. DGHIST, Hendrick Papers, Daily Diary, 2 September 1959; 16 September 1959; USNARA RG 59, box 3219, (no date) letter Murphy to Twining.

202. USNARA RG 59, box 3219, letter Merchant to Wigglesworth, 30 Oct 59.

of the draft agreement at every opportunity which delayed the proceedings)<sup>203</sup> but apparently was unable to make any headway in getting the item placed on the Cabinet's agenda in light of the SKY HAWK situation in August.

Cabinet approved, in principle only, the storage and use of the weapons and authorized detailed discussions on 22 September. By 2 October, a draft proposal was sent to the State Department by External Affairs. In effect, the weapons would be air-to-air defensive weapons under CinCNORAD's control. Physical security would be joint, safeguards would be maximum, ownership would be American, and transport through Canadian airspace would be authorized by Canada. The weapons would only be deployed when authorized by both nations.<sup>204</sup>

Inexplicably, the State Department did not reply until January 1960.<sup>205</sup> By that point, the USAF informed the Canadian Government that the Harmon and Goose Bay interceptor squadrons would probably be phased out by 1963.<sup>206</sup> It is highly likely that the Americans did not want to push on this matter for fear of aggravating the existing situation.

The US Navy in the form of CinCLANT, meanwhile, observed what was going on with regard to nuclear storage and discretely approached the

203. DGHIST, Raymont Collection file 1310C, 7 Jul 59, COSC 641st Meeting; 16 Jul 59, 642nd Meeting; 23 Jul 59, 643rd Meeting; 24 Jul 59, 644th Meeting.

204. RG 2, 22 Sep 59, Cabinet Conclusions ; DGHIST, Raymont Collection, file 996, 2 Oct 59, message External to Washington D.C., "Storage of Defensive Nuclear Weapons at Goose Bay and Harmon Air Force Base."

205. NAC MG 32 B9, vol. 24 file 51-100/60, 2 Mar 60, memo to Cabinet, "Storage of Air-to-Air Defensive Nuclear Weapons at Goose Bay and Harmon Air Force Base."

206. DGHIST, Hendrick Papers, Daily Diary, 18 November 1959.

Canadian Joint Staff Mission Washington to discuss storing nuclear ASW weapons in Canada. SACLANT proposed that three sites be constructed in Canada (funded with NATO Common Infrastructure funds): two for Canadian use and one for joint Canadian-American-Netherlands use. Foulkes had previously inquired as to what American plans were for the proposed Argentia site so that he could work this into his discussions in Ottawa. He wanted to know more about how CinCLANT proposed to employ nuclear ASW weapons before he approached Cabinet and pushed for storage. The CinCLANT representatives balked, stating that the correct procedure was to have a general nation to nation bi-lateral agreement signed first, and then a service-to-service agreement between CinCLANT and the appropriate Canadian military authorities before this information could be passed on. These agreements had not been signed yet.<sup>207</sup>

Foulkes saw the general agreement as the key to solving several problems, not the least of those being the ability to equip Canadian forces with the nuclear warheads themselves. Consequently, he started pushing for this after the Camp David meeting in November 1959.<sup>208</sup>

The Camp David meeting originated in part by the State Department's desire to improve Canadian-American defence relations after the SKY HAWK affair. It believed that the situation:

...resulted largely from a breakdown in proper liaison between Canadian Military and political channels, it also revealed a lack of appreciation and understanding on the part of Canadian Cabinet Ministers, particularly Mr. Green and the Prime Minister....it has become evident that they tend to look upon NORAD as another U.S.

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207. USNARA RG 59, box 3219, message Paris to Ottawa, 24 Sep 59; DGHIST Hendrick Papers, Daily Diary, 24 September 1959.

208. DGHIST Hendrick Papers, Daily Diary, 12 November 1959.

commanded and U.S.-financed defense project in Canada as U.S. projects [rather than joint projects]....<sup>209</sup>

Specifically, State predicted that the Canadian delegation would be interested primarily in nuclear weapons issues, command and control issues, and the degree of civilian control over the American military, particularly SAC:

...there is a pervasive, if not articulated, concern that civil authority over joint United States-Canadian military undertakings needs more frequent reaffirmation. this somewhat vague uneasiness apparently stems from two factors: 1) a misconception that in the United States professional military interests have a disproportionate voice in policy determination (they are not entirely persuaded that "preventive war" is ruled out by the Pentagon; they are disturbed by the frankness of the testimony of [US] military leaders before Congressional committees....<sup>210</sup>

External expected to have to deal with American requests for nuclear air-to-air weapons storage at Goose Bay and Harmon; nuclear ASW weapons storage at Argentia; and SAC storage at Goose Bay. External now felt that SAC storage should be approved, as should the other two provided that removal of the weapons from storage for use was subject to joint Canadian-American control.<sup>211</sup>

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209. USNARA RG 59, box 3219, memcon, "Suggestions for Improving Politico-Military Relations With Canada," 20 Oct 59. Notably, State was unimpressed with the ad hoc nature of existing consultation measures and wanted to place more emphasis on the PJBD instead.

210. USNARA RG 59, box 3219, message Ottawa to State, "Some Canadian Thoughts on United States-Canadian Defense Arrangements," 13 Oct 59.

211. NAC RG 24 vol. 20711 csc 2-3-2 Pt. 6, 29 Oct 59, "Storage of Nuclear Weapons in Canada."

Held on 8 and 9 November 1959, the Camp David meeting was the official second meeting of the Canada-United States Ministerial Committee on Joint Defence and as such included Green, Robertson, Herter, Pearkes, McElroy, Twining, Foulkes, and Hendrick, as well as a bevy of civilian officials.<sup>212</sup>

Both sides first wanted to clear the air on the nature of the threat before proceeding with the pressing nuclear weapons issues. For the 1959-63 period, the pattern of attack against North America would probably consist of a small number of bombers supported by missile launching submarines conducting a sneak attack, followed by several hundred bombers. ICBMs would be available in small numbers (no more than 100) around 1960. In the 1963-66 time frame, bombers would supplement ICBMs and submarine-launched missiles and by the late 1960s, the ICBM would be the primary weapon supported by the other two systems in smaller numbers. The Soviets would probably use nuclear, biological, and chemical weapons smuggled into North America as part of the surprise attack.<sup>213</sup>

Nuclear war against North America would be initiated by the Soviets if one of three things happened:

- a) if the balance of Allied and Soviet military strength is not maintained.
- b) in the event of a Soviet technological breakthrough of major military significance.

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212. USNARA RG 59, box 3219, "Summary Record of the Meeting November 8-9, 1959 Camp David, Maryland."

213. NAC RG 24 vol. 20711 file csc 2-3-2 pt. 6, (no date) "Canada-US Agreed Views on the Threat to North America"; 29 Oct 59, JIC 344/1, "Summary Estimate of the Threat to North America (1960-1970) Based on Current Agreed Canadian-United States Intelligence Estimates."

- c) if the Soviet leaders become convinced that the United States was irrevocably committed to the early launching of an all-out surprise attack against the USSR.<sup>214</sup>

Initially, the meeting wove its way through the nature of world tension, future American plans to improve the deterrent force (airborne alert, Hound Dog ASM's, Polaris). When discussions turned to air defence of North America, McElroy offered Pearkes American aircraft to replace the aging CF-100's. This was the genesis of the RCAF's acquisition of the CF-101 Voo Doo nuclear-capable interceptor.<sup>215</sup> The thorny problems encountered with SKY HAWK were also raised, and Twining emphasized the critical need for military forces to train during peacetime so that they would be effective in wartime. Pearkes repeated concerns about the size of the exercise and Green was concerned that future air defence exercises involving SAC might provoke the Soviets. Twining noted "that previous SAC [and NATO] exercises involving flying toward the iron curtain had caused no adverse comment."<sup>216</sup>

Green leapt on this with great hyperbole. SKY HAWK, according to Green, was "almost a declaration of war as far as the Canadian public was concerned....we do not believe that it is necessary to threaten the USSR."<sup>217</sup> Herter was shocked. This was just a defensive exercise to test NORAD, not a SAC provocation. McElroy chimed in, stating that "if we do not show that

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<sup>214</sup> Ibid.

<sup>215</sup> USNARA RG 59, box 3219, "Summary Record of the Meeting November 8-9, 1959 Camp David, Maryland."

<sup>216</sup> DGHIST, Hendrick Papers, 9 Nov 59, "Canada-U.S. Ministerial Meeting."

<sup>217</sup> Ibid.

we were capable and ready to defend ourselves we were merely inviting a surprise attack." Norman Robertson believed that SKY HAWK would have scuttled any attempt to arrive at an accommodation with Khrushchev, a point to which Herter took great exception.<sup>218</sup>

The rest of the meeting was taken up with the nuclear storage issue. McElroy wanted decisions made, since storage issues had dragged on for two years now. What exactly was Canada prepared to allow the United States to do? Green noted that MB-1 storage was agreed to in principle, and Pearkes noted that European sites for Canadian forces were no problem, they just had to be built. Both men agreed that nuclear ASW weapons should be stored at Argentia. The problem was a matter of who released nuclear weapons for use from Canadian soil.<sup>219</sup>

Green then stated that Canadian approval was required to remove MB-1's at Goose Bay and Harmon, and that this had been agreed to in October, which it had not been. It became "apparent that because the proposed Canadian wording had not yet been studied fully...that the US secretaries were not aware of the Canadian opinion on the matter and it came as quite a shock to them."<sup>220</sup>

As for Argentia and ASW weapons, some Canadian and American delegates thought that SACLANT should be the releasing authority if the weapons stored there were for use by NATO forces. Others thought this ran against Canadian sovereignty. They wanted a Canadian veto on the

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218. Ibid; USNARA RG 59, box 3219, "Summary Record of the Meeting November 8-9, 1959 Camp David, Maryland."

219. Ibid.

220. Ibid.

wartime deployment of nuclear ASW weapons at Argentia to ships, be they American, Canadian, or other NATO ships. The Americans were not enthusiastic about this. McElroy and Green agreed to work the details out at a later time once the bi-lateral general agreement were signed. Foulkes thought that SACLANT's proposed nuclear ASW storage sites for Canadian naval forces at Summerside and Shearwater should be constructed but without NATO Common Infrastructure money, which might confuse the control issue (NATO control versus Canadian/U.S. control).<sup>221</sup>

The conversation shifted to SAC storage at Goose Bay. McElroy stated that these weapons were for re-strike purposes and Foulkes backed him up on this. Green stated that "it had been very difficult for the Canadian Government to agree to the storage for defensive purposes, and that it was even harder to agree to storage for offensive purposes in the House of Commons."<sup>222</sup> Christian Herter was appalled at this:

...what was most likely to keep the peace [?]....if we are going to move toward real disarmament and a relaxation of tension in the next few years, the USSR must continue to believe that a sudden attack by it on America could not possibly succeed. SAC was the force which prevented this possible success, because such an attack meant irreparable damage....SAC, therefore, is a defensive force.<sup>223</sup>

Green did not want to reduce the effectiveness of the deterrent, "but he did not want it to be increased either....it was difficult to explain to the

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221. Ibid.

222. Ibid.

223. Ibid.

Canadian people...U.S. arguments about the deterrent would justify the storage of anything in Canada."<sup>224</sup>

It is apparent from this exchange that Green's obstructionist attitude emanated from fear of electorate and Opposition criticism. The Americans came away from the meeting understanding that "there is some agreement on broad principles but that a meeting of minds has not yet been reached...."<sup>225</sup>

The lack of meeting of minds jeopardized the development of the bilateral general agreement which was the linchpin for everything. Foulkes focused most of his effort on this after Camp David, in addition to solving the problems of MB-1 storage at Harmon and Goose Bay and ASW storage in Argentia. He recognized that the major stumbling blocks in Cabinet would revolve around control and release issues with respect to storage which in turn were sovereignty issues, which had to be resolved before an umbrella agreement could be promulgated. In effect, Green, Diefenbaker and Foulkes had each contributed to creating a confusing linkage between the two. Storage and release issues regarding American weapons for SAC bombers, USN ASW aircraft, and USAF interceptors operating from bases in Canada were in fact separate from storage and release issues regarding American weapons stored in Canada destined for RCAF interceptors (manned and unmanned) and RCN and RCAF ASW aircraft. This was not recognized by Green, who saw them all as impositions on Canadian sovereignty.

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<sup>224</sup>. Ibid.

<sup>225</sup>. Ibid.

As noted earlier, the proposed government to government general agreement was structured to allow Canada to acquire delivery system components (modifications for aircraft), safety training from American sources, and actual access to stockpiled weapons under the custodial system. This would then open the door for the detailed service-to-service agreements necessary to implement the general agreement. Foulkes had previously implied that continued SAC overflight authorization and possible SAC storage at Goose Bay were contingent on the Americans agreeing to developing the general agreement, which the Americans readily acquiesced to. On the other hand, the US Navy, in trying to get Argentia for nuclear ASW weapons storage, was informed by Foulkes that this was contingent on the provision of release, security, and safety information to Canada. The US Navy would not do so until the general agreement was signed. Green made no effort to solve the problem after the Camp David meeting.<sup>226</sup>

Foulkes, Hendrick, and Pearkes completed a draft general agreement early in December 1959. The weapons would be owned by the Americans and the Americans were responsible for their custody. Exact release procedures would be subject to the service-to-service agreements and would vary depending on the type of employment. Safeguards, transport and salvage would be subject to service to service arrangements.<sup>227</sup>

In terms of Canadian access to warheads based in Canada, Canada would be responsible for providing land, construction, external security of

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226. Robinson, Diefenbaker's World pp 113-114.

227. NAC RG 2 vol. 2752 file D-1-6-D 1960-61-62, 7 Dec 59, "Draft of Proposed Agreement with the United States on the Acquisition of Nuclear Warheads for Canadian Forces."

the warheads while being moved through Canada, and the provision of signal facilities. CinCNORAD and SACLANT would consult with Canada as to location. A similar arrangement was to be implemented in Europe, with SACEUR being the executive agent and NATO Common Infrastructure funds paying for the storage sites.<sup>228</sup>

Pearkes attempted to get Green to sign it and take the matter up in Cabinet. Green failed to do so and Pearkes indicated to Diefenbaker that he was no longer interested in continuing to be Canada's defence minister.<sup>229</sup>

## Conclusion

The NORAD debates generated an environment in which the Government became over-sensitized to criticism over sovereignty issues. The CF-105 Arrow and the BOMARC SAM systems represented significant contributions to protecting the deterrent and Canadian sovereignty. The Arrow's cancellation with no announced replacement, the lead time necessary to emplace BOMARC, and the inability of the Government to sign agreements guaranteeing access to nuclear warheads for it produced a situation whereby the USAF was forced into a position of protecting Canada with its MB-1-equipped aircraft and BOMARC missiles. This seriously impinged on Canadian sovereignty, which in turn produced a situation where the Government became even more skittish over sovereignty.

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228. Ibid.

229. Roy, For Most Conspicuous Bravery p. 342; Robinson, Diefenbaker's World pp 113-114.

It is clear that the Diefenbaker Government did not or refused to understand the relationship between quality capable military forces, the ability to protect sovereignty through operational influence, and the ability to influence the Americans generally. It made decisions based on domestic political prestige at the expense of such influence; the most costly decision was the cancellation of the CF-105 Arrow.

Coupled with this is the lack of understanding by the Diefenbaker Government that a mixed force structure is a flexible force structure. Its unwillingness to fund the recommended air defence programme, which consisted of a mix of BOMARC missiles and CF-105 manned interceptors, produced an inflexible force structure and ultimately politically untenable air defence policy. Without nuclear-capable Canadian air defence forces, the United States by default had to take up the burden of continental air defence with a consequential decline in Canadian sovereignty. The existing Canadian air defence commitment was losing its effectiveness without new equipment. Canada did retain some operational influence in NORAD without operationally effective forces, but it was an undeserved mirage. It was predicated on the belief that Canada would field effective air defence forces.

American attempts to link SAC storage and overflight arrangements with air defence storage and overflight arrangements produced more caution by the Diefenbaker Government. Foulkes' and Pearkes' attempts to coerce the Americans (who in fact needed little coercion) into accelerating Canadian access to nuclear weapons, which would have solved the sovereignty problem, were partially developed when Green's and Robertson's obstructionist tactics thwarted them.

This situation highlights the divergence between the two factions.

Attempts by Foulkes and Pearkes to leverage nuclear weapons out of the Americans almost succeeded but were blocked by their opponents. These opponents used cumbersone and amateurish tactics. These failed and aggravated relations with the Americans. The result was an impasse on the nuclear weapons agreements necessary to produce a Canadian air defence system. The questionable tactics employed by Robertson and Green did not promote Canadian sovereignty and in fact undermined it. Domestic politics were, in the end, more important to Diefenbaker than protecting NATO's primary means of deterring a nuclear war and ensuring that Canadian forces were capable of effectively contributing to NATO in Europe and at sea.

The next element in the mix was the relationship among the air defence system, the protection of Strategic Air Command, and warning/alert systems. If Green and Robertson wanted to send a message to the Americans, that is to say, if SAC's 'provocative' activity was not reined in Canada might not participate in protecting SAC, such tactics were doomed to fail. There were so many separate SAC support arrangements, and they were so intertwined with air defence, that Green and Robertson would have to block them all to have any effect on American behaviour. This is the subject of Chapter 8.

## CHAPTER 8

### THE HANDLE OF THOR'S HAMMER: CANADIAN SUPPORT TO THE STRATEGIC AIR COMMAND

#### Introduction

Canadian national security policy and the Strategic Air Command's relationship to it had evolved significantly since the 1950 decision to construct a nuclear weapons storage site at Goose Bay. Canadian analysis of the New Look policy predicted increased Canadian participation in the protection of the deterrent force. RCAF thinking with regard to air defence emphasized this as well. Canadian analysis of MC 48 confirmed that this would be likely, and by 1957 MC 14/2 (revised) confirmed the shift from industrial and mobilization base protection to protection of the deterrent. As we have also seen in previous chapters, the RCN and RCAF recognized the threat to SAC bases and altered their force structures accordingly. SAC had taken some steps in expanding its operations to Canada and was involved in ongoing discussions with Canadian strategic policymakers when the St Laurent Government stood down.

There were five main issues requiring resolution: strategic nuclear weapons storage, the provision of refueling bases and dispersion bases, overflight arrangements, early warning, readiness, and alert consultation. As with Canada's response to MC 70 and the problems with creating NORAD, SAC support arrangements became fouled in the Diefenbaker Government's intransigence over air defence, sovereignty and control over the stockpiling and release of defensive nuclear weapons in Canada. This

also contributed to the unwillingness of the Government to sign the government-to-government agreement so that nuclear weapons could be made available to Canadian forces. The main issue, which had been raised back in 1954 during the MC 48 debate, was who decided when Canada went to war? With the decreased reaction time to the growing missile threat, was there enough time for alert consultation before Canadian air defence forces swung into action? Before SAC was unleashed? This chapter will, therefore, examine the development of the SAC support arrangements in Canada from 1956 to 1960 and place them within this context.

### SAC Support Arrangements: The St Laurent Government

Chapter 1 briefly discussed the October 1950 Goose Bay storage and January 1951 overflight arrangements. In the case of Goose Bay, nuclear weapons could not permanently stored there, though weapons in transit overseas and nuclear weapons components could be. SAC aircraft equipped with or without nuclear weapons were allowed to overfly Canada on a case-by-case basis. In 1952, these secret arrangements were modified. The American purpose was to confirm that they had in fact "secure[d] [Canadian] agreement to those necessary measures short of actual strikes which would improve our position in the event of hostilities."<sup>1</sup> The 1952 arrangement was that SAC training flights equipped with non-nuclear components could overfly Canada and non-nuclear components could be

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1. National Security Archive [hereafter NSA], State Department memo, "Consultations with Canadians and British on Overflights and Storage of Non-Nuclear Components and Non-Consultation with France on Storage of Components in Morocco," 17 Jun 52.

stored at Goose Bay on a notification basis, that is, SAC called up RCAF HQ and effected liaison with the appropriate authority there. Code-named WISER and better known as the XYZ Procedures, there were three methods of clearing SAC overflights:

- X: Routine flights carrying non-nuclear components, general flight programme and individual flight clearances on a service-to-service basis.
- Y: Routine flights carrying nuclear components but with no immediate strike contemplated in the immediate future, general clearance of program on Government-to-Government basis with individual clearance between Chiefs of Air Staffs.
- Z: Flights carrying nuclear components and engaged on strikes or deployment for strikes, clearance on a Government-to-Government basis (State-External Affairs).<sup>2</sup>

SAC aircraft were authorized for emergency landing by the Canadian government.<sup>3</sup>

At this point, the United States had not developed sealed-pit nuclear weapons. The nuclear component or "physics package" was removable from the bomb itself. The Mk. 4, Mk. 5 and Mk. 6 weapons which formed the bulk of SAC's inventory until 1955 were non sealed-pit weapons.<sup>4</sup> If whole nuclear weapons had to be flown over Canada or positioned temporarily at Goose Bay, this had to be done on a government-to-government basis, usually through the Canadian Embassy in Washington D.C. If SAC were to

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2. USNARA RG 59 box 3219, memo Willoughby to Merchant, "Proposed Revision of XYZ Procedures," 17 Mar 59.

3. USNARA RG 59 box 3219, memcon Tovell and Farley, "Authorization for Emergency Landing During SAC Overflights of Canada," 24 Dec 57.

4. Hansen, U.S. Nuclear Weapons pp. 122-141.

use Goose Bay for actual nuclear strike operations, it would also have to done on a Government-to-Government basis. Similar arrangement were made with the British for SAC operations in the United Kingdom; but the French, for example, were not informed that actual weapons were stored at SAC bases in French Morocco.<sup>5</sup>

This state of affairs remained static until 1955. SAC implemented operational aerial refueling in 1951, and with the deployment of B-47 bombers and KC-97 tankers in significant numbers between 1953 and 1955, wanted to increase their reach. SAC wanted to rotate a KC-97 squadron of 20 aircraft through Goose Bay every 90 days and four additional KC-97 squadrons every 30 days. They also wanted to rotate a B-47 wing of 45 aircraft for 90-day periods. The stated purpose "was to provide these units with familiarization and simulated combat operational training."<sup>6</sup> This request went to the Cabinet Defence Committee for discussion. Some argued that this was just the first foot in the door for SAC, which would then want additional concessions which would in turn "imperil more and more Canadian sovereignty over its own territory."<sup>7</sup> These same Cabinet members were concerned that SAC would want permanent nuclear storage rights next. Other members pointed out that aerial refueling might mean that nuclear weapons would not have to be stored in Canada. In any case, it would be "embarrassing and difficult" to refuse the proposal since "as part

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5. NSA, State Department memo, "Consultations with Canadians and British on Overflights and Storage of Non-Nuclear Components and Non-Consultation with France on Storage of Components in Morocco," 17 Jun 52.

6. DGHIST, Raymont Collection file 1329, 24 Jan 55, Cabinet Defence Committee, 103rd Meeting.

7. Ibid.

of the Canada-U.S. region we [have] an obligation to our NATO partners to support SAC operations....unless Canada change her attitude and policy and ceased to encourage the support and the making ready of retaliatory forces, it was almost impossible to refuse the request."<sup>8</sup>

Cabinet gave its assent and SAC started to operate KC-97's and B-47's at Goose Bay, Labrador, and KC-97's at Ernest Harmon AFB in Newfoundland on a rotational basis. This activity was part of a larger world-wide SAC measure which included similar operations at Thule AFB, Greenland, and bases in the UK and French Morocco.<sup>9</sup>

SAC started to look at northern expansion in November 1954.<sup>10</sup> In March 1956, the RCAF inquired about future SAC plans. SAC intimated that it would like to survey several airfields and bases in Canada with an eye towards supporting the SAC tanker force either in an emergency or in peacetime. This requirement was generated by new planning which directed SAC to "increase the weight of its attacks and increase the range of its forces."<sup>11</sup> It produced two benefits for the SAC bomber force. First, it would dramatically increase the ranges which the B-47's could operate several thousand miles. Second, in the present operational environment, the B-47's had to wait for the KC-97's to reach the limit of the B-47 range before refueling. The B-47's and KC-97's were co-located at the same bases

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8. Ibid.

9. Norman Polmar (ed) Strategic Air Command: People, Aircraft, and Missiles (Balitmore: Nautical and Aviation publishing Company, 1979) pp. 38-40.

10. DGHIST, Raymont Collection file 1085, 9 Apr 56, RCAF Aide Memoire, "USAF Operating Requirement in Canada-SAC Tanker Bases."

11. DGHIST, Raymont Collection file 1085, 28 Mar 56, letter to AVM C.R. Dunlap, RCAF from Major General J.E. Briggs, USAF.

in the continental United States. The KC-97's were propeller-driven and therefore slower than the B-47 jets. Therefore, the B-47's had to hold on the ground for some time until the KC-97's were in position. This situation increased the vulnerability of the B-47 force to enemy action. By placing tanker bases in northern Canada, fewer tankers were needed so that B-47's could get to their targets in the Soviet Union and the time delay would disappear. Even the planned B-52/KC-135 combination would need similar refueling plans and this would even increase the speed of a future attack.<sup>12</sup>

By June 1956 SAC formally requested through the MCC permission to survey 11 northern Canadian base sites.<sup>13</sup> The planned magnitude of future SAC operations in Canada, in addition to other American defence projects in Canada, would pose political problems if it were handled on a completely informal basis between the RCAF and the USAF. Consequently, Minister of National Defence Ralph Campney was informed. He wanted a full briefing by SAC, which promptly sent a team to Ottawa to explain why this expansion was needed.<sup>14</sup>

SAC had 28 wings of 45 B-47's each with 17 wings were based in the United States. The other 11 were on constant rotation overseas to French Morocco, the UK, Iceland, Greenland, Libya, Turkey, the Philippines, Japan, Okinawa, Hawaii, Alaska, Bermuda, and Spain. Rotation forces also

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12. Ibid.

13. DGHIST, Raymont Collection file 1085, 1 Jun 56, message CJS(W) to COSC, "USAF Tanker Base Requirements in Canada."

14. DGHIST, Raymont Collection file 1085, 4 Jun 56, memo Slement to Foulkes, "US Application for Preliminary Surveys for SAC Tanker Bases in Northern Canada;" 4 Jun 56, memo Foulkes to Campney, "USAF Military Operating Requirement in Canada SAC Staging Bases;" 15 Jun 56, memo Slement to Foulkes, "USAF SAC Requirement for Tanker Bases in Canada."

were located in Canada at Goose Bay and Harmon AFB's in Newfoundland. In a war situation it would take the first wave of 243 B-47's 13 hours and 20 minutes to reach what SAC called the "R-Line" or the Soviet radar cover. The KC-97's had to fly out three and a half hours ahead of the B-47's because they were propeller-driven and therefore slower. The bombers had to wait, which made them vulnerable (there would also be a second wave of 200 more bombers).<sup>15</sup>

With a northern Canadian refueling base complex, a strike of 1000 bombers (B-47's and B-52's) could be accomplished in six hours, which was less than a third of the time (18 hours) without the refueling bases. With the planned basing situation in the United States, the B-47's would proceed over northeast Canada, while the B-52's would fly over central Canada. With the tankers deployed up north, there would be no wait. The SAC briefers also noted that ICBM's and projected nuclear-powered bombers would be in service by 1965-67 and aerial refueling requirements would diminish in that time frame.<sup>16</sup>

Once surveyed and selected, each site would be improved to meet SAC requirements. For example, each site would need a secure communications system, accommodation, underground fuel storage (to reduce vulnerability), a 9000-foot runway, and parking space for 40 KC-97's or 30 KC-135's. SAC originally did not want defensive arrangements for the sites in peace or wartime.<sup>17</sup>

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15. DGHIST, Raymont Collection file 1085, 11 Jun 56, memo to CPlansI, "Briefing on SAC Tanker Base Requirements in Canada."

16. Ibid.

17. Ibid.

The matter was brought before the Cabinet Defence Committee that month. Campney had learned that there were other factors involved in the SAC concept of operations. There was considerable political pressure being brought to bear on the United States to remove SAC facilities from Iceland, North Africa, and Okinawa. The northern basing plan could go a long way towards lessening such pressure. It not only affected alliance relations, but was important in the propaganda war with the Soviets:

In a large measure war had been avoided because the Russians now thought that if they attacked there would be prompt retaliation by U.S. bombing forces. U.S. authorities were concerned with the possibility of interference with the maximum effectiveness of the deterrent. If SAC were forced to withdraw from some of its existing bases closer to the USSR, the U.S. authorities would want it known publicly that compensating arrangements were being made to maintain the effectiveness of the deterrent. It seemed necessary to make a choice between maintaining [this effectiveness] and a serious domestic political problem arising from a large increase in U.S. facilities and personnel in Canada. There would be serious consequences if Canada contributed to a lessening of the free world's strength.<sup>18</sup>

Canada would benefit militarily and economically by having new improved air bases up north. There was residual concern in Cabinet about 'salami tactics' and nuclear weapons storage, but permission was given to Foulkes to liaise with Twining on the matter.<sup>19</sup>

In a meeting with Twining, Foulkes learned that there were political problems at other SAC operating locations in addition to the ones Campney knew about. Saudi Arabia and the Philippines were having second thoughts

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18. DGHIST, Raymont Collection file 1331, 13 Jun 56, Cabinet Defence Committee, 110th Meeting.

19. DGHIST, Raymont Collection file 1085, 18 Jun 56, memcon Foulkes and Twining, "USAF Operating Requirements: Tanker Bases in Canada."

about hosting SAC. There were even rumblings in the UK. SAC wanted to get into Spain, but there were difficulties. Twining really needed Canada's help on this one. Foulkes told him that "We want to keep this matter very secret", and that the survey teams should come up on non-SAC aircraft. There were to be no leaks. There were serious domestic political factors at stake in Canada. Foulkes was concerned about Congress, which leaked all the time to Canada's embarrassment, but Twining told him he had no control over that process.<sup>20</sup>

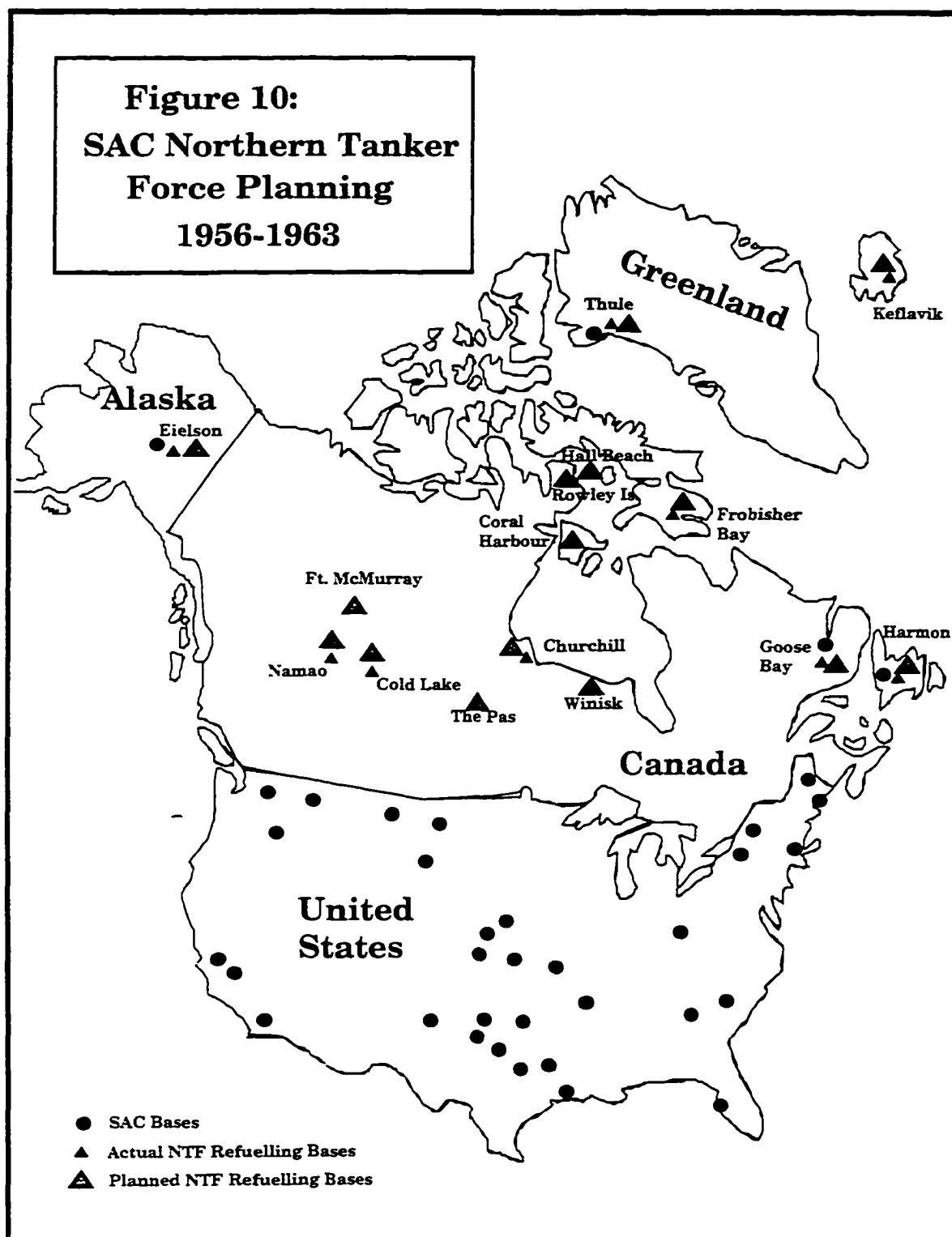
The SAC team examined 16 potential sites (see Figure 10) and then discussed the matter with the RCAF. Three of these sites were eliminated because of geographical considerations (Ft. Chimo, Winisk, and Saglek Bay). The USAF liked Namao (Edmonton, Alberta) and Cold Lake, Alberta, both of which were major RCAF bases. The RCAF would not relinquish Cold Lake, while Namao was close to a major city and posed problems due to co-location with a potential civilian target. In terms of priority, SAC liked Cold Lake, Namao, Churchill (Manitoba), and Frobisher Bay (NWT). Second priority included Great Whale River, Knob Lake, Coral Harbour, The Pas, and Ft. McMurray.

External Affairs, however, delayed the formulation of an exchange of notes. Its planners believed that the tanker base issue should be integrated into a larger agreement that dealt with SAGE installations in Canada, an expansion of the radar system, and "the integration of atomic capabilities into the air defence system" (as discussed previously in Chapter 7.<sup>21</sup> They

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20. Ibid.

21. DGHIST, Raymont Collection file 1085, 22 Nov 56, memo R.M. Macdonnell to Air Commodore Lister, "USAF Requirement for SAC Tanker Bases in Canada."



also wanted Canadian civilians (thus jobs and a reduced American presence) to maintain the facilities in peacetime. This attitude continued while the Suez Crisis erupted. SAC had at this point increased its rotation flights of KC-97's and B-47's through Goose Bay, culminating in Operations POWER HOUSE and ROAD BLOCK, which put several hundred aircraft over the Arctic regions later that month.<sup>22</sup> SAC was concerned enough to get in touch with the COSC and concede that Canadian service or civilian personnel could maintain the bases in order to speed up the process. Little could be done on 29 November 1956 as the tension produced by the Suez Crisis lessened with the introduction of UNEF, and the matter was put off to the new year.<sup>23</sup>

SAC, meanwhile, indicated that financial considerations would reduce the number of bases needed to four. It still wanted Frobisher Bay, Churchill, Cold Lake, and Namao, and it wanted more detailed surveys of the other five for an emergency basis. After a reiteration of previous discussions, this was approved by Cabinet in February 1957.<sup>24</sup> And there the matter lay until after the June 1957 election.

SAC overflights were relatively routine events from the inception of the XYZ Procedures in 1952 well into 1957. An example of such a routine flight was the passage of five B-47's equipped with nuclear weapons en route from

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22. Polmar, Strategic Air Command pp. 44-45.

23. DGHIST The Raymont Collection file 1308, 29 Nov 56, COSC 602nd Meeting; FRUS 1958-1960 Volume VII Part 1: Western European Integration and Security; Canada (Washington D.C.: US GPO, 1993) p. 734, "NSC 5822/1: Certain Aspects of U.S. Relations With Canada," 30 Dec 58.

24. DGHIST, Raymont Collection file 1331, 6-7 Feb 57, Cabinet Defence Committee, 113th Meeting; file 1085, 28 Jan 57, memo to CDC, "U.S. Air Force Request for Tanker Base Facilities in Canada;" file 1308, 11 Jan 57, COSC 603nd Meeting.

a base in the United States to the UK, with aerial refueling over Sault Ste Marie, Ontario in October 1956. SAC called State, which then called the Canadian Embassy. The Canadian Embassy checked with Ottawa and approved the flight within 48 hours. SAC then coordinated its flight plans with the RCAF and the planes left on 5 October.<sup>25</sup>

The same lines of communication were used for Operation ROADBLOCK, held on 29-30 November 1956 at the height of the Suez Crisis. 72 B-47's, of which 36 were carrying nuclear and non-nuclear components, overflowed Canada and returned on 3-5 December carrying the same cargo. An even larger operation, PINEGROVE, was coordinated for 13-16 January 1957. PINEGROVE consisted of 180 B-47's, with 72 carrying nuclear and non-nuclear components. These were two of the largest SAC deployments to date and it is possible that they were intended to signal the Soviets during the crisis. This aspect of the operations was not lost on the diplomats coordinating the efforts.<sup>26</sup>

#### Canada and SAC Support: The Diefenbaker Government, 1957-1960

There were several problems affecting the Diefenbaker Government's willingness to provide support to SAC. The first, discussed in the last chapter, was the sovereignty issue. The procedures established under the St Laurent Government were satisfactory; that is, the Canadian Government

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25. USNARA RG 59 box 3219, memo, "SAC Overflight of Canada," 1 Oct 56.

26. USNARA RG 59 box 3219, memo to file, "Canada-Overflight," 19 Nov 56; memo to file, "Canadian XYZ Procedures-Operations ROADBLOCK and PINEGROVE," 8 Nov 56; memo to file, "Operation ROADBLOCK and Operation PINE GROVE," 20 Nov 56.

could say yes or no and SAC would probably behave accordingly. However, SAC wanted more flexibility in a crisis, and this related to the second point. The Goose Bay storage site was a Pearsonian tool to lever advanced warning of pending SAC operations in addition to its sovereignty function. The American government had to consult Canada prior to using Goose Bay for SAC strike operations. The same went for the "Z" Procedure. If SAC were allowed to circumvent consultation, Canada theoretically had no warning and no nominal control over its airspace and facilities. This in turn was linked to the inflammatory NORAD alerting issues and control over air defence operations over Canada. The big question was, who decided when Canada went to war: Ottawa, Washington or both, and how was it to be done? Would Washington trust Ottawa with the information if the United States chose to act unilaterally in a crisis?

The answer depended on whether the Soviets struck first or not. Some Canadian policymakers were circumspect about the actual degree of American civilian authority over SAC and NORAD as opposed to legal structures created to exercise control over these two commands. In a potential crisis situation, Pearson (when he was External Affairs minister) wanted to exercise a small degree of influence over the Americans, using SAC storage and overflights and force some consultation which might in turn lead to other constructive diplomatic activity. On the other hand, Diefenbaker and Green wanted to inhibit American activity in Canada in peacetime to fend off Opposition and media attacks regarding sovereignty. Norman Robertson wanted to reduce the scale and frequency of what he believed to be deliberate American provocation in the dangerous brinkmanship game. All four Canadian policymakers were unwilling to confront the real issue: Time obviated sovereignty in the nuclear age.

The lack of recognition of this problem in Ottawa led Canadian policymakers deeper into a quagmire as technological change produced new piecemeal defence agreements and altered existing ones. These fell into several broad areas: Early warning, alert readiness and consultation, and SAC coordination with NORAD. Diefenbaker and many of his civilian advisors were never able to conceive the pieces as comprising a deterrent system, a *Gestalt*. Consequently, their approach was haphazard and at times contradictory. Sometimes it helped SAC, at other times it hindered it.

Analysis of SAC's operational readiness in the wake of the Suez Crisis produced changes in SAC planning which in turn affected the XYZ Procedures. In practice the actual SAC alerting procedure was rudimentary and did not react quickly enough. It was geared to a "bolt from the blue" event, not a gradual crisis. SAC wanted the ability to phase its operations during a crisis which meant that it wanted to draw nuclear weapons from the stockpile earlier, deploy to advance bases, and narrow the strike plan selection at various stages. SAC's Reflex Action and Ground Alert programmes were an outgrowth of this and the projected ICBM threat. SAC instituted one-third ground alert for all of its CONUS-based bombers and conducted its first Reflex Action (10 B-47's to French Morocco on 45-day rotations) in 1957.<sup>27</sup> The Reflex Action aircraft were on ground alert but based much closer to the Soviet Union to afford quicker reaction time. Reflex Action aircraft, particularly those stationed in the UK, had to transit Canadian airspace. Note that XYZ overflights did not just involve SAC bombers carrying bombs. At this point SAC was establishing Jupiter and Thor IRBM bases to support NATO. These weapons and their

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27. Polmar, Strategic Air Command pp. 49-50; Jackson, Strike Force pp. 83, 89-90.

components were transported by C-124 Globemaster transports through Canadian airspace and all had to be cleared diplomatically under the "Y" Procedure.<sup>28</sup>

Consequently, SAC believed that "Y" overflight clearance took too long, from two to seven days, and this restricted their ability to react in a crisis situation. Use of the "Z" procedure for such activity was a problem as "there would be risk that the Canadians would believe that we had ordered a strike."<sup>29</sup> SAC wanted another overflight category in addition to the existing XYZ ones and went so far as to speed up SAC-State Department communications by instituting the code-name STARGAZE on a priority telephone system. STARGAZE was to initiate rapid consultation with the Canadian Embassy. Attempts to go further than this were scuttled by the June 1957 election.<sup>30</sup> Continued efforts to change the XYZ Procedures in 1958 got bogged down when the Americans attempted to link SAC storage and overflights with MB-1 storage and overflights (see Chapter 7).<sup>31</sup>

The discussion over SAC refueling facilities in Canada was revived after the Sputnik launch in the fall of 1957. The institution in SAC of a one-third ground alert posture preceded Sputnik, but the decreased SAC reaction time against a potential ICBM threat gave some impetus to the project. After some wrangling, Cabinet approved the construction of SAC refueling

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28. USNARA RG 59 box 3219, memo to file, "SAC Canadian Overflights," 26 Nov 57.

29. USNARA RG 59 box 3219, memo to file, "Canadian Overflight," 1 Mar 57.

30. USNARA RG 59 box 3219, memo to file, "NN Canada-Operational Requests," 28 May 57.

31. USNARA RG 59 box 3219, letter Irwin to Murphy, 25 Oct 57; letter Murphy to Sprague, 12 Oct 57.

facilities on 24 January 1958. These bases were Frobisher Bay, Cold Lake, Namao, and Churchill.<sup>32</sup>

Initially, as we have seen, the plan was to have the facilities constructed and ready for use in the event of war. The KC-97's would take off from their CONUS bases at some early alert stage and prepare to support the bombers from the northern bases when the bombers were launched. This thinking changed after Sputnik:<sup>33</sup>

As a result, the USAF now consider that their main retaliatory capability rests with the SAC bomber force based on this continent. A missile attack could be made on these SAC bases [overseas] with as little as 15 minutes warning. Hence, to maintain an effective deterrent, the USAF must have the capability to launch a significant portion of their bomber force with 15 minutes from time of warning. As the success of the bomber operation is dependent on aerial refueling, this means that the tanker aircraft must also be on a similar alert bases....this new 15 minute alert status, known as Reflex Alert, has made necessary greater dispersal of bombers and tankers in peacetime.<sup>34</sup>

Foulkes briefly considered the possibility that the RCAF might acquire the tanker aircraft and conduct the aerial refueling missions over Canadian airspace for SAC, but this idea was rejected, probably due to the political problems with blatant Canadian involvement with SAC.<sup>35</sup> By April

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32. DGHIST, Raymont Collection, file 1085, 12 May 58, memo for the CDC, "USAF Requirement for Refuelling Facilities in Canada."

33. DGHIST, Raymont Collection, file 1085, 21 Mar 58, memo Miller to Campbell, "Air Defence of Refuelling Bases;" 30 Apr 58, Aide Memoire on Aerial Refuelling Bases."

34. DGHIST, The Raymont Collection, file 1085, 12 May 58, memo for the CDC, "USAF Requirement for Refuelling Facilities in Canada."

35. DGHIST, The Raymont Collection, file 1086, 26 May 58, "Chief of Staff Views on USAF Refuelling Facilities in Canada."

1958, SAC wanted to base six tankers, station 250 personnel at each base, and establish Nike missile defences at all four sites. These six tankers would be located at each base on immediate readiness, with a build-up of an additional 14 tankers if war appeared imminent.<sup>36</sup> The six aircraft, either KC-97's or KC-135's, would rotate every seven days from their parent units in CONUS (Frobisher could not handle KC-135's). The 20 (six plus the 14 build up) tankers, once war started, would each conduct five sorties "within a minimum of 72 hours to a maximum of 15 days."<sup>37</sup>

There was one catch. The new SAC requirements for providing missile defence of the four bases caused serious problems for Canadian policymakers. First, in light of the sovereignty issues discussed in Chapter 7, the increase in American personnel permanently stationed in Canada for the tanker bases was enough of a problem, let alone even more people to man missile sites. Second, the placement of missile defence manned by Americans posed problems similar to those of stationing MB-1-equipped interceptors at Goose Bay and Harmon. Third, if Canadians were to man the missile sites, this would prompt the Canadian public to call for point defence of all population centres in the country, something the Government could not afford. Fourth, there would be command and control issues regarding NORAD, another sore point at this time. Pearkes instructed the Canadian Joint Staff Mission Washington to tell Twining that the missile defence component would have to be removed from the draft agreement.<sup>38</sup>

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36. Ibid.

37. DGHIST, Raymont Collection, file 1086, 14 May 58, letter, CoS Ops USAF to CAS, "Aerial Refuelling Base Requirements in Canada."

38. DGHIST, Raymont Collection, file 1085, 7 Mar 58, letter Sparling to Twining.

CinCNORAD concurred with this and the matter was dropped. The agreement was signed in June 1958.<sup>39</sup>

The Sputnik scare also produced SAC OPLAN 10-59, the Hostile Action Evacuation Plan.<sup>40</sup> In the event of attack, SAC would disperse its bombers from its CONUS bases to a variety of civil airports, disused military bases, and even interstate highways. Some aircraft would merely orbit over a particular point in space. The open, vast expanses of Canadian airspace beckoned SAC planners who needed as much airspace as possible for these manoeuvres. Liaising directly with the RCAF, orbit areas were established and emergency diversion bases assigned.<sup>41</sup> (see Figure 11) 8th Air Force's ground alert aircraft would disperse as follows:

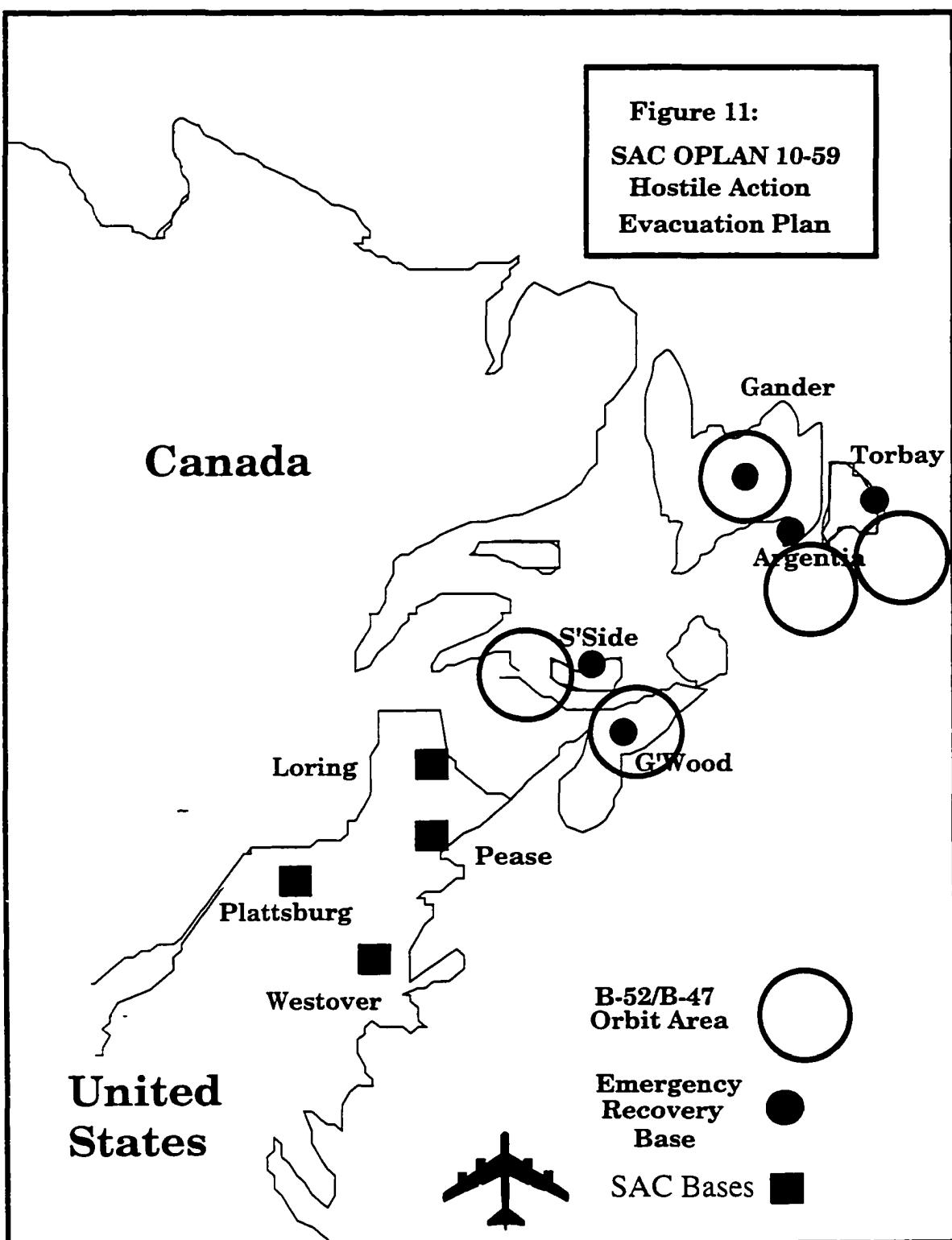
- 1) 42nd Bomb Wing (Loring AFB) to Gander Airport, NFLD: 10 B-52's
- 2) 99th Bomb Wing (Westover AFB) to Summerside, PEI: 15 B-52's
- 3) 380th Bomb Wing (Plattsburg AFB) to Greenwood, NS: 15 B-47's
- 4) 509th Bomb Wing (Pease AFB) to Torbay, NFLD: 15 B-47's
- 5) 100th Bomb Wing (Pease AFB) to Argentia, NFLD: 15 B-47's

All of the forgoing had to be coordinated with NORAD. There was great concern that the air defence system might misidentify inbound KC-97's as TU-4 BULLs or orbiting B-47's as TU-16 BADGERs. The orbit altitude was

39. DGHIST, The Raymont Collection, file 1086, 23 Aug 58, message JCS to COSC; 20 Jun 58, letter Leger to Merchant.

40. Note that this is probably the genesis for SAC's GIANT LANCE orbit plans over Canada which were established in the late 1960s-early 1970s. Though fiction, Larry Clark's novel Doomsday Minus Four: Nuclear Brinksmanship in the Canadian North and Beyond (Toronto: Douglas and McIntyre, 1981) accurately discusses GIANT LANCE planning on page 201.

41. NAC RG 24 vol. 549 file 096103.v.3, 20 Oct 58, memo USAF CCS to CAS; 19 May 59, message Commander, Northern NORAD Region to distribution list, "Orbit and Dispersal Evacuation of SAC Aircraft."



established at 20 to 35 000 feet and all bombers were ordered to make contact with closest NORAD Air Control and Warning centre. SAC evacuation would "be ordered concurrent with or subsequent to declaration of Air Raid Warning Red."<sup>42</sup> This plan was used by the RCAF to justify the arrangement as a service-to-service arrangement and the matter was not passed on to the diplomats for exchange of notes.<sup>43</sup>

### Warning Systems

Though Sputnik was not the primary catalyst for its creation, the Soviet space launch accelerated the development of a ballistic missile defence (BMD) system. As with the air defence system, the proposed BMD system would primarily be designed to protect SAC both by providing NORAD with early warning information and by active defence of SAC bases. The existing Canadian defence effort was strained financially just handling anti-bomber defences, and an independent Canadian BMD system was out of the question. It did not prohibit Canada from contributing significantly to the American BMD programme, however.

The best-known system was the Ballistic Missile Early Warning System (BMEWS). The possibility of radar detection of ballistic missiles was raised in 1955 in a USAF study and virtually unlimited funds were provided by Congress to design and build such a system. Three BMEWS radar sites,

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42. NAC RG 24 vol. 549 file 096103.v.3, 19 May 59, message Commander, Northern NORAD Region to distribution list, "Orbit and Dispersal Evacuation of SAC Aircraft."

43. NAC RG 24 vol. 549 file 096103.v.3, 24 Oct 58, memo CPlansI to VCAS, "SAC Hostile Action Evacuation Plan."

each with their distinctive 'golf ball' radar domes, were eventually constructed between 1958 and 1963. They were located at Clear, Alaska; Thule, Greenland; and Fylingdales Moor, UK.<sup>44</sup>

DRB participated in significant aspects of BMEWS research and in fact DRB made BMD a research priority in 1957. For example, DRB opened the Prince Albert Radar Laboratory (PARL) at Prince Albert, Saskatchewan in 1959. PARL's purpose was to work closely with MIT's Lincoln Laboratory in studying the effects of Aurora Borealis and other phenomenon like high altitude nuclear weapons effects on BMEWS radar systems. BMEWS was positioned to monitor the polar region which was considered the most likely avenue of Soviet ICBM attack. The effects of natural phenomena on the planned BMEWS radar systems were unknown.<sup>45</sup> It turned out that the technical problems were serious and PARL contributed to solving them.<sup>46</sup>

The Thule and Clear BMEWS sites were USAF-manned. BMEWS information flowed to the NORAD combat operations centre in Colorado and to SAC HQ in Omaha and to the Pentagon.<sup>47</sup> The information flow from the Thule and Clear sites, however, had to physically go through Canada, and this necessitated yet another Canada-American agreement.

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44. Scott D. Sagan, The Limits of Safety: Organizations, Accidents, and Nuclear Weapons (Princeton N.J.: Princeton University Press, 1993) pp. 118-119; Schaffel, The Emerging Shield pp. 258-260.

45. USASK, Diefenbaker papers, reel 26, 6 Jun 59, "Background Information on Voice Transmission via the Moon for the Opening of the PARL;" 6 Jun 59, "Press Release." Note that Eisenhower and Diefenbaker once conducted a radio conversation that was relayed from Washington D.C. to Millstone Hill, Massachusetts, PARL, and then Ottawa. This was done to officially open PARL.

46. NAC RG 24 acc 83-84/167, vol. 7407, file 173-1 pt. 3, 30 Oct 64, "Summary of Activities for [DRB] Meeting."

47. Schaffel, The Emerging Shield pp. 258-260.

Permission was given by Cabinet for the USAF to install four communications systems, two for each site for redundancy.<sup>48</sup>

BMEWS was estimated to give NORAD fifteen minutes warning of a Soviet ICBM launch. This short time was due to the inability of the BMEWS radar beams to conform to the earth's curvature which effectively allowed warning some time after launch. This limitation was well understood by the American planners, who were searching for other means to supplement BMEWS in order to gain more warning time.

The solution lay in outer space. Placement of a satellite in geosynchronous orbit between the edge of the BMEWS effective range and the Soviet launch areas would provide that extension. The question then revolved around the type of sensor to attach to the satellite. The Americans were already engaged in deploying the CORONA photo reconnaissance system. CORONA, however, utilized a capsule to deliver its product and the delay in acquiring and interpreting the data was not compatible with an early warning function.<sup>49</sup>

ARPA or the Advanced Research Projects Agency, the rough American equivalent to the DRB, was contracted by the USAF to develop a Missile Defense Alarm System (MIDAS). The selected detection method would be infrared.<sup>50</sup> DRB was in the forefront of infrared technology at this time. In addition to PARL, part of the DRB satellite tracking activity established in 1958 included the use of five ground stations across Canada utilizing

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48. DGHIST, Raymont Collection, file 1332, 28 Apr 58, 117th CDC Meeting.

49. See Kevin C. Ruffner (ed) CORONA: America's First Satellite Program (Washington D.C.: CIA History Staff, 1995).

50. Curtis Peebles, Guardians: Strategic Reconnaissance Satellites (Novato, CA: Presidio Press, 1987) p. 306.

infrared systems to track orbiting satellites.<sup>51</sup> DRB was approached to contribute in MIDAS development and testing.

The theory behind MIDAS was that Soviet ICBM's would emit an extremely hot plume of gas during the immediate launch and boost phases. A satellite with the appropriate equipment should be able to detect the plumes and report directly to NORAD through the BMEWS site's communications systems (and thus through Canadian communications systems).<sup>52</sup> It would provide an additional fifteen minutes warning for a total of thirty minutes.

A MIDAS test vehicle was successfully launched from Cape Canaveral in May 1960 but teething problems and the devaluation of the missile-gap delayed the project into the mid-1960s.<sup>53</sup> Both BMEWS and MIDAS were critical to intercepting ICBM's, but the ability to "hit a bullet with a bullet" was a long way off. They would, however, have contributed to SAC's survival in the event of a Soviet missile attack.

With the BMEWS and MIDAS systems in varying stages of development in the late 1950s, some alternate means had to be found to provide early warning beyond the DEW Line so that SAC would not be caught on the ground. The preferred method of long-range early warning was SIGINT. CANUKUS SIGINT collection, dissemination, and exchange formed the first line of early warning. It is not a coincidence that Canada established a

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51. NAC RG 24 acc 83-84/167 vol. 7407 file 173-1 pt. 1, 24 Jun 58, memo to COSC, "Defence Research Board Meeting."

52. NSA, U.S. DOD, Office of the Director of Defense Research and Engineering, "Report No. 10: Military Space Projects March-April-May 1960."

53. Peebles, Guardians pp. 309-312. There were several follow-on projects, one of which was the 1970s DSP infrared detection satellite.

SIGINT facility at the northernmost tip of Baffin Island in the 1950's.

Named after HMS Alert, a Royal Navy sailing vessel that explored the area in 1875, Canadian Army Signal Station Alert was constructed in 1958. Alert was one of several Canadian SIGINT stations but it was probably the most important due to its location. In addition to their peacetime intelligence gathering functions, Alert's primary function was to provide early warning of a Soviet bomber (and later missile) attack by monitoring Soviet Long Range Aviation's transmissions. CASS Alert had a high power transmitter and a back-up teletype machine which relayed information directly to Ottawa.<sup>54</sup>

### The Problems of Alert Consultation

Possessing a strategic nuclear deterrent, early warning systems, and the means to defend it was useless without an existing readiness and alert system and the means to communicate it. The problem which re-asserted itself in 1958-1959 was the implementation of these alert measures if war occurred. This issue had been continually deferred, particularly in NATO circles, due to its potential divisiveness. War was, under MC 14/2 (revised), a more or less instant thing, and any concept which accepted a gradual increase in tension and measures less than total was still under debate.

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54. "Inuvik is the Place of Man", Sentinel November -December 1970 pp. 22-23; NAC MG 32 B19 vol. 35 file 54-204, 27 Apr 61, "Alert Wireless Station;" 14 Apr 59, memo Miller to Starnes; memo Clark to Harkness, "U.S. Army Northern Operations-1960;" See also Clark, Doomsday Minus Four; Mike Frost and Michel Gratton, Spyworld: Inside the Canadian and American Intelligence Establishments (Toronto: Doubleday Canada Inc., 1994)

Prior to the creation of the American Defense Condition (DEFCON) system and the formal acceptance of the NATO Alert System (both in 1959), Canadian defence planners and policymakers had to deal with a number of separate national alerting systems. As the need to decrease reaction time became greater throughout the decade, contradictions and ambiguities became evident. All of this was compounded by the increased awareness on the part of Canadian policymakers as to the linkage between alerting and authorizing the use of Canadian forces and sovereignty. It was further compounded by the link between the air defence and ASW systems and SAC's activities prior to and during war.

The problem was first raised prior to 1955 when RCAF ADC and USAF ADC (and later CONAD) were developing the air defence annexes to the Canada-US Basic Security Plan (CUSBSP) and trying to ensure the proper degree of interoperability for USAF ADC squadrons under Canadian operational control. The Canadian-American air defence alerting system consisted of the following levels: Air Defense Warning White, Air Defense Readiness, Air Defense Warning Yellow, Air Defense Warning Red, and Military Emergency.<sup>55</sup>

There was also an Air Defense Preparedness level which preceded Readiness. Air Defense Readiness alerted the air defence system, Yellow indicated that attack was possible, Red that it was imminent, and White was used to 'de-cock' the system. All of these levels could be implemented by sub-units of USAF ADC. Military Emergency, on the other hand, was an American level and could be implemented only by the President, Congress,

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55. NAC RG 24 vol. 549 file 096-103 v.1, 10 May 55, HQ 64th Air Division, "Air Defense Warnings, Military Emergency and Conditions of Air Defense Preparedness."

the JCS, or the commander of USAF ADC.<sup>56</sup> This presumably allowed the President to authorize the AEC to release nuclear weapons to SAC and SAC would then carry out its missions.<sup>57</sup>

The Canadian national alerting system was instituted in 1955. If an emergency developed, Cabinet was to be informed immediately. Cabinet could then call for one of three stages:

- 1) Simple Alert: Initiated on receipt of credible information indicating definite preparations to attack NATO. Implement measures short of mobilization.
- 2) Reinforced Alert: Initiated when there is conclusive indications that the outbreak of hostilities is imminent. Ready the Services for imminent war and mobilize.
- 3) General Alert: initiated when an overt act of aggression takes place in the NATO Area. Execute war plans.<sup>58</sup>

These would not necessarily be called in sequence and, as would become apparent during the 1962 Cuban Missile Crisis, they did not "absolve Ministers and senior officers from taking the initiative."<sup>59</sup>

On the NATO side of the house, SACEUR had been developing an alert system since 1952 (the MC 67 series). This planned system had two complementary components: the formal NATO Alert System and the ACE Counter Surprise Military Alert System (CSMAS). The Formal Alert System was under continual debate from 1953 to 1959. It had three levels:

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56. Ibid; NAC RG 24 vol. 549 file 096-103 v.3, 30 Dec 57, memo ADO-2 to DADO, "Alert Systems"; 21 Jul 55, memo AoC ADC to CAS, "Air Defence Alerting Responsibilities."

57. These were early American nuclear weapon control arrangements which were dispensed with by 1957-58.

58. ATI, "DND War Book: Fourth Draft, 18 October 1955."

59. Ibid.

Simple Alert, Reinforced Alert, and General Alert, which were based on the Canadian national alert system. The CSMAS was created by SACEUR and accepted by the Defence Committee in 1956. It also had three levels: Military Vigilance, State Orange, and State Scarlet. Military Vigilance was called to get existing forces up to the highest state of preparedness short of movement, State Orange indicated that an attack was due in one hour, while State Scarlet indicated an attack was due in minutes. SACEUR had the authority to implement these measures for his existing earmarked forces, whereas the Formal system was supposed to be declared by the NAC. SACLANT initially had no alert system.<sup>60</sup> The Formal system remained unratified before 1959.

By 1957, the Americans created a special system for gaining authority to change alert levels. If a Military Emergency were declared, the JCS would hold an emergency telephone conference (essentially a conference call) and then dispatch JCS Emergency Action Messages. These messages were pre-recorded requests which would be sent to the President requesting various actions. On Presidential response, the JCS would send the appropriate action message. For example, MRF 2A requested the transfer of atomic weapons from the AEC to SAC, MRF 4A was Presidential authority to actually use atomic weapons. MRF 10A instructed American units to carry out the Canada-US Emergency Defence Plan (It is not clear how the President or JCS were supposed to get Canadian concurrence with activating the CUSEDP, but it was probably by telephone and/or through the Canadian Joint Staff Mission (Washington) or Canadian Embassy). In a no-

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60. NAC RG 24 vol. 549 file 096-103 v.3, 30 Dec 57, memo ADO-2 to DADO, "Alert Systems;" NAC RG 24 vol. 549 file 096-103 v.4, 5 May 59, JPC, "Canadian Forces States of Military Vigilance;" US NARA RG 218 JCS 1959 file 9050/3203, J-5 report, "NATO Alert System MC 67/1," 23 Jul 59.

notice test, held in May 1957, it took 14 minutes to get the JCS together and another 13 minutes to get the JCS to make a decision. It took a further four minutes to get USAF ADC on the line and another minute for it to send its alert orders. It took 15 minutes to do all of this in a later exercise that year.<sup>61</sup>

It is an inescapable fact that the mechanisms designed in the early to mid-1950s for alerting national forces and joint commands were loosely connected and not interoperable. In addition to the changing threat, one catalyst for change was an ABC agreement initiated in 1956 when St Laurent was in power which led to an abortive bilateral Canadian-American attempt at an agreement in 1958.

Back when he was Secretary of State for External Affairs, Pearson wanted to ensure that there was a formal arrangement to exchange intelligence information between the two countries if there were indications that there might be an attack against North America, and that there would be formal consultation between Canada and the United States at the JCS-COSC and State-External levels prior to the declaration of an alert before war actually started, not at a lower command level.<sup>62</sup>

The agreement bogged down on language. What exactly was an alert? A SAC alert? An air defence alert? A civil defence alert? The Americans were unsure and suspected that Canada wanted to know when SAC was alerted. Heeney, then Canada's Ambassador, tried to clarify. The alert referred to was an air defence alert (keep in mind that NORAD was under discussion

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61. USNARA RG 218 JCS 1957 file CCS 354.2 US (4-12-57) message Chief of Ops to SECDEF and JCS, "Report of May Exercise of JCS Emergency Telephone Conference," 24 Jun 57; memo JCS to CNO, "Alert Exercise 31 May 1957," 27 May 57; SECDEF to JCS, "Results Obtained from Ex. DODEP, 12 April 1957."

62. USNARA RG 59 box 3218, letter Heeney to Murphy, 18 Jan 57; NAC RG 24 vol. 112 file 096 107.4 v.1, 28 Apr 58, memo to CDC, "Canada-U.S. Bilateral Arrangements with Respect to the Declaration of an Alert."

at this time). If there was time, diplomatic channels should be used. If there was no time, the JCS-COSC level should be used. The Americans had no problem with the intelligence information sharing, but they wanted to consult with the British.<sup>63</sup> The British quickly agreed, and the ABC nations established continuous 24-hour communication channels to pass alert intelligence on to each other. They were not interested in North American alert arrangements.<sup>64</sup> Similar arrangements were made between CONAD (and later NORAD), SAC, and SHAPE. If either SHAPE or CONAD declared an air defence warning, all four commands (including RCAF Air Defence Command) were informed instantly.<sup>65</sup>

The dialogue continued throughout 1957. In essence, the Canadian position revolved around:

...the concern motivated by fear [that] declaration of a national emergency before consultation with all implies re: full readiness of continental defense forces might involve Canada automatically in a war which in its origins Canada might believe contrary [to] its interest. Hence arises Canada's interest in early high-level consultations before [the] situation deteriorated to a point where US under imminent risk of attack which would of course bring Canada in.<sup>66</sup>

As with other matters, the June 1957 election delayed action on the consultation and intelligence agreement. With the advent of the

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63. USNARA RG 59 box 3218, memcon, "Proposed Coordination of U.S.-Canadian Alert Arrangements," 1 Mar 57; letter Dulles to Heeney, 1 Mar 57; letter Dulles staff to Sprague, 25 Mar 57; letter Sprague to Murphy, 9 May 57.

64. USNARA RG 59 box 3218, letter Murphy to Heeney, 8 May 57.

65. NAC RG 24 vol. 549 file 096-103 v.2, 2 Apr 57, memo CAS to AoC ADC, "Air Defence Emergency Information to and from UK and Europe."

66. USNARA RG 59 box 3218, message Ottawa to State, 10 Jul 57.

Diefenbaker Government, the NORAD debates in the fall of 1957, and the rearing of the sovereignty issues discussed in Chapter 6, the alert consultation agreement took on a different importance.

Another factor was Eisenhower's willingness to use SAC activities for signaling purposes during crisis situations. The primary case was the Lebanon Crisis of 1958. After a coup in Syria in July 1958 and in response to other unstable situations in the Middle East, American and British military forces were requested by Lebanon and Jordan to forestall possible Soviet encroachment in the region. Additional measures, recommended by General Twining, included deploying SAC tankers to forward bases and alerting 1100 SAC bombers. Diefenbaker concurred, stating that these measures should not be concealed from the Soviets.<sup>67</sup>

Diefenbaker's Cabinet had approved the bilateral intelligence and consultation agreement earlier in April 1958. That agreement was the final version of the agreement drafted back in early 1957. In effect:

In a situation in which either Government concludes that alert measures are necessary or desirable...the two Governments agree to consult through the diplomatic channel and through the respective Chiefs of Staff....Such consultation will precede the institution of alert measures by either Government except in the following extreme circumstances: if either Government considers an attack on North America to be imminent or probably in a matter of hours rather than days, consultation might, of necessity, coincide with or even follow the institution of separate alert measures....If either Government is impelled by the time factor to take alert measures before initiating

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67. Dwight D. Eisenhower, Waging Peace: The White House Years 1956-1961 (Garden City, New York: Doubleday and Co., Inc., 1965) p. 275-276; Alexander L. George and Richard Smoke, Deterrence in American Foreign Policy: Theory and Practice (New York: Columbia University Press, 1974) pp. 309-310.

consultation, it agrees to immediately inform the other...as soon as possible.<sup>68</sup>

When SAC was alerted for the Lebanon situation in 1958, CinCNORAD placed NORAD on an increased alert level (the exact level is unknown),<sup>69</sup> a fact which was subsequently announced to the media by NORAD HQ.<sup>70</sup> Pearson, while Opposition leader, immediately attacked Diefenbaker in the House of Commons. One observer noted that this was done with an:

...obvious motivation for publicity....[the concern was] that Canada through its defense arrangements with United States might be drawn into perilous situation by action of United States in which Canada did not participate or about which Canada was not consulted.<sup>71</sup>

Diefenbaker was furious and stated that he had not been consulted and that the first he heard of it was in the newspapers. This was a simplification of events. Eisenhower had in fact telephoned Diefenbaker a full day before the Marine landings took place in Lebanon to inform him of the operation. Diefenbaker simply did not make the connection between the landing operation, nascent SAC support of it, and the protection of the deterrent, or alternately, Eisenhower implied too little in the conversation.<sup>72</sup>

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68. NAC RG 24 vol. 112 file 096 107.4 v.1, 28 Apr 58, memo to CDC, "Canada-U.S. Bilateral Arrangements with Respect to the Declaration of an Alert."

69. Attempts by the NORAD history office to track this down have come up with nothing.

70. USNARA RG 59 box 3218, message Ottawa to State, 22 Jul 58.

71. Ibid.

72. Diefenbaker, One Canada: Memoirs of the Right Honourable John G Diefenbaker Volume Two p. 90.

Behind the scenes, Twining called Foulkes and asked him to come down to Washington immediately so that he could be briefed prior to commencement of the Lebanon operation. Foulkes had a Cabinet Defence Committee meeting and did not think he could get away, so "reading between the lines, and at the same time we had somebody in CIA so we had a complete flow of intelligence coming," Foulkes dispatched a representative, Major General Sparling. Sparling met with Twining, who wanted to raise the readiness state of the air defence system and deploy SAC bombers and bombs to Goose Bay since there was a possibility the Soviets might respond with military force. Foulkes then met with the COSC (with Robert Bryce as well as Jules Leger from External present), who all agreed that an increased state of readiness was acceptable as long as it was kept secret, but a SAC deployment to Goose Bay beyond the existing measures needed further discussion.<sup>73</sup>

Foulkes informed Twining of the decision, and the JCS Chairman concurred, stating that he was now headed for the White House to brief Eisenhower and that he had some doubts as to whether Eisenhower would go for the non-deployment to Goose Bay. Foulkes asked Twining to have President Eisenhower call Prime Minister Diefenbaker on the matters at hand. Twining told Foulkes that there already were some discussions between the two men but promised to confirm with the President. Bryce assured Foulkes that he would pass this on to Diefenbaker too. Foulkes then tasked Canadian SIGINT resources to monitor the Americans so that he would know when the alert level should be raised. When the Americans recalled their personnel from leave, Foulkes called Bryce to confirm that

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73. UVIC, Pearkes Papers, Foulkes interview, 9 March 1967.

Diefenbaker had been informed and consulted (Pearkes was accompanying Princess Margaret on a Royal visit and could not be reached). In any event, none of Diefenbaker's advisors informed him of the situation. Bryce, Foulkes, Pearkes, and others were called in by Diefenbaker and subjected to a tantrum in which the Prime Minister yelled questions like, "Who's running this country? Who's the Prime Minister? I never get told, I have to learn these things over the radio!"<sup>74</sup>

Apparently, consultation on NORAD alert had taken place at the State-External level and at the military level through the Canadian Joint Staff Mission Washington. Diefenbaker was not told by Smith or any of the External staff, nor by Pearkes. Despite this, according to CinCNORAD's terms of reference, Partridge was empowered to raise the alert level if he believed it was necessary, or if he consulted with the JCS-COSC level, or if they ordered him to. Partridge decided to do what was prudent given the situation and informed the appropriate Canadian officials.<sup>75</sup> The situation so perturbed Diefenbaker that he later attempted to alter CinCNORAD's terms of reference to limit him to alerting NORAD for training purposes or "in the event of an unacceptably large number of unidentified aircraft within the warning system."<sup>76</sup> The Lebanon Crisis situation merely added to the discomfort that the Diefenbaker Government was experiencing on the NORAD issue.

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74. Ibid.

75. USNARA RG 59 box 3218, message Ottawa to State, 4 Sep 58; message State to Ottawa, 10 Sep 58; Diefenbaker, One Canada: Memoirs of the Right Honourable John G Diefenbaker Volume Two p. 90.

76. DGHIST, Raymont Collection, file 1340, 9 Dec 58, Record of Cabinet Decision.

The alert and readiness situation was not helped by the existence of several different alert systems and the ambiguous NORAD-NATO relationship. Unfortunately, attempts to rationalize an alert system that could serve multiple purposes was complicated by the Berlin Crisis in 1958-1959.

Khrushchev presented the West with an ultimatum in November 1958: Get out of Berlin or suffer unspecified consequences. This was in part brought on by NATO's, and more importantly by West Germany's acceptance of the MC 70 nuclear force integration plan. The Soviets were determined to apply pressure to West Germany and force the rest of the West to accept East Germany as a sovereign state. In December 1958, the JPC was, on Foulkes' instructions, to prepare several pre-alert states of readiness for Canadian forces. They were to be created with two things in mind: ... "any measures adopted should be such that they did not come unnecessarily to public notice on implementation and that they would not cause the enemy to believe that an attack was imminent."<sup>77</sup> The measures should be compatible with SACEUR and NORAD alert levels and measures, and exercises should be held frequently to disguise the nature of the levels. The word 'mobilization' was now obsolete because it connoted too much and should be replaced with 'Emergency Defence Plans.'<sup>78</sup>

The JPC produced a concept called the Canadian Forces States of Increased Military Vigilance. These states were structured to alert Canadian national forces "during a period of international tension prior to

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77. NAC RG 24 vol. 549 file 096 103 v.3, "Extract from Chiefs of Staff Committee Meeting Held 15 Jan 59."

78. Ibid.

the declaration of an Alert by the Canadian Government.<sup>79</sup> There were two phases: a "Discrete Phase" and a "Ready Phase," which would be called by the COSC. During the Discrete Phase, the services would review their emergency plans, place ships on four hours notice to move, place ships on assigned stations, disperse logistic facilities, increase intelligence and communications facility readiness, repair all unserviceable aircraft. The Ready Phase canceled leaves, increased security measures at facilities, deployed alternate and mobile headquarters, topped up ships and aircraft with weapons and fuel, provided for minesweeping operations, alerted standby battalions for deployment, and brought some units up to wartime strength. The increased states of military vigilance were structured to be implemented prior to the existing Simple-Reinforced-General alert system in Canada, which could only be implemented on Cabinet's approval.<sup>80</sup> COSC approved the two new phases in July 1959. It does not appear to have been referred to Cabinet for approval.<sup>81</sup>

In effect, then, Canada had a five-stage national alert system: Discrete, Ready, Simple, Reinforced, and General. 'Ready' and 'Simple' overlapped in reality, but one part was called by the COSC and the other by the Government. The Canadian system now had to be coordinated with NATO, NORAD, and the Americans.

NATO had not yet ratified MC 67/1, the NATO Formal Alert System (Simple, Reinforced, General), though the ACE Counter Surprise Military

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79. NAC RG 24 vol. 549 file 096 103 v.3, 23 Dec 58, JPC to COSC, "Canadian Forces States of Increased Military Vigilance."

80. Ibid.

81. NAC RG 24 vol. 549 file 096 103 v.3, 24 Apr 61, "Supporting Data for Air Council: Standardization of Alert Systems."

Alert System (Military Vigilance, State Orange, State Scarlet) was in existence, and State Orange was changed to 36 hours notice of an attack. SACLANT was prepared to use the Formal Alert System if and when it was ratified. NORAD had, by this point in 1959, produced an expanded alert system which built on the existing CAN-US ADC system. It included the following levels: Normal Readiness, Increased Readiness (Conditions 1 through 4), Maximum Readiness (Air Defence Readiness and Air Defence Emergency), Air Defence Warnings (Red, Yellow, and White).<sup>82</sup>

Air Defence Emergency now alerted the Civil Defence and Emergency Measures Organization in the United States and Canada in addition to the air defence forces.

By April 1959, the powers with forces in Berlin, France, Britain, and the United States formed a planning group called LIVE OAK to produce a catalog of plans to respond to whatever level of aggression the Soviets used against Berlin and its road, rail, and air communications. LIVE OAK was a non-NATO organization, though SACEUR was double-hatted as its head, and it was co-located at SHAPE. Foulkes understood that LIVE OAK was structured to develop and implement plans which would precede and could even precipitate a full-scale MC 14/2 (revised)-pattern conflict with the enemy. If LIVE OAK initiated some level or levels of response to an incidents, this might accelerate or escalate the situation rapidly. Therefore,

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82. NAC RG 24 vol. 549 file 096 103 v.3, (no date) "Conditions of Readiness and States of Alert."

he wanted an expanded link or understanding between NORAD and SHAPE/LIVE OAK.<sup>83</sup>

Foulkes consulted with Twining. Twining himself was agitated at the situation, and the JCS was concerned that "appropriate steps should be taken now to ensure that the military forces assigned to NORAD will be properly prepared against possible enemy action against North America, which could result from a rapidly deteriorating situation in Berlin."<sup>84</sup> And, of course, SAC alert was predicated on NORAD early warning. State then approached External on the matter, and the Canadian Embassy was briefed on LIVE OAK. Canadian policymakers wanted a clearer definition as to what constituted denial of access before they agreed to any increased state of readiness for NORAD.<sup>85</sup>

The real problem was External's view that the NORAD terms of reference which allowed CinCNORAD to alert NORAD by himself to certain levels, as the Lebanon situation had demonstrated, should be changed, because External felt left out and wanted some say in the matter regardless of the time factor. Robertson was, as discussed in the last chapter, afraid that alert stages could produce precipitative action on the part of SAC or the Soviets. In effect, the External men thought they should have the ability to influence every aspect of Canada's fate in a world in which actions taken in

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83. DGHIST, Raymont Collection, file 34, 6 Apr 59, letter LePan to Foulkes, "Contingency Planning for Berlin." See also Sean M. Maloney, "Berlin Contingency Planning: Prelude to Flexible Response, 1958-1963," MilitärGeschichte Spring 1997.

84. USNARA RG 59 box 3219, State Department Aide-Memoire, 29 Apr 59.

85. USNARA RG 59 box 3219, memcon, "CinCNORAD-Authority to Increase the State of Readiness of NORAD Forces," 15 Apr 59; memo Merchant to Murphy, "CinCNORAD's Authority to Increase Readiness of Forces Under His Operational Control," 23 Apr 59; memcon, "Request for Canadian Concurrence to Increase Operational Readiness of NORAD Forces in Event Western Powers are Denied Access to Berlin," 29 Apr 59.

minutes could save or destroy millions of people. The JCS were appalled by this stance and resisted it.<sup>86</sup>

At the same time, however, LIVE OAK and SHAPE could not reach concurrence about what exactly constituted denial of access.<sup>87</sup> Was SACEUR required to take the matter to the NAC if denial occurred or not? Was LIVE OAK NATO or not? Was Berlin part of the NATO Area or not? If LIVE OAK implemented a measure which resulted in local retaliation by the enemy, and NORAD were already alerted, could a mis-interpreted Soviet action or activity in the Arctic prompt SAC to launch?

In the end, State and External agreed that the NORAD terms of reference would not be changed but that:

...CinCNORAD is not in a position to assess all the political factors available to both [governments]; therefore, it will be the responsibility of the Chiefs of Staff of Canada and the United States, in consultation with their respective political authorities, to reach agreement for increasing states of readiness of NORAD during periods of international tension where factors of overriding political significance are involved. in these circumstances, parallel consultations will be carried on between the political authorities...prior to reaching such an agreement.<sup>88</sup>

It is important that the diplomats made a distinction between an increase of international tension resulting in an attack and a sudden attack by an enemy. In a period in which there was supposedly no tension,

86. USNARA RG 59 box 3219, letter Shuff to Murphy, 12 May 59; memo to files, "CinCNORAD Authority to Increase States of Readiness of NORAD Forces," 13 May 59.

87. USNARA RG 59 box 3219, memcon, "U.S. Proposal for Canadian Concurrence to Increase Operation Readiness of NORAD Forces in Event Western Powers are Denied Access to Berlin," 26 May 59.

88. USNARA RG 59 box 3219, letter Heeney to Herter, 30 Sep 59.

NORAD could alert his forces at will if he thought it was necessary. In a period of tension, he had to consult with the COSC-JCS while External and State talked to each other and determined whether or not an alert was actually warranted or 'allowed'.

While this diplomatic wrangle was in progress, the JCS noted that its own alerting process was cumbersome. By November 1959 all American commands had their alert levels rationalized into the Defense Condition or DEFCON system.<sup>89</sup> NORAD readily adopted the DEFCON system, which produced a situation whereby Canadian military planners were faced with an easier compatibility situation, and Canadian diplomats were confronted with an even closer and inexorable link between NORAD and SAC. The DEFCON system, when aligned with the NATO and Canadian systems, looked like Table 9 (as interpreted by Canadian planners).

CinCNORAD/CinCCONAD or any other American unified or specified command commander<sup>90</sup> could request that the DEFCON be changed in his own in his area of responsibility and then the JCS convened an Emergency Telephone Conference to formalize the change and consult on further measures. The JCS ETC was similar to the previously described Emergency Action Message system.

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89. Scott Sagan "Nuclear Alerts" in Lynn-Jones et al (eds) Nuclear Diplomacy and Crisis Management (Cambridge, Mass: The MIT Press, 1990) pp. 160-161.

90. These included CinCPAC, CinCLANT (who was also NATO SACLANT) CinCEUR, CinCCONAD (who was also CinCNORAD), CinCSAC, CinCNELM, and CinCAL[aska]. SACEUR, though an American officer, reported to the NAC.

**Table 9: Relationship of Allied Alert Systems to Canadian Alert System**

International Situation	U.S./NORAD	NATO	Canada
Peacetime, Cold War, Normal	DEFCON 5	-----	-----
Delicate or Strained International Relations	DEFCON 4* DEFCON 3	Military Vigilance Counter Surprise Military Alert System	Discrete Phase Ready Phase
Reliable information that Enemy preparing to attack	DEFCON 2	Simple Alert	Simple Alert
Definite and Conclusive indications that hostilities are imminent	DEFCON 1	Reinforced Alert	Reinforced Alert
Hostilities have commenced	NORAD Air Defence Emergency (US): Defense Emergency	General Alert	General Alert

\* SAC was always at DEFCON 4 in 'peacetime'.

The sequence was as follows:

- 1) Conference telephone call, roll call.
- 2) Situation briefing by Commander declaring an emergency condition.
- 3) a) Notify the President, commands, and agencies.  
b) Determine whether the Canada-U.S. Emergency Defence Plan has been placed in effect.
- 4) Intelligence brief by J-2
- 5) Consideration on which Emergency Messages to send which would include:

- EM-1: situation and action messages to US CinC's
- EM-1A: situation and action messages to major NATO commanders.
- EM-2: request SECDEF to contact the President and request national emergency. If SECDEF not available, Chairman of JCS will contact President.
- EM-2A: if President not contactable, contact Congress.
- EM-3: if President approves in response to EM-2, EM-3A (War Message) is sent by JCS to all CinC's.
- EM-4: if President approves in response to EM-2 (concurrence of Prime Minister of the United Kingdom is required) and the situation is that of general war, EM-4A (use of UK bases) is sent.
- EM-5: if Presidential approval is granted in response to EM-2, JCS sends EM-5A (Atomic weapons for specified Allies).
- EM-6: The EM-6A (CinCLANT and CinCEUR transfer of authority to SACLANT and SACEUR).<sup>91</sup>

Item 3b is somewhat ambiguous and its position in the sequence curious. It presumably meant COSC-JCS consultation as to what Canada was doing prior to the JCS contacting the President to declare an alert,

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91. NAC RG 24 vol. 109 file 096.105.6, 19 Jan 60, memo CJS(W) to CAS, "Emergency Action, JCS;" 3 Dec 59, memo for the JCS, "Agenda for JCS Emergency Conference."

since the implementation of the CUSEDP required consultation between the JCS and the COSC. The JCS communications system had a dedicated high frequency radio link with Ottawa. Only the other American unified commands and NATO commands had equivalent high priority on communications.<sup>92</sup> Canada, we can reasonably conclude, was scheduled to be consulted prior to American manipulation of its own DEFCONS and the release of nuclear weapons to Canadian forces. It should be noted that CinCNORAD had the ability to alert his assigned forces all the way up to DEFCON 1 without consultation. If External thought it could use consultation on air defence alerts to influence SAC's activities, it was wrong. It could try to veto Canadian participation in an air defence alert, which in turn made SAC more vulnerable and decreased its deterrence value, which in turn increased the likelihood of precipitous action by the enemy. Alerting military forces in the nuclear age was a military affair that was made even more dangerous with this sort of meddling. There was simply no time for diplomats to become involved in the process.

The major problem that remained was the lack of a compatible means of consultation between the Prime Minister and the COSC so that alert measures and consultation could be implemented effectively. This problem would never be solved and as we will see in Chapter Eleven, it contributed to the nuclear crisis which unseated the Diefenbaker Government.

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92. USN OA, Strategic Plans Division box 315, chart, "HF Radio AJCC to Overseas Commands."

## SAC Overflights and Canada

As we have seen earlier, the Soviet ICBM threat produced a number of challenges for SAC . One of these was the acceleration of the USAF's ICBM programme. Between 1958 and 1966, thirteen Atlas and six Titan squadrons were constructed and activated in the continental United States. A number of them were located close to the Canadian border (Plattsburgh AFB, New York, and Fairchild AFB, Washington State were two).<sup>93</sup> The projected ballistic flight paths of the missiles overflowed Canadian airspace on their way to the Soviet Union. Did SAC have to get Canadian clearance using the "Z" Procedure before launching them?

The USAF informed the RCAF fairly consistently about ICBM development. Foulkes and Slemon were even briefed as to what the planned targets for the Atlas missiles were. The ICBM's, Chief of the Air Staff Campbell was informed, would not overfly major Canadian population centres. Some debris from the boosters might land on Canadian soil, but it would be minor. These discussions were and not passed on to External Affairs. Foulkes thought that there was no need to generate yet another written agreement that would limit SAC's activity.<sup>94</sup>

The XYZ Procedures would, however, require some modification for another SAC response to Sputnik. As we saw in Chapter 7, by 1958 CinCSAC was allowed to launch the ground alert aircraft (which eventually totaled one-third of the SAC bomber fleet) without direct orders

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93. Jacob Neufeld, Ballistic Missiles in the United States Air Force 1945-1960 (Washington D.C.: Office of Air Force History, 1990) pp. 233-237.

94. DGHIST, Raymont Collection, file 941, 13 Jun 58, memo CAS to COSC, "USAF ICBM Sites;" 6 Mar 58, memo CAS to COSC, "USAF ICBM Sites."

from the President or the JCS. These positive control launch or Fail Safe flights could be undertaken by CinCSAC if he felt that a Soviet attack was imminent. The bombers would return to base at the Positive Control Turn Around Point unless the "go-code" was issued on the SHORT ORDER High Frequency communications system by CinCSAC after he had received permission from the President.<sup>95</sup> This system was not deemed to be the final answer to the ICBM threat, however. It still took some time to get the ground alert bombers off the ground in an emergency.

SAC initiated Exercise HEADSTART in September 1958. HEADSTART was designed to validate Airborne Alert, a concept by which a certain number of SAC bombers equipped with nuclear weapons were kept continuously in the air using airborne refueling and rotated with other bombers over time. The HEADSTART tests were conducted over Canada using B-52 bombers based at Loring AFB, Maine. Phase I, held in September, used unarmed bombers cleared using the "X" Procedure. Phase II, scheduled for October 1958, would carry nuclear weapons. Since four bomber flights per day at six hour intervals (in addition to tanker support sorties) were necessary to conduct the tests, SAC wanted an extended "Y" Procedure to cover the entire test period.<sup>96</sup>

The Canadian Embassy made it clear that Canada was opposed in principle "to grant[ing] blanket clearances over an extended period for the

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95. Sagan, The Limits of Safety p. 163; Thomas Power, Design For Survival (New York: Pocket Books Inc., 1965) pp. 142-143.

96. DDRS frame 77 286 A and B, (no date) Presidential National Security Notebook, "Airborne Alert Tests"; USNARA RG 59 box 3219, letter Rae to Courtney, 11 Sep 58; memo Farley to SECSTATE, "Strategic Air Command Exercise HEADSTART," 13 Sep 58.

overflight of Canada by SAC aircraft.<sup>97</sup> However, if the service-to-service requests were made under the "Y" procedure and Pearkes agreed, then HEADSTART Phase II was acceptable. The overflights continued without incident.

Validating the Airborne Alert concept was only part of establishing an actual Airborne Alert capability. Air and ground crews for the tankers and bombers had to be trained in the techniques and this was the impetus for the SAC Airborne Alert indoctrination Training Program code-named STEEL TRAP. Ambassador Heeney was informed in February 1959 that SAC would conduct a six-month training exercise which would include 1436 aircraft, many of which would be equipped with nuclear weapons. All communications and weapons safety systems needed to be checked and crews qualified. A significant portion of the indoctrination force would overfly Canada. SAC wanted to clear with the RCAF each batch of flights 30 days before they were conducted. Was this feasible? A lot was riding on the Airborne Alert programme, and it would dramatically enhance the deterrent.<sup>98</sup>

An on-going exercise of this magnitude was not an easy pill for the Diefenbaker Government to swallow, even before Howard Green became the External Affairs minister. Norman Robertson was perturbed about STEEL TRAP, as he "was particularly concerned with the large number of planes involved in the exercise and couldn't help wondering whether the increase

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97. USNARA RG 59 box 3219, letter Rae to Courtney, 11 Sep 58.

98. USNARA RG 218, memo from CoS USAF to JCS, "SAC Exercise STEEL TRAP," 24 Jul 59; RG 59 box 3219, letter Murphy to Heeney, 24 Jul 59.

in scope over previous exercises wasn't related to the Berlin situation and the increased world tension."<sup>99</sup>

Even though State Department officials assured Robertson that this was not directly related to Berlin, the matter still had to go to Ottawa.

Diefenbaker, who was at this time acting as his own External Affairs minister, was directly involved. He stood to be convinced that STEEL TRAP was not another Lebanon-like provocation. Heeney was then briefed by the Americans on the establishment of LIVE OAK and the formulation of Berlin contingency plans:

...the information given to him on a most restricted basis concerning the development of our contingency planning with respect to Berlin had been the decisive element in the Prime Minister's approval. The anxiety of the Canadian Government remains, however, lest future actions on our part as the crisis unfolds mistakenly lead the Soviet Government to calculate that we are planning to take preemptive action.<sup>100</sup>

As with other agreements, there was to be absolutely no publicity given on the matter. The US DOD was severe in its handling of a near-leak perpetrated by the USAF public affairs people, reminding them that "the matter of nuclear overflights of Canada by SAC is a highly sensitive subject in Canada and one of important political significance to the Canadian Government."<sup>101</sup>

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99. USNARA, RG 59 box 3219, memcon, "Request for Clearance of SAC Exercise "Airborne Alert" under the "XYZ Procedures," 13 Feb 59.

100. USNARA, RG 59 box 3219, memcon, "SAC Overflights," 9 Mar 59.

101. USNARA, RG 59 box 3219, letter Farley to Murphy, "SAC Airborne Alert Exercise," 6 Apr 59.

STEEL TRAP had Canadian clearance for four months before renewal. Diefenbaker did put a slight caveat into the arrangement in that "circumstances might arise which would necessitate further consideration by the Canadian Government of the desirability of particular overflights and which could justify the suspension of the flights over Canadian territory."<sup>102</sup>

STEEL TRAP was a massive undertaking which, in the end, involved moving 4232 nuclear weapons between July 1959 and June 1960, many of them over Canada. The majority of the weapons involved in STEEL TRAP were the Mk. 39 and Mk. 36 mod 2 weapons. B-52's involved in STEEL TRAP carried either two Mk. 15/39's (yield: 9 to 10 Megatons) or one Mk. 36 (yield: 9 to 10 Megatons).<sup>103</sup>

The existing XYZ procedures were too restrictive to deal with post-STEEL TRAP airborne alert operations. Foulkes wanted a three to six month period with service-to-service clearance for individual flights. The USAF wanted to eliminate the "X" clearance so that overflights with non-nuclear components could become routine flights. It also wanted overflight clearances to last a six-month period and even attempted to make linkages between overflights and SAC storage and MB-1 storage.<sup>104</sup>

By this point Green was in, and the USAF ran into a brick wall on changing the XYZ Procedures as it continued to equate SAC overflights

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102. USNARA, RG 59 box 3219, diplomatic note from Heeney to State, 9 Jul 59.

103. USNARA RG 218, memo from CoS USAF to JCS, "SAC Exercise STEEL TRAP," 24 Jul 59; Hansen, U.S. Nuclear Weapons pp. 154-157.

104. USNARA, RG 59 box 3219, letter Willoughby to Merchant, "Proposed Revision of XYZ Procedures Governing Nuclear Overflights of Canada in Other Than Interception Missions," 17 Mar 59.

with MB-1 overflight arrangements and SAC storage in hopes of getting an agreement to cover all of these things. It appears that Green did not attempt to block the STEEL TRAP extension during the fall of 1959 in the wake of the SKY HAWK debacle.<sup>105</sup> The matter remained static well into 1961.<sup>106</sup>

SAC's first Airborne Alert Plan, code-named KEEN AXE, was formally inaugurated in January 1961. It appears that KEEN AXE consisted of one route to, from and around Alaska.<sup>107</sup> (see Figure 12) Even though Howard Green made no more attempts to interfere with SAC overflights, Secretary of Defense Robert S. McNamara directed SAC to establish a contingency plan called CHROME DOME which added two new routes: Greenland and the Mediterranean. This was done "to preclude the overflight clearance problem with Canada."<sup>108</sup> McNamara believed that the President should not have to be concerned with overflight clearance in an emergency and took steps to limit those debilitating effects on SAC's ability to strike at the heart of the Soviet Union. By 1966 or earlier, the Greenland route was changed to overfly Canadian airspace.<sup>109</sup> The number of bombers overflying Canada varied as to the level of international tension.

With greater reliance placed on ICBM's, Canadian SAC support tapered off by 1963 with the accelerated phase-out of the B-47's and KC-97's, though

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105. USNARA, RG 59 box 3219, diplomatic note from Heeney to State, 12 Oct 59.

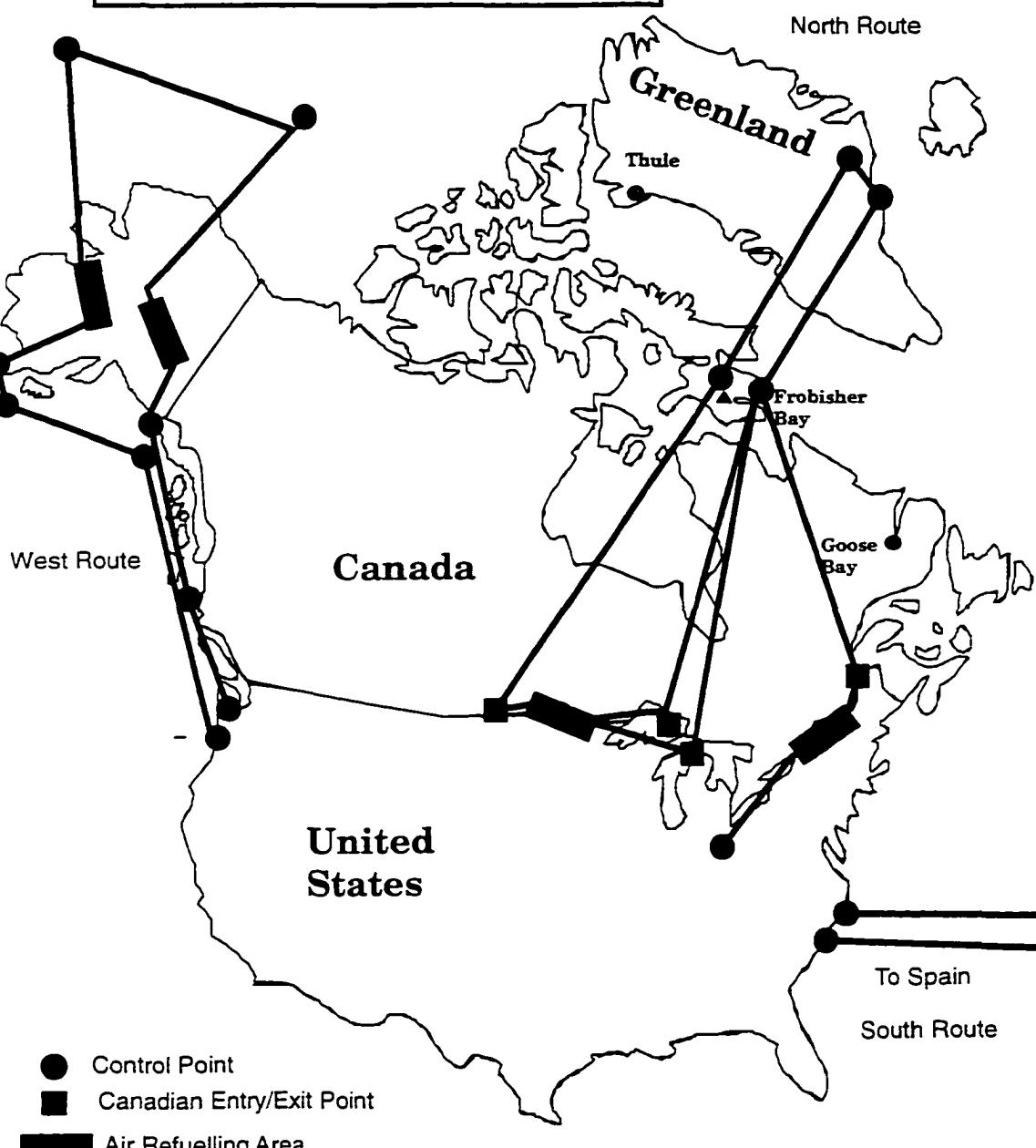
106. NAC, RG 2 ,29 March 1960; 2 June 1960, Cabinet Conclusions.

107. Sagan, The Limits of Safety p. 194.

108. NSA, memo McNamara to JCS, "Strategic Air Command Airborne Alert Plan (CHROME DOME)," 16 Aug 61.

109. Sagan, The Limits of Safety p. 194.

**Figure 12:**  
**SAC Airborne Alert Routes**  
**1961-1966**



emergency dispersal plans for SAC bombers and Canadian air bases remained in effect. Despite continual negotiations late in 1959, the Diefenbaker Government never authorized the storage of SAC nuclear weapons at Goose Bay.<sup>110</sup> By the mid-1960's, it was no longer an issue. Canada may have had a role in hosting SAC's post-strike reconnaissance aircraft during a conflict (a U-2 even crashed at Prince Albert, Saskatchewan in 1960),<sup>111</sup> but most operations wound down over time.

## Conclusion

The evolution of Canadian SAC support arrangements directly affected Canadian nuclear weapons acquisition. During the St Laurent Government's tenure, support arrangements fell into three categories: the construction of a SAC storage site at Goose Bay, SAC overflights and the development of the XYZ Procedures, and the provision of tanker bases in Canada's northern regions. These arrangements were allowed by the St Laurent Government for the explicit purposes of improving the West's deterrent posture. The implicit reason for allowing the first two activities was to force consultation with Canada if the United States were going to employ SAC against the Soviet Union. In effect, they functioned as a 'reverse DEW Line' of sorts for Pearson.

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110. Interview with Colonel Fred Lockwood, USAF (20 Dec 94) Watertown, NY; DGHIST, Raymont Collection, file 995, 21 Oct 59, memo for the CDC, "The Deployment of Nuclear Weapons to the Existing Storage Facilities at United States Leased Portion, Goose Bay Air Base."

111. DGHIST, Minutes of the RCAF Air Officer Commanding Conference, 1960; NAC RG 2, 29 Mar 60, Cabinet Conclusions; John M. Carroll, Secrets of Electronic Espionage (New York: E.P. Dutton Co. Inc., 1966) p. 174.

While Diefenbaker was Prime Minister, however, two things changed. First, Eisenhower demonstrated an increased willingness to use SAC as a signaling device during periods of crisis. Second, the Sputnik scare indicated that SAC was vulnerable because of the reduced reaction time to an attack. This increased NORAD's importance, and a closer link between SAC and NORAD was forged, particularly in the development of alerting systems.

The implementation of SAC protection measures (Fail Safe flights, Airborne Alert, and the Hostile Action Evacuation Plan) highlighted the importance of the NORAD-SAC link and also increased the chances of a crisis going out of control despite attempts to improve early warning (BMEWS, MIDAS, and SIGINT). Robertson, Green, and to some extent John Diefenbaker attempted unrealistically to interject political consultations into the alert system. This was effectively an attempt to replace the obsolete indicators developed under St Laurent with something else, an attempt which failed. In the end it contributed to laying the groundwork for the nuclear weapons crisis which would bring down the Diefenbaker Government in 1963.

SAC overflights and storage issues remained but became de-linked from Canadian access to defensive nuclear weapons, though Green continued to block the government-to-government agreement. The new problems of alert and political consultation over NORAD would also play an instrumental role in the 1963 crisis. In the final measure, though, any analysis of Canadian support measures given to SAC must conclude that, despite continual debate and discussion, SAC dramatically benefited from the tanker base, overflight, airborne alert, and early warning agreements between the two nations.

## CHAPTER 9

### CANADA'S NUCLEAR CRISIS I: A YEAR OF TRANSITION. 1960

#### Introduction

Canada's ability to implement its MC 70 and continental defence responsibilities was blocked. On the surface, the block consisted of linkage between Canadian access to the American nuclear stockpile and various American projects involving Canada (SAC and MB-1 overflights and SAC and MB-1 storage). Beneath this lay three layers of fear coupled with a lack of understanding. Some Canadian policymakers were afraid of the Opposition, some of the Americans, and the rest of the Soviets. The first two groups possessed an inability to recognize the problems posed by time, space, and political consultation, which were in turn related to the sovereignty questions produced by the NORAD debates.

Though the 1963 election was decisive in breaking this deadlock, these years in between were rife with extreme danger as East and West grappled with two serious crises: the Berlin Crisis in 1961 and the Cuban Missile Crisis in 1962. The situation was complicated by the facts that NATO strategy was evolving and that Canadian national security policy had to change to accommodate this and the crises as well.

This change was subject to dramatic interpersonal dynamics. The main pillar of continuity in Canadian strategic policymaking, Charles Foulkes, retired, while Defence Minister George Pearkes resigned. This produced the usual disarray in any changeover, but Pearkes' replacement, Douglas Harkness, was a strong personality who would not tolerate Howard Green's

de Gaulist tendencies and Diefenbaker's unwillingness to support Canada's allies. At the same time, disinformation entered the public domain through inadequate parliamentary attempts to throw light onto Canadian national security policy and generate debate. Canada's nuclear forces would continue their evolution despite lack of warhead access. At another level, the ascension of John F. Kennedy to the Presidency in the United States generated friction when Kennedy and Prime Minister John Diefenbaker clashed at the personal level. The inability of the Diefenbaker Government to deal adequately with all of the challenges undermined Canadian-American and Canada-NATO relations and also undermined NATO's ability to protect its primary deterrent, SAC. Skillful political manouevring on the part of Opposition leader Mike Pearson ultimately used the lack of Canadian access to nuclear warheads to generate a lack of confidence in the Diefenbaker Government, which resulted in its demise in April 1963.

### 1960: A Year of Transition

Charles Foulkes, tired of the internal Government wrangling over the nuclear negotiations with the United States and appalled by the shabby and vindictive treatment meted out to the outgoing RCMP Commissioner by the Prime Minister, announced that he would retire after 35 years of service.<sup>1</sup> Pearkes was not happy about the prospect of losing Foulkes. In a Cabinet

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1. UVIC, Pearkes Papers, Foulkes interview, 9 March 1967. Diefenbaker cut Commissioner Nicholson's pension by 20% when he retired because of a previous dispute over the use of the RCMP for riot control in Newfoundland.

meeting, he noted that the retirement should be announced in the House, and Diefenbaker had no problem with this initially, though he thought that it "should be made known in the House of Commons prior to the expected debate on defence matters, to avoid giving the mistaken impression that the retirement occurred because of differences of opinion."<sup>2</sup>

In a stunning reversal, however, Diefenbaker announced to the House that Foulkes was being kept on "for some months in a desire to bring about a continuance in completion of the negotiations which are taking place in the military field."<sup>3</sup> Foulkes, who had planned to retire in January 1960, found himself pressed back into service by the Prime Minister. Behind the scenes, however, Pearkes had selected the Deputy Minister of National Defence and the former Air Marshal Frank Miller to replace Foulkes. Diefenbaker did not want Miller for unknown reasons and Foulkes said that he would stay on only if Miller became Chairman of the COSC after him.<sup>4</sup> Consequently, Foulkes stayed on until May.

It is worthwhile, then, to provide insight into Foulkes' evolving strategic *Weltanschauung*, as it was undoubtedly transmitted to Miller. Foulkes saw MC 14/2 (revised) as the dominant Canadian strategic concept, with its two-phase pattern of war and Shield and Sword pattern of forces. Foulkes recognized that "So successful have our endeavours in deterring aggression in NATO, that Soviet policy appears now to be directing its

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2. NAC RG 2, 12 Jan 60, Cabinet Conclusions.

3. UVIC, Pearkes Papers, Foulkes interview, 9 March 1967.

4. Ibid.

attention to other more sensitive areas.<sup>5</sup> Canada and NATO had to have the ability to respond in a conventional fashion on NATO's periphery. This could be a Korea-like operation or a UNEF-like operation. In other words, Canada had to maintain a flexible force structure.

This new situation did not, however, distract Foulkes from the most important issue, which was the changing dynamics of nuclear warfare. He believed that the offense was in the ascendancy because of the ballistic missile, though a mixed threat would still be in existence for some years to come. More importantly, he noted that:

...so great an advantage lies with he who takes the initiative and makes the first strike, and already some doubts are being raised as to whether what is left after the first attack will provide a sufficient deterrent to persuade the Soviet Union that the retaliation is unbearable. Some United States authorities are so concerned about this aspect that they are looking at the forbidden preventative war approach. <sup>6</sup>

He was seriously concerned about Berlin, which was "a most explosive situation and one which is going to have to be carefully watched or we might stumble into the war that none of us wants." Berlin was primarily about West Germany's acquiring nuclear weapons. However, given the existing state of affairs, was the West "prepared to go to war over who stamps a visa?....Can we use limited force in East Germany without risking a major war?"<sup>7</sup>

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5. DGHIST, Raymont Collection file 2005, "Address by General Charles Foulkes to the Air Officers Commanding Conferences," 19 March 1959."

6. Ibid.

7. Ibid.

In the event that either preventative war or escalation over Berlin produced nuclear attack against North America, Foulkes strongly advocated that, in addition to the existing NATO and UN forces, Canada needed a comprehensive effort to mitigate the effects of a nuclear attack on Canada. Canada needed access to the American nuclear stockpile. To contribute to the Shield and Sword, Canada needed BOMARC and MB-1 warheads, nuclear ASW systems on both the Atlantic and Pacific coasts, and missiles and bombs for the forces stationed in Europe.<sup>8</sup>

As we will recall from Chapter 7, Canada signed a bi-lateral nuclear information sharing agreement in March 1959. A second Government-to-Government agreement between Canada and the United States was necessary before Canadian forces had access to advanced safety training, arming mechanisms, and the nuclear stockpile itself. This second agreement remained, for reasons discussed previously, unsigned into 1960, though Foulkes, Hendrick, and Pearkes produced a draft in December 1959.

On 4 January 1960, Diefenbaker asked Pearkes to provide him with a written report examining the status of BOMARC, acquisition of a new interceptor and the CF-104, and on the "present position regarding the acquisition and control of atomic warheads" in Canada and in Europe.<sup>9</sup> The Prime Minister was informed that on 13 July 1959, the RCAF and the USAF agreed to the detailed implementation plan for BOMARC/SAGE and construction started on 14 December 1959. Unfortunately, Pearkes noted in the memo that "The BOMARC 'B' when installed will be capable of utilizing

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8. Ibid.; DGHIST, Raymont Collection file 2005, "Address by General Charles Foulkes to the Air Officers Commanding Conferences, 19 March 1959."

9. USASK, Diefenbaker Papers, vol. 53, 6 Jan 60, memo Pearkes to Prime Minister.

either a high explosive or a nuclear warhead" (a statement which was erroneous and would cause problems later).<sup>10</sup> Pearkes also erred by stating that the decision to acquire the CF-104 was made in August 1958 (it was made in August 1959), and that the COSC was asked in 1958 to determine which interceptor aircraft should replace the Arrow and had not yet made a decision.

Information on acquisition and control was included in a follow-up to the 4 January request. In it, Pearkes noted that "the full effect of modern weapons both as a deterrent and as a defence, should the deterrent fail, cannot be achieved without the employment of nuclear warheads." As for NATO policy, the 1957 NATO meeting confirmed that nuclear weapons were officially part of the NATO deterrent system and that the Americans would provide a nuclear stockpile which would be released by the American President.<sup>11</sup>

As for the effects of these policies on Canada, Pearkes noted that storage would be required in Canada for SACLANT, SAC, and NORAD forces and for the Air Division and 4 Brigade in Europe. SACLANT, SACEUR, and CinCNORAD were the releasing authorities for the weapons. At this point, Pearkes explicitly stated: "No nuclear weapons are at present stored in Canada," though the Americans were still pressing for MB-1 storage at Harmon and Goose Bay air bases; nuclear torpedo and depth charge storage at Argentia; strategic nuclear weapons at Goose Bay; and "as soon

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10. Ibid.

11. USASK, Diefenbaker papers, vol. 53, 11 Jan 60, memo Pearkes to Prime Minister.

as the BOMARC becomes operational ...there will be a Canadian requirement for the storage of nuclear warheads...."<sup>12</sup>

The custody of, as opposed to the control of, nuclear weapons in Canada was still a debatable issue. The Americans, Pearkes believed, wanted sole custody over the weapons, while Pearkes wanted joint custody; that is, two rings of defences around each storage site (US on the inside, Canada on the outside). Pearkes stated that release should be from the American President to the Canadian Prime Minister and then to the Canadian forces on the Prime Minister's discretion. SAC weapons should also be a joint release matter. Things were more vague in Europe: "Canadian forces operating in Europe under [SACEUR] would be authorized only to use nuclear warheads under conditions agreed to between Canada and [SACEUR]."<sup>13</sup> Pearkes also included the December 1959 draft agreement.

All of this was in preparation for three lengthy Cabinet meetings on 12, 14, and 15 January 1960, which in turn was preparation for a House of Commons debate. Diefenbaker told Cabinet that storage and acquisition of the weapons was acceptable on the basic principle that "there would be no use of these weapons without the consent of the Canadian Government." He wanted this made clear, as he intended to protect himself in the debate from charges of throwing away Canadian sovereignty (This went back to the open wound generated by the NORAD debates in 1957-1958.) Consequently, Pearkes was to re-draft the Government-to-Government agreement to make this absolutely clear.<sup>14</sup>

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12. Ibid.

13. Ibid.

14. NAC RG 2, 12 Jan 60, Cabinet Conclusions.

Foulkes and Bryce handled the re-draft, and the matter came before Cabinet on 14 January.<sup>15</sup> Green, however, interrupted the process, claiming that there would be "widespread repercussions" as there was still American control over the weapons. Diefenbaker uncharacteristically stated that:

...most statements on defence policy had been rather foggy and that the Canadian people were becoming aroused over what appeared to be a confused situation....the policies of the USSR still constituted a threat to peace....It was absolutely necessary that the Cabinet be quite clear in its attitude towards nuclear weapons for the Canadian forces and that [Diefenbaker] be in a position to make a clear statement on the matter....<sup>16</sup>

Green, Pearkes, and others were to draft a statement for Diefenbaker to use in the House. Back in Cabinet on 15 January, Diefenbaker confirmed that Canada should have joint custody (the two ring concept) and joint release authority over the weapons. In the Cabinet discussion, views swung to both extremes. Some members wanted total Canadian control over the weapons (custody and release with no American say so); others thought that there should be no weapons for Canadian forces at all. In the end, the House statement was redrafted.<sup>17</sup>

Diefenbaker presented the statement on 18 January 1960:

Canada's stand might be summarized in this way: Eventually Canadian forces may require certain nuclear weapons if Canadian forces are to be kept effective. For example, the BOMARC anti-aircraft missile to be effective would require nuclear warheads. It is the belief

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15. USASK, Diefenbaker Papers, vol. 53, 13 Jan 60, memo Bryce to Prime Minister.

16. NAC RG 2, 13 Jan 60, Cabinet Conclusions, January 13, 1960.

17. Ibid.

of the Government too that there should be no increase in the number of countries manufacturing nuclear weapons....if obtained, they will be obtained from the [US]....negotiations are proceeding with the United States in order that the necessary weapons can be made available for Canadian units if and when they are required....arrangements for the safeguarding and security of all such weapons in Canada will be subject to Canadian approval....I want to make it abundantly clear that nuclear weapons will not be used by the Canadian forces except as the Canadian Government decides....<sup>18</sup>

This was an explicit statement of Canadian nuclear policy, though some have interpreted it as "ambiguous."<sup>19</sup> The Opposition did not make much of the statement at the time and flagrantly ignored it in their subsequent attacks on the Government over the nuclear weapons issue. On 9 February, Diefenbaker reiterated in the House what he had said in January, adding that: "If and when Canada does acquire nuclear weapons" it would be done "with our obligations under the North Atlantic Treaty," firmly linking nuclearization with NATO.<sup>20</sup>

### VooDoo Economics

Most of February 1960 was devoted to making headway on a replacement for the CF-100. General Lawrence S. Kuter, who replaced Earle Partridge as CinCNORAD, presided over the development of the 1961-1965 NORAD

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18. DGHIST, Raymont Collection, file 309, 18 Jan 1960, Hansard extract.

19. See Jon McLin Canada's Changing Defense Policy 1957-1963: The Problems of a Middle Power in Alliance (Baltimore: Johns Hopkins University Press, 1967), p. 138.

20. DGHIST, Raymont Collection, file 309, 9 Feb 1960, Hansard extract.

Objectives Plan (NADOP) in late 1959. The NADOP was then despatched to the COSC for approval. With Canadian staff input at NORAD HQ in the wake of the Camp David meeting in 1959, Kuter proposed that USAF F-101B VooDoo interceptors be transferred to the RCAF to replace the CF-100 and that Canada take a third BOMARC base with another 30 missiles.<sup>21</sup>

The third BOMARC site was out. The provision for it was based on American intelligence estimates that indicated that there would be a greater number of Soviet supersonic aircraft in their arsenal than the Canadian analysts believed. The need for an interceptor aircraft, however, was another matter altogether. The CF-104, though based on an interceptor aircraft, was not suited to Canadian interceptor requirements, which were based on safety needs related to operating over Northern Canada.<sup>22</sup> The CF-104 could not carry and fire a nuclear-tipped air defence missile, and it could not handle SAGE direction. Nor could the CF-100, which did not have the ceiling necessary for a high-level intercept nor could it interact with SAGE.<sup>23</sup>

Why not just leave the manned intercept mission to the American squadrons at Thule, Goose Bay, and Harmon air bases? This was not acceptable, asserted Foulkes, because of the sovereignty implications, the same implications which had not been taken into account with the cancellation of the CF-105 and, despite Pearkes' prodding, Diefenbaker ignored. How would Canada pay for a new interceptor? Most of the money devoted to the RCAF was being poured into the CF-104, BOMARC/SAGE,

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21. DGHIST, Raymont Collection, file 1309B, 21 Jan 60, COSC 654th Meeting.

22. That is, two engines were needed for redundancy. The CF-104 only had one.

23. DGHIST, Raymont Collection, file 1309B, 28 Jan 60, COSC 655th Meeting.

and CADIN programmes. Chief of the Air Staff Campbell's staff generated a proposal (probably with NORAD collusion) by which Canada would take over eleven of the American-manned PINETREE radars in exchange for 66 F-101B's.<sup>24</sup>

This proposal was then brought before Cabinet. Pearkes revealed that the USAF offered to release some of its long-range interceptors (F-101B's) from areas which could be covered with the shorter-ranged F-102's. Pearkes made it abundantly clear ("Having a greater operational capacity than the CF-100 and being capable of carrying a nuclear air-to-air missile") that the VooDoo was the best, most capable, and cheapest choice. There was an extended Cabinet debate over this issue. The primary sticking point was Cabinet's fear of the Opposition, whom they assumed would use this arrangement to bash the Government on sovereignty grounds. Some even proposed acquiring more BOMARC's, which they believed was more politically palatable. In the end, Cabinet chose to defer the F-101B acquisition decision (and with it any hope of Canada's contributing significantly to protecting her airspace and alliance pre-rogatives in NORAD) because they were afraid of Opposition criticism.<sup>25</sup>

The RCAF leadership used the break in the action to convene its annual Air Officers Commanding conference in March 1960. Unlike previous conferences, this one was devoted to brainstorming. What was the probable course of events that would affect the RCAF? How should a response be formulated and implemented?<sup>26</sup>

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24. Ibid.

25. NAC RG 2, 4 Feb 60; 8 Mar 60, Cabinet Conclusions.

26. It is unfortunate that the Army and the RCN leaders did not hold such conferences and did not keep detailed, verbatim notes of those meetings that were held dealing with

In the course of the discussions, the RCAF leadership noted that the dominant strategic concept on which planning would continue to be based was MC 14/2 (revised). The 1960 RCAF Emergency Defence Plan was in accordance with MC 14/2 (revised). The biggest problem identified by the RCAF planners was their belief that the Canadian national alert system "might not be able to react quickly enough" and as a result the planners created four RCAF "readiness states" which corresponded to the existing national alert levels. The RCAF commanders had the ability to alert their forces to correspond to the NATO and NORAD systems without getting governmental-level permission. In effect, the RCAF subverted not only the officially-approved Simple-Reinforced-General system, but the COSC-developed (and not ratified by Cabinet or any other responsible governmental body) Discrete and Ready levels.<sup>27</sup>

One of the most important themes in the meetings was the proper response to the ICBM threat and the place of that threat in the RCAF's concept of operations. Clearly, an indigenous Canadian ABM system was out of the question because of cost. After consultation with American authorities in 1960, the RCAF was told that Canada could provide valuable assistance in testing components of an American ABM programme, or Canada could contribute directly to the deterrent either by stationing ICBM's on Canadian soil or by providing three nuclear powered submarines capable of firing Polaris. Canada could use its geography to assist in dispersing the American deterrent to reduce its vulnerability.

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future thinking. The Navy did establish a special committee to examine the future fleet and this will be discussed later in this chapter since it produced a seminal document.

27. DGHIST, Raymont Collection file 2008, "Shorthand Transcript 1960 AOsc Conference."

Active defence was deemed to be "an extremely doubtful proposition" since its could be flooded with masses of cheap missiles. But then the question became, how much deterrent was enough? The commanders also discussed the problems with what they perceived to be an American over-reliance on city targeting. What if the Soviets evacuated their cities?<sup>28</sup>

In terms of maritime operations, the RCAF leadership was convinced that the submarine threat would continue to pose problems no matter what the future pattern of war was since "if there is such a thing as a second phase [MC 14/2 (revised)] the submarine will...take part in that phase also. You have the fact of the submarine being used as a diplomatic weapon in a period of tension."<sup>29</sup> This in turn led to a discussion of rules of engagement. They were concerned about American proposals to declare a 500-mile limit within which unidentified submarines "would be considered a threat against North America" and presumably be attacked.<sup>30</sup>

In terms of the future, Air Vice Marshal Annis from Air Material Command thought: "Containment has failed. It [has failed] in the Middle East, the Caribbean, etc. Consequently, the other big thing which will fail is defence by defensive methods. It will fail during the 60s....The new situation is that the USSR is on the loose, with no known methods of stopping this economic and political expansion....I feel that our government is skirting at the fringes of neutralism. This is not winning any respect from the US....[W]e fought to have and to hold atomic forces and we seem to be on the breakthrough of having achieved this at long last....If deterrents fail we

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28. Ibid.

29. Ibid.

30. Ibid.

must get in and help the Americans in their offensive methods....I think we need to get into the offensive role [in NATO]."<sup>31</sup>

Some of the more radical ideas came from Air Commodore F.S. Carpenter. Carpenter had been a Catalina ASW squadron commander in the Second World War and was AOC Transport Command in 1960. Transport Command was heavily engaged in supporting UNEF I in the Sinai and ONUC in the CONGO, in addition to providing aircraft for smaller UN operations in New Guinea and elsewhere and this clearly influenced him in his thinking.<sup>32</sup>

Carpenter predicted that, in terms of influence, "[Canadian] real estate would be relatively unimportant to the Americans because of the increased range of their missiles."<sup>33</sup> In terms of peripheral areas, "A total war should only come about through miscalculation or in some situation in which it cannot be contained. This should be the basis for our planning." In other words, "We have considerable prestige in the world because of the integrity of [Canadians] and because the world recognizes that we have no territorial ambitions....We should endeavour to make the fullest use of this esteem...."<sup>34</sup>

Furthermore, "We should admit that we have no large offensive capability and that we should, in fact, go along with what is likely to be the most probable policy of our government-that we should not have atomic

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<sup>31.</sup> Ibid.

<sup>32.</sup> W.A.B. Douglas, RCAF History Vol II. (Toronto: University of Toronto Press, 1986) pp. 476; Larry Milberry, Sixty Years: The RCAF and CF Air Command 1924-1984 (Toronto: McGraw-Hill Ryerson, 1984) p. 427.

<sup>33.</sup> DGHIST, Raymont Collection file 2008, "Shorthand Transcript 1960 AOsc Conference."

<sup>34.</sup> Ibid.

weapons....the basis for our forces in the future should be a kind of combat police force...[operating] in a disarmament inspection role."<sup>35</sup> These views were deemed to be heresy. When pressed on how Carpenter envisioned a Canadian force structure, he suggested that there should be three brigades, with one in Europe ("for political reasons") with a rotational brigade and a strategically-mobile brigade with lots of air transport for it. The RCN should also have three assault ships "useful in police-action type of work," which would make it possible to station a force closer to troubled areas." Strike aircraft which were dual capable (nuclear and conventional) should also be available to support the mobile forces, though: "We should not have in our inventory any offensive atomic weapons. There is no advantage to Canada in having atomic weapons, or even the West having them and we should discourage other countries from having them."<sup>36</sup>

Campbell had, in anticipation of the annual conference, tasked Air Commodore W.A. Orr to put together an ad hoc team examining similar issues. Campbell craftily had Orr give his briefing after the AOC's had expressed their views. In his summary, Orr stated:

Our importance to the United States decreases in the defence of the United States—that we should maintain our position in the overall alliance to which we belong by making at least an equal contribution, and this naturally turned to offensive contribution....we really [must] make this NATO force into a hard-hitting offensive force....If one looks at Canada's position in the world...we are fifty and one half percent a satellite of the United States, except for our place in NATO which is entirely dependent on what we put up.<sup>37</sup>

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35. Ibid.

36. Ibid.

37. Ibid.

Air Vice Marshal Max Hendrick, fresh off the plane from Washington D.C. and no doubt frustrated with the nuclear agreement negotiating process described in Chapter Seven, noted in the discussion that

...after the present election south of the border, the U.S. defence effort will increase again....This, coupled with a slightly increasing effort on the part of [NATO] will put Canada in the position of the one that is not pulling her weight....We are very proud of our capability and believe that the Canadian people respect us for our capability, but we are allowing our critics to go unanswered...We are in uniform and are under instructions for this to be so. But we have allies outside in city suits who I think will speak for us if we were to inspire them in the right way...Let us give the party line to our friends, even to the extent of writing articles they can sight; in other words, have a fifth column outside on our behalf....

Arguing with the Government [using] logic is useless; and I don't think we should try it. Therefore, we come to a poker game....We have got to be a little more devious in selling, less honest perhaps. If we become useless to the United States our bargaining power will become useless. they are very friendly and co-operative people but they are also realists and we can only use our nuisance value for so much....<sup>38</sup>

Carpenter had a serious problem with this approach:

There was kind of a suggestion that came up a couple of times within these four walls that in spite of what the public in Canada want or think they want, or in spite of what the Canadian Government may want or think they want that we should be devoting a good deal of our effort to chart something that the Government might want or the public might want. Surely this kind of thing cannot be right. I think we should try to educate the public on what the facts are.... It is necessary with a public such as ours which is rather detached from the realities of world affairs.<sup>39</sup>

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38. Ibid.

39. Ibid.

At some point after the conferences, Air Chief Marshal Campbell discretely reached out for Wing Commander William Lee from the RCAF public relations organization and instructed him to develop a plan to get the RCAF's message across to the public via friendly media sources. Harkness knew about this but did not want Campbell to tell him about the details.<sup>40</sup>

#### According to Wing Commander Lee

It was a flat out campaign because Diefenbaker was not living up to his commitment...Roy Slement was going bananas down in Colorado Springs. We identified key journalists, business and labour people, and key Tory hitters, especially in Toronto, and some Liberals too and flew them to NORAD....We'd have Slement speak to them and others. We wanted people who had influence on members of Cabinet. All we wanted to do was to have Canada honour her commitment.<sup>41</sup>

Letters from some of these "guests" reached the Prime Minister. For example, Kenneth Andras, who had served with Slement in Bomber Command during the Second World War and was now a high-powered stock exchange investor in Toronto, sent an extremely detailed and technically accurate memorandum on NORAD, SAC, and nuclear air defence weapons to Diefenbaker. This memo, Andras claimed, was the consensus of the 45-member Toronto Board of Trade group who visited NORAD HQ.<sup>42</sup>

Though nuclear issues were not predominant in the Canada-US Foreign Ministers Meeting held in Washington in April 1960, Green was told that

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40. Nash, Kennedy and Diefenbaker pp. 145-146; Hellyer notes on p. 28 of his work Damn The Torpedoes that Bill Lee was a graduate of the USAF public relations school.

41. Ibid.

42. USASK, Diefenbaker Papers, vol. 45, 28 Sep 62, letter Andras to Diefenbaker and attached memo.

the BOMARC programme was running into funding problems. The American Senate had withheld funding on the basis that the project was getting out of control with too much money being spent on too many missile test failures. American Senator Dennis Chavez of New Mexico even publicly stated that "the United States was trying to impose on the poor Canadians a missile that is so bad we cannot use it."<sup>43</sup>

Foulkes had had enough and left in May 1960. He then flew to Washington and vented to his former wartime superior, President Eisenhower. When queried on why he retired, Foulkes told the President that he was tired of trying to combat the "excessive confidence" in disarmament and the unwarranted "feeling that too much money was being spent on defence."<sup>44</sup> Foulkes and Ike were in agreement in that there was a danger of isolationism on America's part if Canada reduced her NATO commitments. "The difficulty," Foulkes stated, "is not with the people but with the government." Green's insistence that NATO adopt a no-first use policy undermined the deterrent. NATO needed nuclear weapons and a conventional build up. Eisenhower reiterated his previous thoughts on the unacceptable state of affairs in Congress regarding the restrictions on the release of nuclear weapons information to NATO allies. Foulkes agreed, but thought that Congressional statements on BOMARC were extremely "embarrassing" for those trying to implement the existing air defence agreements. Eisenhower ended the discussion by telling Foulkes

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43. FRUS 1958-1960 Vol. VII, pp. 790-791, memcon, "BOMARC Program," 14 Apr 60.

44. FRUS 1958-1960 Vol. VII, pp. 793-795, memcon Eisenhower and Foulkes, 9 May 60.

that the United States should go so far as to provide Canada with Polaris and Minuteman missiles for an independent Canadian deterrent.<sup>45</sup>

Just prior to this, Francis Gary Powers climbed into the cockpit of his Lockheed U-2 reconnaissance aircraft, took off, photographed the Tyruatam Cosmodrome and the Chelabinsk nuclear facility, and then was shot down by an SA-2 GUIDELINE anti-aircraft missile near Sverdlosk. This did not dramatically affect the proceedings of the NATO Ministerial Meeting in Istanbul, but it cast a pall over the planned Eisenhower-Khrushchev summit. On 15 May, Khrushchev met with Charles de Gaulle in Paris and demanded that Eisenhower issue an apology or the summit would not proceed. US Secretary of Defense Thomas S. Gates requested and received permission to place US national forces at an increased state of readiness. NORAD was not alerted, but CONAD was. Twenty-four hours later, Pearkes informed Cabinet that he had just learned about this action and that he had not been consulted. Air Vice Marshal Roy Slemon, Deputy CinCNORAD, had informed Air Marshal Campbell that the US JCS ordered increased readiness for US CONAD forces. Campbell then informed Pearkes. It was later learned that this was a no-notice ten-hour communications exercise and that air defence units were not moved.<sup>46</sup>

The Soviet news service broadcast that Canada was "complicit" in the "crime" since Canada allowed U-2's to operate from Canadian bases. Pearkes had to explain to Cabinet that U-2's did overfly Canada but did not

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45. Ibid.

46. NAC MG 32 B19 vol. 12 file 15-120, 16 May 60, memo Campbell to Pearkes, "US Increased Readiness;" NAC RG 2, 16-17 May 60, Cabinet Conclusions; Michael R. Beschloss, May Day: Eisenhower, Khrushchev, and the U-2 Affair (New York: Harper and Row, 1986) p. 281.

operate or refuel from Canadian bases.<sup>47</sup> Diefenbaker was convinced that putting off Exercise SKY SHIELD had averted provocation but that the U-2 incident demonstrated to him that aerial activities were inherently provocative. After this pseudo-alert and the lack of consultation, Diefenbaker concluded that the U-2 was deliberate American military provocation in that "most senior U.S. air force officers appeared to prefer a war in 1960 or 1961 and to believe that the U.S. could not win a war beginning in 1962 or later."<sup>48</sup> This was a serious accusation but it was kept in Cabinet.

Jules Leger returned to Canada from Paris late in May to provide Canadian policymakers with his views on NATO in the wake of the collapsed Paris Summit. Leger and Miller chose to use the almost-defunct Panel for this discussion. The real crux of the problem, in Leger's view, was the place of Germany in the post-war world and more immediately, Berlin. This in turn was related to NATO's implementation of MC 70, particularly the provision of IRBM's for SACEUR. This had a number of spin-off problems. First, NATO and RCAF commanders in Europe were concerned about the CF-104 programme. There was a possibility that Canada might be the only middle power to provide aircraft for SACEUR's deterrent. The Danes and the Norwegians were wavering and probably would not accept nuclear weapons, but the Belgians and Dutch probably would. The French problem had not changed.<sup>49</sup> Leger implied that positive

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47. NAC RG 2, 14 May 60, Cabinet Conclusions.

48. NAC RG 2, 16 May 60, Cabinet Conclusions.

49. NAC RG 25, vol. 4501 file 50030-k-2-40 pt. 1, 31 May 60, POEADQ, 65th Meeting.

Canadian movement on nuclear weapons negotiations with the United States would have a unifying effect within NATO.

Miller told the Panel that no movement was likely in the near future: "This was somewhat worrying, because it was difficult to explain in Parliament a defence programme which contemplated the purchase of such weapons carriers...when the decision to provide nuclear warheads for these weapons had not yet been taken."<sup>50</sup>

Leger also noted that Canada's conventional forces in Europe, 4 Brigade, were a very valuable contribution. Norstad was increasingly

...concerned about the need to strengthen the conventional forces in the shield. He was impressed less now by the danger of a massive attack on Western Europe than by the danger of increasing involvement of the shield forces in a conflict resulting from the lack of political settlements in Germany. General Norstad considered that it was essential to have strong conventional forces to contain the first wave of a small scale attack; he would wish to avoid using tactical nuclear weapons until he had to deal with the second, or larger, wave.<sup>51</sup>

(This was Norstad's controversial 'Pause' concept, which will be discussed in more detail later). There were other considerations that were causing problems, particularly NATO allies' mention that Canada's "emphasis on disarmament in recent months had been too strong and some concern had been expressed that our defence contribution might fall off."<sup>52</sup> The Government would, however, have to contend with criticism emanating from closer to home.

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50. Ibid.

51. Ibid.

52. Ibid.

### The Special Committee on Defence Expenditures: May-July, 1960

The Opposition had not given up trying to embarrass the Diefenbaker Government on defence issues. The NORAD debates were major confrontations in this ongoing campaign but operations had been reduced to minor skirmishes in the House of Commons, which continued well into 1960. This changed in May. With the Prime Minister's reluctant concurrence, the House of Commons established the Special Committee on Defence Expenditures (SCODE) as a non-in camera bi-partisan committee with the aim of examining the expenditures of public money on defence since 1958. Most of the important, confusing, and unanswerable questions regarding nuclear weapons were asked during SCODE's proceedings. In effect, SCODE was the basis for the public nuclear weapons debate which would rage in the House and in the media for the next three years and it provides insight into some of the personalities involved.

What started as a number-crunching forum examining the cost of uniform cloth for its first two meetings (3 and 11 May 1960) was quickly converted into a mechanism to attack the Government, with Members of Parliament Paul Hellyer the star and socialist Harold Winch of Vancouver in a supporting role. The Government champions were Pearkes and Miller, who was still the Deputy Minister. Serving uniformed personnel were precluded from testifying by SCODE's terms of reference. In other words, Pearkes and Miller did not have immediate access to Foulkes and the other

Chiefs to answer detailed military technical and security oriented questions.<sup>53</sup>

Paul Hellyer would eventually have his hour when he became Pearson's Defence Minister in 1963. He had briefly served as the Associate Minister of National Defence during the St Laurent Government, which served him in good stead during the course of SCODE's three months of proceedings, and was the Liberal Party's defence critic. The youngest MP ever elected to Parliament, Hellyer was enthusiastic about defence matters but believed that he knew what was better for Canada than Canada's senior military leadership.

Hellyer was initially thwarted from an immediate assault by the SCODE chairman, retired Army Medical Corps Lieutenant-Colonel G. Ernest Halpenny, now Member of Parliament from London, Ontario, who employed delay and procedural tactics for the first three sessions which dealt with hospitals, dependent education, and, as noted earlier, uniform cloth.<sup>54</sup>

Hellyer was finally able to unleash his attack during the fourth meeting. SCODE was in the process of performing an Arrow affair autopsy. Hellyer was able to zero in on the fact that there was a continuing bomber threat and that there was still a Canadian requirement for manned interceptors. Hellyer wanted to know why no aircraft had been selected to replace the CF-100. Pearkes was unable to account for the Cabinet's deferral of the F-101B acquisition for fear of embarrassment. Hellyer was able to castigate Pearkes

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53. House of Commons, Special Committee on Defence Expenditures: Minutes of Proceedings and Evidence (hereafter SCODE), 3 May 60 and 11 May 60, pp. 1-39.

54. SCODE, 3 May 60 and 11 May 60, pp. 1-39; 13 May 60, pp. 45-63.

on a) canceling the Arrow and b) not having a back-up plan.<sup>55</sup> Keep in mind that Hellyer had been a vocal critic in 1959 of the Arrow cancellation since many AVRO workers lived in his riding. Canada, according to Winch, had selected BOMARC missile to replace the Arrow manned interceptor (which, as we know from previous chapters, was not the case).

The Arrow continued to fascinate the SCODE members well into the next meeting on 20 May. Pearkes waffled on the air defence issue, arguing that an air defence system consisted of warning systems, planes, and missiles, Canada, he said, did not necessarily have to contribute all three. Hellyer jumped on Pearkes with public statements from senior RCAF officers stating in 1959 that bombers would continue to be a threat and manned interceptors were still needed. Pearkes argued that no existing American or British aircraft met Canadian standards and requirements. This was not the case, since the F-101A VooDoo had been in American squadron service since 1957, and the "B" model came on-line in January 1959.<sup>56</sup>

To make his point on the need for a new interceptor, Hellyer asked questions about intelligence information relating to the allegedly decreased bomber threat, which Pearkes had previously told the committee was one reason for canceling the Arrow (a distortion of the truth in light of the Canadian-American argument over the National Intelligence Estimates in 1958). The debate then revolved around the semantics of "diminished threat" versus "decreased threat." Pearkes was adamant that he would not release intelligence information to the committee. Committee members

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55. SCODE, 17 May 60, pp. 69-90; 18 May 60, pp. 93-111.

56. Marcelle Size Knaack, Post-World War Two Fighters 1945-1973 (Washington D.C.: Office of Air Force History, 1986) pp. 150-152.

were able to get Pearkes to admit that the air defence system was structured to protect SAC. Using imprecise language, Pearkes indicated that the defence of the Canadian population was "a priority" without stating that it was secondary to protecting SAC. Hellyer then badgered Pearkes again on the air defence issue. Did Canada have a "solemn agreement with the United States government" for the air defence of North America? If Canada did, was Canada not obligated to contribute effectively?<sup>57</sup> Pearkes avoided this one.

Hellyer did not avoid criticism for his manner. After a discussion of dollars, aircraft numbers, and weapons systems, one SCODE member scathingly inquired: "I wonder if we could all be issued with slide rules so we can keep up with Mr. Hellyer." The Chairman replied that they were too expensive, and Hellyer quipped that the Parliamentary Secretary probably didn't know how to use one.<sup>58</sup>

Up until this point, the SCODE proceedings resembled an extension of the NORAD debates and the ongoing casual House questions on air defence and sovereignty. The second phase of SCODE's deliberations then shifted into detailed and acrimonious discussions on the nuclear issue. In the interim, however, Diefenbaker and Eisenhower met for another discussion of defence issues on 3 June 1960 with the aim of solving the embarrassing BOMARC problem.

Once again, public statements by Congressmen and lack of liaison between the State Department and the Pentagon regarding BOMARC's value and how much money, if any, was going to be spent on it caused

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57. SCODE, 20 May 60, pp. 119-138.

58. SCODE, 25 May 60, pp. 139-182.

concern in Ottawa. Before the whole affair could blow up into another SKY HAWK-like problem, Pearkes "has so handled himself that the anticipated attack here has to date been somewhat blunted."<sup>59</sup> In other words, Pearkes gracefully showed a great deal of understanding and did not make public hay out of the situation.

In its pre-meeting analysis, the National Security Council was apprised of the situation. Canada requested this meeting, believing "that [the US] are in fact abandoning continental defense and putting all our emphasis on our retaliatory capability. The Canadians feel lost between the United States and the USSR in this situation."<sup>60</sup> The main sticking point was BOMARC and the impasse on its funding by Congress. The NSC staffers (erroneously) believed that Canada had given up the Arrow for the BOMARC and (correctly) thought that Canada thought the United States was welching on an agreement. The NSC believed that funding would be restored eventually, however. A Canadian initiative was on the table. Canada would buy 66 F-101B's in exchange for the USAF's buying 35 CL-44 Yukon long range transport aircraft from Canada. The American policy was that Canada really did not have to pay for the F-101B's; they would be provided under MAP or a similar project. Canadian pride was in the way, as well as self interest. Canada had never accepted defence welfare and still needed to maintain her aircraft industry. Eisenhower wanted a position that he could take to Diefenbaker to solve this, noting that: "Diefenbaker was not difficult to deal with if he were kept informed in advance, even though he was

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59. USNARA, RG 59, E3077 box 1, File: Amb. Wigglesworth 1960 1-A-2, memo Wigglesworth to Willoughby, 31 Mar 60.

60. FRUS 1958-1960 Vol. VII, pp. 797-799, Memorandum of Discussion at the 446th Meeting of the National Security Council.

inclined to make impetuous statements and then refuse to modify them if they turned out to be wrong."<sup>61</sup>

The Canadian and American delegations, which included, Christian Herter, Livingston Merchant, and future SACEUR General Andrew L. Goodpaster on the American side and Robinson, Bryce, and Heeney on the other, discussed topics including the Open Skies concept and economic matters. On the defence side, Herter informed the Canadians that he currently had Robert Bowie working on a ten-year NATO planning exercise. Canada was invited to participate in the process of the exercise prior to its unveiling at the December 1960 NATO Ministerial Meeting. BOMARC came up, and the President informed the Prime Minister that funds would be made available for the completion of the project no matter what Congress said publicly. The F-101B issue was also raised, and Diefenbaker gave his assent to talks with the US Department of Defense.<sup>62</sup> Deeper defence discussions were scheduled for the July Montebello Meeting of the Canada-US Joint Ministerial Committee on Defence.

Meanwhile, back in Ottawa, SCODE probed more deeply into Canadian defence policy. Hellyer now wanted to bring in Dr. Roger Hilsman from Johns Hopkins to perform analysis on the future of Canadian defence policy. This was rebuffed by the MP from Calgary South, Arthur Smith (a former pathfinder bomber pilot during the Second World War and winner of the Distinguished Flying Cross), who on learning that Hilsman was American, suggested that SCODE invite Khrushchev as well! The other

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61. Ibid.

62. FRUS 1958-1960 Vol. VII, pp. 801-807, memcon, "Meeting With Prime Minister Diefenbaker," 3 Jun 60.

Liberals on SCODE then insisted that Pearkes provide a clear statement of the Diefenbaker Government's defence policy, or that SCODE be allowed to call in witnesses "who would have sufficient knowledge to enable a defence policy be formulated."<sup>63</sup>

Pearkes started with the fundamentals ("Canadian defence policy derives directly from our foreign policy and is designed to ensure national security and the preservation of world peace", and "to deter war and maintain peace through military effectiveness")<sup>64</sup> and then discussed the nature of the expansion of Soviet influence in the vital peripheries around NATO.

Canada, therefore, had to provide forces to protect Europe, defend SAC and the industrial mobilization base in North America, and deploy on peacekeeping operations to prevent small conflicts from becoming large ones.

Pearkes described the re-equipping of 1 Air Division. He stated that "This aircraft could be armed with nuclear weapons",<sup>65</sup> which added to the confusion over the CF-104 role. Pearkes was asked about the Honest John. Did this involve "training in the use of the weapon with its nuclear capability?"<sup>66</sup> Pearkes confirmed that this was the case. Pearkes then turned to NORAD and the air defence system, noting only in passing that

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63. SCODE, 1 Jun 60, pp. 183-200.

64. Ibid.

65. Ibid.

66. Ibid.

BOMARC "B" would be introduced. There was no mention at this point of a nuclear capability for it.<sup>67</sup>

In the discussion period, Hellyer was able to exploit the public ambiguity regarding the CF-104 role. Did Canada perform retaliatory functions? Was the strike reconnaissance role "a part of the tactical air command or part of the force of retaliation?" Pearkes mistakenly stated that the reconnaissance role was primary and that strike was secondary. Targets would consist of "centres of concentration of forces and centres of enemy activity, and also to attack targets of opportunity....The war will have started before our strike reconnaissance aircraft are used."<sup>68</sup>

Hellyer then started asking inappropriate questions based on an unclassified briefing given to journalists by CinCSAC, General Thomas L. Powers. What was the relationship between the CF-104 force and SAC? What alert measures would be taken so that the CF-104's would not be destroyed on the ground by an enemy first strike? Who selected the targets: SAC or NATO? Hellyer was adamant:

The Minister is asking us to spend the taxpayer's money to buy planes to carry potential atomic bombs which in the case of all out war would have nowhere to go, except for ten or fifteen minutes over enemy territory with their bomb load....I think it is reasonable for the taxpayers of Canada to know what the arrangement would be.<sup>69</sup>

Pearkes revealed that there was SACEUR-SAC liaison and that there were Canadian representatives on that staff. Instead of taking Hellyer on

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67. SCODE, 10 Jun 60, pp. 259-274.

68. SCODE, 17 Jun 60, pp. 301-317.

69. Ibid.

and preaching the need for deterrence, Pearkes argued instead that CinCSAC did not express any concern to the Canadian Government and therefore no problem existed.<sup>70</sup>

In addition to contributing to the nuclear weapons debate in Canada, the SCODE proceedings also provided insight into the ongoing evolution of NATO strategy. Throughout 1960, SACEUR was engaged in exploring the relationship between a Soviet conventional onslaught and the point where NATO used nuclear weapons. MC 14/2 (revised), as we have seen, was ambiguous in its treatment of operations occurring prior to Phase I. The Berlin Crisis and the development of the tripartite LIVE OAK organization indicated that certain conventional responses were preferable to nuclear weapons use over the problem of Berlin access. In his testimony to the SCODE, Pearkes stated, when asked, that "It is possible that a small operation, carried out with non-nuclear weapons could be checked by another force with non-nuclear weapons. It depends entirely on the size of the aggression."<sup>71</sup>

Pearkes later got in hot water with Diefenbaker in Cabinet over this statement. Pearkes was referring to some of Norstad's and SHAPE staff's forward-oriented musings on the viability of a conventional pause concept in NATO's Central Region, which in turn was tied to the development of the LIVE OAK organization. The "pause" was not SHAPE policy at this point, nor had the Emergency Defence Plans in the Central Region been altered at

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70. Ibid.

71. SCODE, 15 Jun 60, pp. 277-298.

this point to reflect it.<sup>72</sup> Diefenbaker assumed that Norstad's public statements on operational matters constituted NATO strategic policy.<sup>73</sup>

Hellyer got Pearkes to agree that Canadian forces should be trained to use nuclear weapons, thus leaving the impression that Canadian forces were not trained to use them. He then used this as a springboard to determine the status of the Government-to-Government general agreement, which was that Canada had not yet concluded it. Continuing the attack, Hellyer pressed for the details of how nuclear weapons use was authorized. Did the American President authorize their use? SACEUR, Hellyer believed, was not predelegated to use nuclear weapons (though in fact SACEUR and CinCNORAD both were under certain conditions during the Eisenhower Administration).<sup>74</sup> Would defensive non-strategic nuclear weapons commanders have authority to use them? Pearkes asserted that:

My understanding is that the authority has to come from the President of the United States before nuclear weapons are used. These warheads belong to the United States and permission to use them has to be obtained from the United States. That permission having been granted to Canada to use these weapons, then the decision is made by Canada as to whether or not she will take advantage of that permission....<sup>75</sup>

Hellyer was clearly treading on dangerous ground. In his quest for information to embarrass the Government on acquiring expensive and, in

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72. Maloney, War Without Battles, pp. 111-179.

73. NAC RG 2, 9 Jul 60, Cabinet Conclusions.

74. DGHIST, Foulkes Papers, file 14-2-NATO 9, (n/d) "United States and NATO Strategy."

75. SCODE, 17 Jun 60, pp. 301-317.

his view, vulnerable, aircraft, he was accidentally pressing for evidence that NATO commanders had predelegated authority for nuclear weapons use. He wanted to know "just exactly what happens in each of the ten minutes from the time a warning is given and how you would operate and put into effective action your forces in that length of time."<sup>76</sup>

The Chairman: You would like that information on record here?

Mr. Hellyer: Yes.

The Chairman: I think the Russians would too.<sup>77</sup>

Instead of following up this attack on Hellyer for asking for classified information or alternately trying to explain that the CF-104 was for deterrent purposes in addition to fighting a war, Pearkes noted that, in an emergency, the President released the weapons to SACEUR. It took SCODE member Fairfield to interject that "Nobody would like better than the Russians to know how long it takes to get our deterrent forces into the air. I think it is a ridiculous question."<sup>78</sup> Pressed for his reasons for acquiring the information, Hellyer lamely stated that Canadian troops were "anxious to know," implying that the Government had an obligation to educate the entire Canadian armed forces in nuclear release procedures. Fairfield snidely but appropriately commented, "You would not be [with] them anyway" if there was a war.<sup>79</sup> In the midst of this, Winch suddenly made the astounding conclusion that "there would not be time for all

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76. Ibid.

77. Ibid.

78. Ibid.

79. Ibid.

governments to be consulted as to whether or not a nuclear warhead or weapon could be used. That would just be impracticable."<sup>80</sup> Again Pearkes was sucked in. Instead of providing a non-answer, he told the SCODE that the North Atlantic Council possessed the authority to use nuclear weapons after the weapons were released to SACEUR.

Hellyer noted that "We have never been told categorically yes or no whether it was the policy of the Canadian government to so arm them when they were installed....I think it is only fair to ask that the minister tell us whether it is the intention of the Department of National Defence to arm the Canadian forces [with nuclear weapons or not]."<sup>81</sup> The Chairman stepped in, as he was confused. How could Pearkes answer that if the negotiations were not yet complete?

The main problem was that, as we have seen in previous chapters, there were several types of negotiations, all of which were inextricably linked. There were the SAC and MB-1 storage and overflight negotiations; there were the two Canadian-American/NATO information sharing agreements (1954 and 1959); there was the general Government-to-Government agreement; and then there had to be several service-to-service agreements for each specific weapon system. All of these were secret agreements. No detail could be released despite the obviously politically embarrassing delays perpetuated by Green and others. What appeared to the media and to the Opposition (which was far too reliant at this stage on the media interpretation of things) as inconsistencies and stalling techniques were in fact mostly legitimate negotiation problems and technical details.

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80. Ibid.

81. Ibid.

The SCODE debate once again shifted to the need for a manned supersonic interceptor. Hellyer in essence deployed the same arguments he had in the past. Then he harped on an old argument from the NORAD debates about who commanded Canadian forces. There was a great deal of hair-splitting over command versus control, with the MP from Calgary South quipping that "Perhaps Mr. Hellyer should go to the staff college to determine the difference."<sup>82</sup> This was clearly a personal snipe at Hellyer, who had been an NCO in the RCAF. Hellyer also deployed his previous experience as Ralph Campney's Associate Minister of National Defence. Relying on information that was essentially classified, Hellyer berated the Minister for not following the original three-layer air defence plan that the RCAF and DRB had created in 1954-1955 (see Chapter 2). Pearkes waffled. Canada was not, in his view, obligated to contribute all elements to the air defence system if she chose.

The last SCODE meeting was held on 20 July 1960. What exactly did the SCODE experience contribute to the nuclear weapons debate? Almost all of the larger questions regarding Canada and nuclear weapons which the Opposition and the media would ask in the next two and half years were already well-established in 1960 through the efforts of Hellyer, Winch, and Pearkes. Many dangerous perceptions about strategy, release, and use were also generated by the SCODE discussions. In the end, the Opposition was able to continue and expand upon the doubts and fears generated during the NORAD debates three years previous. The fact was, there was a public Canadian Government policy on nuclear weapons. Was it a clearly defined

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82. Ibid.

and articulated one? No. Was it an appropriate one given the times? No. But there was a policy and the policy was: "Wait."

### The Nuclear Disarmament Dimension in 1960

The question of whether there was any hope of reducing or eliminating nuclear weapons tantalized certain policymakers and External Affairs departments throughout the course of the nuclear weapons debate in Canada. There was a great deal of confusion not only within the bureaucracy but in the public mind as to the relationship between Canada possessing defensive nuclear weapons in Canada, offensive nuclear weapons in Europe, and the activities of SAC when it came to the emotional desire to rid humanity of weapons of mass destruction. These issues frequently intruded at critical junctures and interweaved themselves with the policy making process.

The disarmament activities pursued by the St Laurent Government were coordinated with those of other NATO countries; that is, disarmament was not likely and the aim was to derive the maximum propaganda benefit by portraying aggressive Soviets behavior as the problem. Most disarmament efforts in the 1950s revolved around the Open Skies proposal and the push for an atmospheric nuclear weapons test ban treaty.<sup>83</sup>

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83. Louis Henkin, ed. Arms Control: Issues for the Public (Englewood Cliffs, NJ: Prentice-Hall, Inc., 1961) See pp. 42-45.

In September 1959, Canada joined nine other nations<sup>84</sup> to form the Ten Nation Committee on Disarmament which had as its objective to "promote general and complete disarmament under a system of international control."<sup>85</sup> The U-2 affair disrupted the committee's deliberations and the Soviets walked out.

Canada's primary representative to the Committee was General E.L.M. Burns, who, we will recall, commanded the UN observer force in the Middle East and then UNEF I from its inception till 1959. 'Tommy' Burns, probably the most intellectual and most published general Canada ever produced, suffered from having a personality like a "cold fish" and being far too "dour" in his outlook on life.<sup>86</sup> Having fought in the First and Second World Wars, eventually commanding a corps in Italy, Burns had experience in war that lent him credibility that most arms control and disarmament people could only dream of. Burns was out of the mainstream Army/DND policymaking (commanding UNTSO in the Middle East was not the Army's plum assignment: 4 Brigade in NATO was), was a high profile UN personality with the right connections (like Secretary General Dag Hammarskjold and his special assistant, Ralph Bunche). It is probably for these reason that Norman Robertson, in his capacity of Under Secretary of State for External Affairs, appointed Burns to act as Canada's ambassador for disarmament in 1959. In early 1960, Burns formulated several new

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84. Canada, France, Great Britain, Italy, the United States, Bulgaria, Czechoslovakia, Poland, Romania, and the USSR were the members. This was not a UN organization, though it did send material to the UN Secretary General.

85. Albert Legault and Michel Fortmann, A Diplomacy of Hope: Canada and Disarmament, 1945-1988 (Kingston: McGill-Queen's University Press, 1992) p. 170.

86. See Granatstein, The Generals, pp. 116-144.

principle which formed the basis of Canadian disarmament policy during the Diefenbaker years, which were in turn picked up by Howard Green in his crusade for nuclear disarmament.<sup>87</sup> In effect, then, Burns influenced Robertson, Robertson influenced Green, and, as we have seen, Green increasingly influenced Diefenbaker over time.

What exactly were Burns' views on nuclear weapons and disarmament? He believed that, first, while nuclear weapons were not inherently more or less moral than any other weapon, their use in a strategic sense was outright murder. Second, the arms race would inevitably get out of control and result in a nuclear war. Finally, nuclear war was so destructive that it went beyond morality. Burns was convinced that deterrence could fail and would fail unless some restraints were placed on the entire process. In effect, like his American counterparts Generals Maxwell D. Taylor and James M. Gavin, Burns believed that the declared American policy of so-called Massive Retaliation was bankrupt.<sup>88</sup>

The details of the DND-External Affairs relationship with regard to disarmament are beyond the scope of work and are covered in other works. Suffice it to say, the COSC and JPC frequently provided Burns and External Affairs with the military view on specific aspects of disarmament. The COSC particularly took a dim view of the disarmament effort, referring to it as "very loose thinking."<sup>89</sup> Foulkes thought that disarmament activities

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87. See Granatstein, A Man of Influence p. 333; Legault and Fortmann, A Diplomacy of Hope pp. 178-180.

88. For more on Burns views, see his work Megamurder (Toronto: Clarke, Irwin and Co. Inc., 1966) particularly pp. 2-3, 150-151, 241.

89. DGHIST, Raymont Collection, file 1309B, 6 May 60, COSC 661st Meeting.

were "dangerous on strategic grounds and impractical on technical grounds."<sup>90</sup>

Despite the Soviet walk-out, Burns prepared a plan which encouraged the creation of a nuclear free zone in the NATO and Warsaw Pact areas.<sup>91</sup> "minimal deterrence", that is, SAC and its Soviet counterpart, would remain outside the zone, with no IRBM's in Europe. While this plan was under debate in Geneva, Burns informed Robertson that if Canadian efforts were to succeed, Canadian defence policy and Canadian disarmament policy must be compatible. That is, Canada should not accept nuclear weapons to set an example.<sup>92</sup> There is a strong possibility that this, in addition to Robertson's existing views on nuclear weapons, was the second step in delaying the Government-to-Government agreement and other storage negotiations with the United States in 1960, the first step being Green's policy of "holding down" the Americans. (Other steps in the delay campaign would come later and will be discussed in Chapter 10.)

Another important event was the tabling of the Irish Resolution in the UN General Assembly in June 1960. The terms of this resolution included: existing nuclear powers were to declare a moratorium on nuclear weapons proliferation, and non-nuclear weapons states should be required to declare that they would not acquire nuclear weapons.<sup>93</sup> There was no distinction

90. Legault and Fortmann, A Diplomacy of Hope p. 184.

91. This was in fact based on the 1958 Rapacki Plan, a Polish attempt (read: Soviet attempt) to reduce NATO's nuclear advantage while the Soviets still held the conventional advantage.

92. Legault and Fortmann, A Diplomacy of Hope p. 162.

93. Ibid., p. 187.

between defensive tactical nuclear weapons and strategic offensive nuclear weapons, which, as one could surmise, would cause some confusion. As Legault and Fortmann note in their study Diplomacy of Hope: "Canada, as a member of NATO and NORAD, faced the prospect of being accused of duplicity or hypocrisy by voting [for] the Irish Resolution while simultaneously equipping her forces with nuclear weapons."<sup>94</sup>

The debate over the Irish Resolution, both in Canada and in the UN, would continue throughout 1960. Robertson wrote to Diefenbaker urging him to get Cabinet to vote "yes" for the Resolution, but Cabinet said no and wanted to abstain. DND, instead of rejecting the Irish Resolution outright, recommended that the wording "acquire" be altered to "acquire control of" nuclear weapons. Green ordered that the Canadian delegation to the UN not be informed of Cabinet's decision to abstain. Denmark, Norway, and Iceland, the only other NATO governments which had expressed any interest in signing the resolution, had been ordered by their Governments to follow Canada's lead. The Canadian delegation voted yes, that is, that Canada would not acquire control of nuclear weapons. The Irish Resolution passed in the UN General Assembly in December 1960.<sup>95</sup>

Clearly, this scheme posed several new and severe contradictions for the Diefenbaker Government. Control over the nuclear weapons stationed in Canada for Canadian forces was necessary from a sovereignty standpoint, and had been and currently was the cornerstone of the Government's position in its discussions with the Americans. The Opposition was seriously hounding the Government on the control issue in the SCODE and

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94. Ibid.

95. Ibid., pp. 187-188.

in the House of Commons. Was their something motivating Green beyond sheer abstract horror of nuclear weapons use? Arthur H. Dean, an American representative in nuclear disarmament talks at this time, noted cryptically that "Too many statesmen, with an eye on the Nobel Peace Prize, come forward with proposals that hit the front page but are both unrealistic and dangerous."<sup>96</sup> A later analysis of Canada's UN activity suggested that Gree "is very nearly obsessed with the need to demonstrate 'Canadian initiatives' in the UN arena."<sup>97</sup>

We must therefore consider the possibility that Green was motivated by a craving to bring home a Nobel Peace Prize for the Conservative Party and the Diefenbaker Government to match the awarding of the same prize to Mike Pearson for his part in resolving the 1956 Suez Crisis.

#### The Montebello Meeting, June-July 1960: More VooDoo

Just prior to the Montebello meeting, Howard Green produced for Cabinet a summary of the status of the nuclear weapons negotiations which he had previously claimed in the House were not happening. In effect, there were five issues: MB-1 storage at Harmon and Goose Bay; ASW storage at Argentia; SAC storage at Goose Bay; "the possible acquisition of nuclear warheads for Canadian use in Canada, especially for BOMARC;

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96. Arthur H. Dean, Test Ban and Disarmament: The Path of Negotiation (New York: Harper and Row, Publishers, 1966) p. 23.

97. USNARA RG 59 E3077 box 1 250/62/30/3 file: Ottawa 1962 1A, letter Smith to Carlson, 21 Feb 62.

and "the possible acquisition of nuclear weapons for Canadian use in Europe."<sup>98</sup>

So far, Cabinet had agreed to MB-1 storage, but the Americans had yet to reply to Canadian insistence that control and use would be joint. This was ridiculous, since the weapons would be under NORAD control when released from the site, which in effect constituted joint control and use. The real sticking point was that the original lease agreement with the Americans (circa 1942) was that the RCAF commander have access to all parts of the base which in External Affairs' view included any nuclear storage site. Clearly, this was a delay tactic instigated perhaps by Green and/or Robertson.

As for ASW storage, Green insisted that removal of any stored weapons to American ships from the Argentia should be subject to Canadian assent. No progress had been made in this area, and no progress had been made on SAC storage, for indeterminate reasons.<sup>99</sup>

BOMARC, Honest John, and CF-104 agreements were, in Green's view, stalled because of his perceived conflict between American law and "Canadian Ministers' wishes regarding control over release from storage and for use."<sup>100</sup> This was nonsense. The only Minister who had a problem with this was Green. By presenting this to Cabinet as policy, Green kept the other members confused and neatly placed the blame for the delays on the Government-to-Government agreement on the Americans. Why Pearkes

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98. NAC MG 32 B9 vol. 24, file 202-250/60, 24 Jun 60, memo to Cabinet, "Nuclear Weapons Policy."

99. Ibid.

100. Ibid.

did not call him out for this distortion of the situation must remain a mystery.

The second meeting of the Canada-US Ministerial Meeting on Joint Defence met in the Seigniory Club at Montebello, Quebec on 12-13 July 1960. Though the Montebello meeting focused on defence issues, the American and Canadian delegations conducted a 'tour d' horizon' which included the prickly problem of Cuba and the best American response to Castro's inflammatory anti-American rhetoric and Soviet arms flow to his island. In essence, Norman Robertson and Howard Green did not approve of American economic sanctions. This issue would pose problems in the Canadian-American relationship later in 1962.<sup>101</sup>

There was some inconclusive discussion regarding BOMARC, with Green asking again if the manned bomber would continue to be a threat. Secretary of Defense Gates revealed the existence of the Hound Dog cruise missile and the planned Skybolt stand-off missile, both which would be carried by bombers, which in turn increased their effectiveness. "Did Canada still want to acquire manned interceptors from the United States?" asked Gates, who told the Canadian delegation that the price could be argued about later. Green, who should have known better given his knowledge of the CF-105 decision, told Gates that it was a political problem now, and indicated that he and the Canadian people did not and do not understand why two years previously they had been told that manned bombers were no longer a threat. Now the Canadian people had to be told that bombers were still a threat and that manned interceptors were necessary. Pearkes intervened: "We did not cancel the CF-105 because there

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101. DGHIST, Hendrick Papers, "Canada-United States Ministerial Committee on Joint Defence, 12 and 13 July 1960."

was no bomber threat but because there was a lesser bomber threat and we got the BOMARC in lieu of more airplanes to look after this,"<sup>102</sup> a statement which contradicts the CF-105 process in 1958 but was congruent with his answers to the SCODE.

Livingston Merchant wanted to sort out the MB-1 storage agreement. Green said that he "would check on these matters."<sup>103</sup> Gates then pressed on nuclear ASW storage at Argentia, SAC storage at Goose Bay, and storage for weapons in Europe. The reason why there had no movement on the Argentia agreement, according to Green, was that there was the problem of control. There was no agreement similar to the MB-1 overflight agreement for the forces storing and using the planned Argentia storage site. Some form of agreement had to be worked out first. Green also noted that "He had no control over the use of the weapon once it has been put on the ship and therefore the problem is control of release to the ship or of loading."<sup>104</sup>

Green was curious about what arrangements the Americans had with the Germans regarding custody and control. Perhaps these could serve as a model for a Canadian-American agreement. Green was told that the Germans controlled the use of the weapon and the Americans controlled the release of the weapon to the Germans. The NATO alert procedures were also part of this. The German government had to agree to the assignment of particular forces to SACEUR in an emergency (since SACEUR did not "own" forces in peacetime) and that the declaration of an alert, which could

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102. Ibid.

103. Ibid.

104. Ibid.

trigger release of weapons from SACEUR's control to German forces control, was affected at the NAC level. It was possible that if weapons were located in a third country, that country might in fact exercise a veto over their use from that territory. The discussants were clearly referring to France.<sup>105</sup>

The American delegation instructed Green on the steps necessary to get access, that is, the stockpile, government, and service agreement process. Green, of course, already knew this and was stalling. Pearkes urged Green to get on with it, but Green replied that "He was in no hurry whatsoever." Gates pressed on. Was MB-1 storage at Goose Bay and Harmon acceptable? Green said yes, but SAC storage, Argentia, and Canadian forces in Europe would be subject to further discussion. Gates urged Green to visit a base in Europe to see how it was done. As an aside, Gates informed Green that the Bowie team was still working on its long-range NATO plan. Did Green want the team to send a draft of the exercise to Canada for constructive comment prior to its tabling in Paris? Green was not particularly interested in this and shifted to law of the sea issues. In doing so, Green spurned an invitation for Canada to participate in a project which had the potential to influence the future of NATO strategy.<sup>106</sup>

In the end, Montebello accomplished little. The Americans were bending over backwards to accommodate the Diefenbaker Government, and again Canada was vacillating. The Americans were confused, particularly when Green digressed at length about a minor legal case in the middle of a

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105. Ibid.

106. Ibid.

discussion on world security policy. Ambassador Heeney thought that Green's behavior at Montebello was "unconscionable."<sup>107</sup>

Diefenbaker was summarily informed about the Montebello deliberations. Soon thereafter, another American press story caused him agitation. Diefenbaker read that BOMARC's could be released and fired only on the orders of the American President, an assertion that ran against assurances that Diefenbaker had received as well as what Green had been told at Montebello regarding the German arrangements. The Prime Minister's willingness to accept press assertions over what his ministers had told him provoked a long diatribe in Cabinet:

Canada would decide if the warheads would be used and, that the reason for the length in the negotiations on the acquisition of warheads for Canada's forces was to ensure that the Government did not intend to have control over their use in the hands of the U.S. If Canada were to agree now to the proposed arrangements for interceptor aircraft at Goose Bay and Harmon Field in respect to the MB-1 defensive weapons, it might be that the government would lose some bargaining power over warheads for Canadian forces.<sup>108</sup>

This statement clearly demonstrates that Diefenbaker was moving into a world of confusion on this issue. Only six months before, Pearkes had briefed the Prime Minister on Canadian control and custody policy. The Americans had not seriously challenged this policy and in fact were ready to acquiesce to it to get on with the negotiations. Green had injected a red herring with the Argentia release issue, but again, as Pearkes had already stated, there was a Canadian policy in which the Americans were ready to

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107. USNARA, RG 59, E3077 250/62/30/3 box 1, file: Basic Policy: CDN 1.15, memcon Heeney and Armstrong, 29 Aug 60.

108. NAC RG 2, 14 Jul 60, Cabinet Conclusions.

acquiesce. Either Diefenbaker forgot or someone had planted some doubt in his mind on the issue and he was stalling.

This confusion even affected F-101B acquisition. In a series of flip-flops, Cabinet met six times and even went so far as to make a decision to acquire the VooDoo's on 9 August. Three days later, Cabinet rescinded the decision. The main arguments against acquisition were political (that is, related to politically embarrassing questions over the Arrow cancellation); media oriented (the Americans revealed at Montebello that they had only five ICBM's operational in 1960, while The Washington Post claimed that there were more); financial (there was no agreement on trading CL-44's for F-101B's); and even irrational (Pearson came out in favour of interceptor acquisition, therefore the Conservative Party had to come out against them.)<sup>109</sup>

The Opposition did not remain idle. In August 1960, Pearson and Hellyer went on the offensive in the House of Commons. In what amounted to a virtual Liberal policy statement on nuclear weapons, Pearson stated that American release over nuclear weapons was an infringement on Canadian sovereignty and that negotiations to acquire nuclear weapons for Canada jeopardized disarmament negotiations. The CF-104 role was not good for Canada, as the bases were vulnerable to missile attack, it was an offensive role, and the French probably would not allow the RCAF to operate from its bases in France. Air defence of North America was "hopeless."

Interceptors were required for a sovereignty identification role only.

Nuclear ASW weapons were not effective. What NATO really needed were

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<sup>109</sup>. NAC RG 2, 15 Jul 60, 9 Aug 60, 12 Aug 60, 17 Aug 60, 21 Sep 60, Cabinet Conclusions. The Congo operation was a peripheral operation outside the NATO area but conducted in support of a NATO ally (Belgium) to prevent the Soviets and Chinese from exploiting the power vacuum left by the withdrawing Belgians.

more conventional forces in Europe. This would be the approved Liberal Part defence platform by January 1961.<sup>110</sup>

Secretary of State Christian Herter requested a meeting with Howard Green in September 1960. Accompanied by A.D.P. Heeney, Green was ominously informed by Herter that he "had been receiving disquieting reports...[of] antipathy and antagonism towards the U.S....it would be a sad case if Canada and the U.S. were unable to get along together."<sup>111</sup> What were the root causes of the problem? How could Herter and Green solve them? Green explained that it was not as bad as Herter thought, that this criticism had always been part of the relationship. The trouble was mostly economic in nature, Green asserted, and related to the high level of American investment in Canada.<sup>112</sup>

The American record of that meeting stated that:

Canadians were not nearly so worried about the Russians as were the Americans...[I]n Canada there was no support at all for increased military expenditure...Mr. Green said that there was among Canadians a widespread feeling that nuclear war must be avoided. The U.S. Defense Department were thought by some to be courting such disaster by provocative words and actions. The U-2 incident profoundly shocked Canadians. ("Because it was spying," asked Herter, "or because we admitted it?"). [Green] said that ...the Government were opposed the spread of nuclear military capabilities. His own personal view was that Canadian forces...should not be armed with [them]. He thought this was a position which would be widely shared in Canada.<sup>113</sup>

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110. McLin, Canada's Changing Defense Policy, pp. 153-154.

111. NAC MG 30 E144, file: United States Ambassador to Washington memoranda and correspondence, 23 Sep 60, memcon Herter, Heeney, and Green.

112. Ibid.

113. Ibid.

This exchange provides more insight into Green's (and to some respect even Norman Robertson's) thinking than it does on actual Canadian nuclear weapons policy or what the Canadian people actually thought.

### Developments in NATO Strategy: 1960

Howard Green's squandering of an opportunity to comment on American views for future NATO strategy should not be underestimated. 1960 was a turbulent year in NATO. This turbulence was caused fundamentally by the old but continuing problems over who controlled the nuclear deterrent and what the appropriate balance between conventional and nuclear forces should be. Eisenhower was extremely concerned as he did not like the United States being in a position to dominate NATO strategy and planning. He did not like allies believing they were "secondary in their role."<sup>114</sup>

In essence, the study "The North Atlantic Nations Tasks for the 1960's" better known as the Bowie Report after its author, confronted these problems. In essence, Robert R. Bowie from Harvard University believed that the increased Soviet nuclear capability in Europe posed problems for the deterrent; that the Soviets were making significant gains outside the NATO

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114. FRUS 1958-1960 Vol. VII, pp. 609-611, memcon, Eisenhower and Norstad, 3 Aug 60.

area; and that there was dissension within NATO on how to handle these two problems.<sup>115</sup>

NATO strategy in the 1960's had to:

- (a) enhance the non-nuclear capability of Shield forces to resist attack by Soviet ready forces and substantially lessen their dependence on nuclear weapons.
- (b) enable NATO to mount nuclear retaliation against larger threats without a US veto.<sup>116</sup>

To counter Soviet moves outside the defined NATO area, Bowie recommended that NATO nations increase trade, financial and technical aid to the Third World. Notably:

The Atlantic nations should seek to enhance UN capabilities for maintaining peace and order in less developed countries. They should be prepared to earmark contingents or transport facilities for use by future United Nations forces....<sup>117</sup>

Which was the course Canada had embarked on as early as 1956 and had even discussed internally since 1955 (see Chapter 2).

Bowie briefed the President on his analysis in August 1960. The Bowie Report did not go into detail in a number of critical areas. One of these was the relationship between conventional operations and nuclear operations. When queried by Eisenhower, Bowie "did not think there could be a stage of conflict between the non-nuclear and all-out strategic attack- in other

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115. See Robert R. Bowie, Nuclear History Program Occasional Paper 7: The North Atlantic Nations Tasks for the 1960's (College Park, Md: University of Maryland Center for International Security Studies, 1991).

116. Ibid., p. xv.

117. Ibid., p. xix.

words, there can be no war limited to tactical nuclear war in Europe."<sup>118</sup> Eisenhower heartily agreed. In another vein, the main problem, Eisenhower mused, was the nuclear component. The problems were "not with the Europeans but [with] Congress, which strives to keep in its own hands the details of military foreign policy....the Joint Committee on Atomic Energy is unconstitutional in its functions."<sup>119</sup> In other words, the system of bi-lateral nuclear agreements imposed by Congress did more to cause dissension within NATO than any other factor.

Further discussions among Eisenhower, Norstad, and Bowie revealed that there was much concurrence on these issues.<sup>120</sup> The problem was arriving at a consensus in the JCS before moving the matter over to NATO. The JCS was asked to discuss the feasibility of either "an increased deterrence to aggression regardless of its nature or scale, or a flexibility of response, in the event that deterrence fails."<sup>121</sup> This consensus was never achieved during the Eisenhower Administration.<sup>122</sup>

Nevertheless, SACEUR directed the formal creation of the ACE Mobile Force (Land) and ACE Mobile Force (Air) in 1960. These multi-national formations would be equipped with nuclear and conventional units and be capable of rapid deployment to threatened NATO areas in the event of

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118. FRUS 1958-1960 Vol. VII, pp. 611-614, memcon Eisenhower, Bowie, and Goodpaster, 16 Aug 60.

119. Ibid.

120. FRUS 1958-1960 Vol. VII, pp. 628-632, memcon Eisenhower, Bowie, Norstad, Goodpaster, 12 Sep 60.

121. USNARA RG 218 JCS 1960 NATO file 9050/3000, memo to SECDEF from Secretary JCS, "NATO Long Range Planning," 28 Oct 60.

122. Ibid.

international tension and prepared to resist all forms of intimidation.<sup>123</sup> Thus, AMF(L), AMF(A), and the LIVE OAK organization formed the backbone of a NATO flexible response capability in the face of attempts to retain a purely nuclear response to aggression. Canadian planners were well aware of these developments, even though their political leadership did not fully understand. The Chairman of the COSC, Air Marshal Frank Miller, even received an advanced draft of the Bowie Report which was passed around the almost defunct Panel in October 1960.<sup>124</sup> Norstad continued his push for a NATO nuclear force and increased conventional forces which formed the backdrop of Canadian deliberations over force structuring and the nuclear issue.

#### Force Structure and Continuing Negotiations: August-December 1960

Toward the end of August 1960, the PJBD met at Camp Gagetown, New Brunswick for its first substantial discussion of continental defence issues in three years. The Americans pleaded with the Canadians to find a solution to the MB-1 storage problem. Dana Wilgress, the Canadian chairman for this meeting, had to insist that "The questions of storage of nuclear weapons in Canada for United States forces and of acquisition of nuclear weapons by Canadian forces had given rise to serious political

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123. DDEL, Norstad Papers, information released under mandatory review, memo Stoessel to SECSTATE, 28 Jul 61; DGHIST file 112.1.003 (D13), 15 Nov 60, memo to COSC, "Briefing on ACE Mobile Forces."

124. DGHIST file 25/8 vol. 1, 21 Oct 60, POEADQ, 69th Meeting.

problems for the Canadian Government."<sup>125</sup> Wilgress would do his best to stimulate some activity in Ottawa.

Of the Canadian armed services, the RCAF was becoming the most concerned about the lack of service-to-service agreements. The RCAF leadership knew that it would take a great deal of time for training its people in the specifics of nuclear weapons use and for making the technical modifications to the delivery systems themselves. Out of the blue, on 26 August 1960, Air Chief Marshal Campbell told his staff that the Minister of National Defence had informed the COSC "that all planning is to proceed on the assumption that Canadian Forces will be provided with necessary nuclear weapons at the appropriate time."<sup>126</sup> There are no indications that the matter even went to COSC for discussion, as there was no meeting between 11 August and 1 September. NATO was pressing for a decision on Honest John and CF-104 storage facilities and so were the Americans for North America.<sup>127</sup> It is possible that Pearkes caved in and issued the instruction.

As a consequence to this instruction, Pearkes authorized Miller to start negotiations with the Germans to construct two Type "C" Special Ammunition Storage Sites at the existing Canadian bases in Germany: Zweibruecken, and Baden-Soellingen. The RCAF bases in France would not initiate similar activity "due to the negative French attitude to the presence

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125. USASK, Diefenbaker Papers, vol. 45, 25 Aug 60, "PJBD Journal of Discussions and Decision."

126. ATI, 26 Aug 60, memo CAS to VCAS, "Acquisition of Nuclear Weapons."

127. NAC, MG 32 (B19), 7 Jul 60, "History of Events Leading Up To The Present Status for a Draft Agreement on Acquisition and Storage of Nuclear Weapons for Canadian Forces."

of other than French nuclear weapons on French territory."<sup>128</sup> A Type "A" site for the Army's Honest John warheads was also authorized.

What was the status of Canada's nuclear delivery systems at this time?

The RCN's nuclear ASW platforms were in the best shape. The CS2F Tracker contractor, DeHaviland Aircraft, had asked the USN through the appropriate channels for drawings of nuclear ASW weapons so that it could construct dummies for fitting purposes. This had been approved. By May 1960, the RCN and RCAF had asked the USN for training pamphlets dealing with bombing and arming systems for the Mk. 101 Lulu. They even went so far as to ask for a Mk. 102 practice 'shape' to train on.<sup>129</sup> DeHaviland determined that a special hoisting lug was required and drawings for this were also acquired. By September 1960, a report noted that "the trial installation of the subject store has now been completed,"<sup>130</sup> that is, a CS2F had been successfully modified to carry but not deliver a Mk. 101 Lulu. The RCN then went back and asked the USN for ground support equipment which included bomb trolleys and hoists. Work on the project stopped in October, pending government approval. The RCN determined that, though it wanted all CS2F and future ASW helicopters modified to carry the Mk. 101, there would be no further action until "the policy

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128. DGHIST, Raymont Collection, file 302, 1 Dec 60, memo to The Minister, "Special Ammunition Storage Sites in Europe."

129. NAC RG 24, acc 83-84/167 vol. 2063, file 5301-66, 19 Nov 59, memo DGNO, "Mk. 101 Depth Bomb Installation CS2F A/C;" 4 Apr 60, memo CJSW to CAS, "Armament-Bombs and Bombing Systems;" (3 May 60) memo Naval Secretary to DeHaviland, "CS2F Aircraft-Mk 101 Depth Bomb Installation."

130. NAC RG 24, acc 83-84/167 vol. 2063, file 5301-66, 26 Sep 60, memo RCN DAE to DGNO, "Mk 101 Depth Bomb-Dummy Store."

regarding these weapons has been clarified."<sup>131</sup> Nothing appears to have been done to the Argus and Neptune LRMPA's at this point.

BOMARC was having serious developmental problems in the United States. As noted earlier, the BOMARC programme encountered a hostile environment in Congress, but Presidential intervention had opened more funds for the missile's development. Unfortunately, in June 1960 a BOMARC "A" missile with the nuclear warhead attached melted down in a fire at McGuire AFB in New Jersey, which posed political problems for the programme. Internal USAF reports also noted that :"The ability of the IM99 [Interceptor Missile 99, the technical designation for the BOMARC] to operate as planned in an Electronic Countermeasures environment has not yet been established", nor had "the ability of the missile to operate in all types of weather" been demonstrated.<sup>132</sup> On the plus side, the "B" model, which Canada was acquiring, hit targets five out of 13 times. One "B" actually hit a supersonic Regulus missile at 35 000 feet at a range of 148 miles. It would take until 1963, however, to fully test the BOMARC "B".<sup>133</sup>

In Canada, the RCAF established 446 SAM and 447 SAM Squadrons located at North Bay, Ontario and LaMacaza, Quebec, respectively, as formal units and started training personnel for them. By the end of October

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131. NAC RG 24, acc 83-84/167 vol. 2063, file 5301-66, 21 Oct 60, memo to A/CNTS (AIR), "CS2F Aircraft-Mk. 101 Depth Bomb."

132. McMullen, "ADC Historical Study No. 30: Interceptor Missiles in Air Defense," pp. 98.

133. Ibid.

1960, the North Bay site was 65% complete, and LaMacaza was 10% complete.<sup>134</sup>

As for the CF-104, Canadair had yet to test fly its first aircraft. Still, the RCAF was actively engaged in requesting ballistic training shapes resembling the Mk. 28 and Mk. 43 nuclear weapons for training purposes and for future flight testing. One device, called the BDU8B, was an expendable lead shot-and concrete-filled representation of a nuclear weapon. The RCAF also contracted with General Electric Corporation to use its IBM 650 computer to compute bomb delivery profiles.<sup>135</sup> Additionally, the Air Council instructed the commander of 1 Air Division to "make arrangements...to draw on USAF(E) depot stocks for nuclear, conventional, and Sidewinder missiles as required."<sup>136</sup>

As for the Honest John units, 1 SSM Battery was formed on 15 September 1960 at Picton, Ontario, with 2 SSM (Training) Battery forming at Camp Shilo, Manitoba shortly thereafter. Their equipment, less nuclear warheads, arrived in early 1961, and the crews feverishly began their intensive training activities without access to nuclear weapons data.<sup>137</sup>

This left the ongoing VooDoo saga. On 21 September, Cabinet finally agreed to present a 'swap' proposal to the United States. The Americans

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134. NAC MG 32 B19 vol. 17 file 26-117 vol. 2, 4 Nov 60, memo from Dwyer to Roberts, "BOMARC-Construction Status and Cost Summary as of 3 November 1960"; DGHIST file 79/429 vol. 10, VCAS Divisional Items of Interest, 11 Mar 60.

135. DGHIST file 79/429 vol. 10, VCAS Divisional Items of Interest, 17 Jun 60, 25 Nov 60; NAC RG 24, acc 83-84/167 vol. 2063, file 5301-66, 4 May 60, memo CJSW to CAS, "Armament- Bombs and Bombing Systems mk 104 Mod 0 and mk 106 Mod 0 Practice Bombs."

136. DGHIST, file 76/264, 13 Jul 60, Air Council Minutes.

137. Maloney, War Without Battles, p. 141.

would purchase the CL-44 transport aircraft and give Canada the VooDoo's. Canada would in turn pay for the operating costs for five PINETREE radars that were manned by the RCAF but paid for by the Americans. Canada would pay for one third of the cost of the F-101B spares.<sup>138</sup>

At the end of September, Eisenhower and Diefenbaker met at the UN in New York for the deliberations of the General Assembly. Diefenbaker told Eisenhower that "Communist propaganda had caused an upsurge of concern over US domination of Canada and this had been growing dangerously in the last three months."<sup>139</sup> Consequently, Canada would take over part of the PINETREE Line in exchange for F-101B's. Eisenhower was perplexed. He had "not previously heard of this new alternative", but he thought it was acceptable. Diefenbaker noted that there had been adverse reaction to selling CL-44's to the United States (which was not the case) and that this alternative, which would cost Canada more, would result in a producing a more effective defence more quickly.<sup>140</sup> According to Finance Minister Donald Fleming, Eisenhower delayed immediate action on the agreement, thinking that it could be handled after the 1960 election, which delayed the acquisition even further.<sup>141</sup>

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138. NAC RG 2, 21 Sep 60, Cabinet Conclusions; DGHIST, The Raymont Collection, file 629, (n/d) "The Development of the Introduction of the BOMARC Ground to Air Guided Missile and the MB-1 Air to Air Guided Missile on Canadian-Manned Interceptors for the RCAF For the Defence of Canada."

139. FRUS 1958-1960 Vol. VII, pp. 812-813, Secretary's Delegation to the Fifteenth Session of The United Nations General Assembly," 27 Sep 60.

140. Ibid.

141. Donald M. Fleming, So Very Near: The Political Memoirs of The Honourable Donald M. Fleming Volume 2 The Summit Years (Toronto: Maclelland and Stewart Ltd., 1985) p. 215.

On 12 October 1960, Douglas Harkness replaced George Pearkes as Minister of National Defence. Harkness was determined to solve the nuclear negotiation situation as rapidly as possible. The most level-headed man ever to hold the Defence portfolio, Harkness had a great deal of personal integrity. He was an Artillery officer and Second World War veteran, having commanded an M-10 self-propelled anti-tank unit in the Mediterranean and Northwest Europe. Harkness won the George Cross for bravery when his transport ship was sunk in July 1943.<sup>142</sup> Also a Westerner (Calgary, Alberta), Harkness had known Pearkes since the 1930s, when Pearkes had been a staff officer with Military District 13 (Alberta).<sup>143</sup> Fellow Cabinet member Donald Fleming thought that Harkness "was tough, abrasive and courageous."<sup>144</sup> He was certainly nobody's puppet and nobody's fool.

Harkness could be acerbic with soft-headed and ill-informed constituents, and frequently he expressed his views on strategic policy to them. For example, when a constituent who opposed nuclear weapons acquisition wrote Harkness and threatened not to vote for him, Harkness wrote back telling him that: "While I appreciate your well-warranted concern on this subject, I should like to emphasize that I have never been

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142. Nicholson, The Gunners of Canada, Volume 2, p. 138.

143. UVIC, Pearkes Papers, "Interview with The Honourable Douglas Harkness, June 22, 1966."

144. Donald M. Fleming, So Very Near, Volume 2, p. 238.

deterred from following the course I consider right by fear of losing votes."<sup>145</sup> In another case, he wrote

I appreciate your sense of the ironic but I am sure you will agree that in the face of a possible nuclear attack on this country any suggestion that the Government of Canada is interested in promoting war to further our economic progress is tantamount to a serious accusation and is not warranted in fact....I trust that despite your observations you will be able to maintain your standard of living and retain your freedom of expression without having to suffer the consequences of nuclear destruction.<sup>146</sup>

In another instance a constituent submitted a rather condescending letter stating that Harkness was ill-informed and that he wanted to remedy the situation: "I doubt whether there would be much point in my subscribing to Maclean's Magazine for you."<sup>147</sup> He also enclosed a draft resignation form. Harkness replied:

I gather from your writings that it is your belief that since the Russians have superior weapons to the United States, we and presumably the other nations of the West should quietly disarm and submit to international communism. If that is the case, I have no hesitation in saying that I am in complete disagreement with your views....I as the Minister of Defence have the duty to take whatever steps are necessary to ensure that we have sufficient and adequately armed military forces which, together with those of our allies, constitute a credible deterrent to aggression...I might say in closing that for your information I do read, on occasion, Maclean's Magazine.<sup>148</sup>

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145. NAC MG 32 B19 vol. 28 file 42-66 vol. 9, 20 Sep 61, letter Harkness to Dr. B.P. Gregory.

146. NAC MG 32 B19 vol. 28 file 42-66 vol. 9, 20 Sep 61, letter Harkness to H.J. Giesbrecht.

147. NAC MG 32 B19 vol. 28 file 42-66 vol. 9, 15 Sep 61, letter John Stanton to Harkness.

148. NAC MG 32 B19 vol. 28 file 42-66 vol. 9, 21 Sep 61, letter Harkness to John Stanton.

Another individual who did not like the fact that the Government had plans to survive nuclear attack wrote Harkness: "I am pleased to learn that you and your colleagues expect to escape nuclear bombing. Perhaps one could arrange for my family to enjoy similar privileges, especially since we are footing the bill?"<sup>149</sup> Harkness sent him an Emergency Measures Organization pamphlet on how to construct a backyard family fallout shelter.<sup>150</sup>

Harkness and Green despised each other. Harkness once gave a speech to a naval reserve unit mess dinner in which he criticized the anti-nuclear movement and those government officials who supported it. In a blistering letter, a citizen wrote:

I am writing to take exception to the remarks you are reported to have made...when you are said to have urged these men to be active in combating neutralist and disarmament sentiments whenever they hear them expressed....I am sure you did not mean to imply by this remark that such men as Howard Green, Lester Pearson...and many others who have expressed their opposition to nuclear weapons for Canada are motivated by subversive thoughts, but this is the impression you gave.<sup>151</sup>

This was reported in the press and caused some minor consternation in Parliament. Harkness replied:

I feel that as long as a threat of aggression exists we must maintain our defence and contribute to the common endeavour to prevent the outbreak of war....In my opinion, the adoption of a policy of

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149. NAC MG 32 B19 vol. 27 file 42-66 vol. 7, 6 May 61, letter Dr. N. Freudman to Harkness.

150. NAC MG 32 B19 vol. 27 file 42-66 vol. 7, 9 May 61, letter Harkness to Freudman.

151. NAC MG 32 B19 vol. 28 file 42-66 vol. 4, 1 Feb 61, letter Mrs. R.G. Riddell to Harkness.

neutralism or of unilateral disarmament by Canada would not in any way promote the possibility of enduring peace but, rather detract from the overall effectiveness of the West to prevent war.<sup>152</sup>

Harkness was not a man to be trifled with, particularly when it came to defence issues.

What was the status of the nuclear agreements when Harkness came on board? Pearkes had asked Green on 21 September to formally exchange notes with the Americans on the MB-1 storage issue. Green had still not sent the exchange of notes to Cabinet for further discussion. As for Nuclear ASW and SAC storage and the Government-to-Government agreement for Canadian acquisition, Green argued that the MB-1 storage agreement must be signed first before any consideration would be given to the other matters. The COSC had prepared suitable draft agreements, but these had not been passed on to Cabinet pending Green's exchange of notes with the Americans.<sup>153</sup>

Harkness asked for and was given a detailed brief of the Canadian services' position on nuclear weapons requirements. Canada's Europe-based forces needed weapons ranging from fractional kiloton yield to multi-hundred kiloton yield weapons. The CF-104's, he was told, would use tactical nuclear weapons in a strike role, as "the CF-104 aircraft armed with conventional high explosive bombs would be an impotent weapon in a

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152. NAC MG 32 B19 vol. 28 file 42-66 vol. 4, 8 Feb 61, letter Harkness to Jenny Goldman.

153. DGHIST, Raymont Collection, file 997, 14 Oct 60, "Brief for the Chairman, Chiefs of Staff on The Status of Nuclear Agreements Pending."

theatre committed to a nuclear strategy."<sup>154</sup> Air defence weapons would include BOMARC "B" and MB-1 Genies, which needed nuclear warheads to increase the probability if kill and to 'kill' the bomb inside the bomber with radiation. Harkness was told, accurately, that no conventional warhead was planned for the BOMARC "B". As for nuclear ASW weapons, Canada wanted nuclear depth bombs for Tracker maritime patrol aircraft and the future ASW helicopter, as well as an ASW missile for future ships. The Argus and Neptune maritime patrol aircraft "with minor modifications...could be equipped to carry nuclear depth charges."<sup>155</sup>

In another abrupt move, Diefenbaker announced in a 25 November speech that no decision would be made on the nuclear agreements unless there was significant progress in nuclear disarmament talks. This was a change from the more cautionary wait and see approach taken earlier in the year by Green in the House of Commons. Diefenbaker also noted that, as an aside, Canada would not "in any event consider nuclear weapons until, as a sovereign nation, we have equality in control, a joint control."<sup>156</sup>

Pearson then made several alarmist speeches claiming that if Canada acquired nuclear weapons, she would be joining "the Nuclear Club," a misleading statement. Joint control, Pearson added, was merely an illusion

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154. NAC MG 32 (B19) vol. 57, 17 Nov 60, "Ministerial Brief: Characteristics of Nuclear Weapons of Interest to Canada."

155. Ibid.

156. ATI, 25 Nov 60, message External Ottawa to Washington D.C., "Acquisition of Nuclear Weapons;" Peyton V. Lyon, Canada in World Affairs 1961-1963 (Toronto: Oxford University Press, 1968) pp. 83.

of sovereignty.<sup>157</sup> This added even more to the Diefenbaker Government's caution on the issue.

The Joint Staff was asked (by either Miller, Harkness, or both) to research this matter and develop arguments demonstrating that Canada had already made a commitment to equipping her NATO-tasked forces with nuclear weapons. The Joint Staff took the issue all the way back to December 1954 with the establishment of MC 48 as the driving event. The December 1956 NATO Ministerial Meeting and the December 1957 NATO Heads of Governments Meeting merely confirmed that fact that Canada had committed her forces to a nuclear strategy in Europe. These decision, when combined, "gave rise to the following requirements for tactical nuclear weapons":

- (a) Nuclear depth charges are required by naval and maritime air forces to offset their limited ability to locate submarines accurately. The much larger lethal area of these weapons would significantly increase the NATO anti-submarine capability.
- (b) Nuclear missiles and artillery are required for direct support of NATO land forces in Europe down to battalion level....The addition of these weapons to NATO's present armament are essential to compensate for the overwhelming superiority of the Soviet land and tactical air forces.
- (c) Nuclear-armed air strike forces are required in Europe to counter-attack the enemy's atomic capability and to assist in retarding the advance of numerically superior enemy forces.<sup>158</sup>

In sum, the Joint Staff concluded that Canada had a "strong presumptive policy"<sup>159</sup> commitment to NATO in that she accepted NATO

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157. Lyon, Canada in World Affairs 1961-1963, p. 84.

158. NAC RG 25 vol. 4500 file 5003-k-40 pt. 6, 25 Nov 60, Joint Staff, "Nuclear Weapons for NATO Forces."

159. Ibid.

strategy at all times in the past, had committed CF-104 aircraft to the nuclear strike role, and had committed an Honest John unit to fulfill MC 70 requirements. Copies of this study were passed on to External Affairs.

In an attempt to break the deadlock, Robert Bryce arranged a meeting between Frank Miller and Norman Robertson on 30 November to develop recommendations to the Government on nuclear weapons issues. The three agreed that the MB-1 storage agreement would "proceed without delay", that negotiations for the specific weapons systems already publicly announced would start, and that "physical preparations for nuclear weapons and training could continue."<sup>160</sup> There were two caveats to all of this, both inserted at Robertson's insistence. First, the phrase "when and if needed" was inserted into the recommendations regarding the systems agreements. Second, nuclear weapons acquisition "was subject to the progress on disarmament and arms control."<sup>161</sup>

The first addition was an artful piece of diplomatic-speak. It could be read a number of ways. Taken in one way, the Government-to-Government agreement could now be negotiated, as could the service-to-service agreements, everything short of actually bringing the warheads into Canada. Or, the Government-to-Government agreement could be signed to permit the service-to-service agreements to be signed "when and if needed." Or, the Government-to-Government agreement would be signed "when and if" the Canadian government determined that nuclear weapons were necessary. Why Miller even agreed to this is unknown, but it is likely that

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160. Granatstein, A Man of Influence, p. 345.

161. Ibid.

Miller figured he could creatively interpret this language for the forces' benefit.

These recommendations, which in part were based on the Joint Staff study, were then formulated with some modification into a memorandum for Cabinet. It was understood that Canada was committed to equipping her forces in Europe and the BOMARC squadrons with nuclear weapons and that this was all based on NATO strategy which Canada also accepted. An additional matter was also raised in the memorandum, that of the SACEUR MRBM force which was due for discussion later that month at the NATO Ministerial Meeting. In addition to sorting out the nuclear weapons problems specific to Canada, the Government also had to formulate a policy on the planned multilateral force which was assumed to consist of 100 Polaris missiles, based on the Bowie Report's recommendations.<sup>162</sup>

As for control issues, the memo recommended a dual-key system for NORAD-committed weapons based in Canada, "whereby each nation has a veto on the use of the weapons."<sup>163</sup> NATO control was more problematic and undergoing evolution. The most pressing matter, though, was the lack of direction by the Government on warhead acquisition, since "The absence of a decision to implement such a policy is becoming increasingly difficult to justify both in principle and in the light of the funds being expended on the nuclear carriers."<sup>164</sup> In sum, the Diefenbaker Cabinet had to make a decision and make it soon since the interval between now and completion of

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162. NAC RG 2 vol. 2752 file D-1-1-D 1960-61-62, 5 Dec 60, memo for Cabinet Defence Committee, "Nuclear Weapons for NATO and NORAD Forces."

163. Ibid.

164. Ibid.

the systems and facilities was decreasing rapidly. With Robertson's added language, the memo read:

It is proposed that the Canadian Government should proceed now with the necessary international negotiations to enable Canadian forces to be in a position to acquire, when and if they need them, those nuclear weapons which it has already been announced that the Canadian forces would be equipped to use (ie: the CF-104, the BOMARC and the Honest John) and also, possibly, weapons for anti-submarine warfare and for fighter aircraft in North America....It would be clearly understood and stated that Canadian action in acquiring, holding, or using nuclear weapons and means of their delivery would be subject to any measures or disarmament or arms control agreed between East and West.<sup>165</sup>

Prior to the Cabinet meeting, Robertson sent a copy of the memo along with his comments to Howard Green. In essence, Robertson told Green that "it would be inconsistent and hypocritical for us at the same time to adopt policies which can only have the effect of compounding the nuclear problem."<sup>166</sup> There was a new American government (John F. Kennedy had just been elected), and Robertson informed Green that it might seek accommodation with the Soviets. This was an inaccurate assessment on Robertson's part given the combative nature of the Kennedy presidential campaign rhetoric regarding the so-called missile gap. In Robertson's view, the Americans should not be allowed to store nuclear weapons in Canada, since this would have "great symbolic importance", and since equipping Canadian forces would soon follow, which would interfere with

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165. Ibid.

166. Granatstein, A Man of Influence, p. 356.

the prospects for disarmament.<sup>167</sup> In other words, Robertson deliberately undermined his agreement with Miller.

The actual extent of Robertson's faith in disarmament talks is unknown but appears, if this was not a calculated position to manipulate Green, to be part of a response to his fears about nuclear war which arose back in 1959. The imposition of his opinion on the matter and the means by which he moulded Howard Green's less than sophisticated approach to the nuclear issue are, in retrospect, reprehensible. Robertson knew what Canada's defence policy was and how it was linked to NATO strategic concepts, since he had participated in these discussions years ago. He knew that billions of taxpayer dollars were being spent to provide Canada's contribution to the deterrent and the direct defence of his country. He was a senior, unelected, civil servant. His job was not to create policy for the Government if the Government had decided that the policy was to be deliberately vague.

Despite Robertson's efforts, Cabinet decided on 6 December 1960 to start negotiations with the Americans for the acquisition of nuclear weapons for Canadian forces subject to "the acceptance of joint controls."<sup>168</sup> Canadian forces should train for their use and facilities should be constructed. In a reversal, Cabinet decided that MB-1 and other American storage issues should not be resolved until the acquisition issue and joint control issues were sorted out. Notably, Cabinet recognized that "Canadian Ministers should recognize that the Government has agreed, at the meeting in December 1957 and at other times, and is morally bound, to supply

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167. Ibid.

168. DGHIST, Raymont Collection, file 302, 6 Dec 60, Record of Decision, Cabinet Meeting, "Nuclear Weapons Policy; Irish resolution in the United Nations and other aspects."

Canadian forces under NATO command equipped and ready to use nuclear weapons if and when they are necessary."<sup>169</sup>

Canada would also vote in favour of the Irish Resolution in the UN, and Cabinet did not recognize that doing so was at variance with the previous decisions in this meeting, that is, that by voting for the Irish Resolution, Canada was committing herself in the United Nations not to acquire control of nuclear weapons, the very thing that External Affairs was demanding Canada should have before Americans could store nuclear weapons in Canada and Canadian forces could have access to the stockpile! In addition to Green's and Robertson's manipulation of the situation, Harkness had not been informed about alterations to the wording of the Irish Resolution, or he would have fought it upon becoming Minister. Miller should have informed him about the relationship of the Irish resolution to the nuclear weapons problem.

The nuclear weapons issue also came up in the Panel's deliberations over preparations for the December NATO Ministerial Meeting. The main protagonists in this discussion were Bryce, Miller, and Robertson. Bryce informed the Panel about the Cabinet meeting's conclusion, that is, "Canada would continue to make preparations for our NATO forces to be suitably equipped and trained so as to be ready to use nuclear weapons. Canada would not...make any commitments on the question of the proposed NATO nuclear deterrent force."<sup>170</sup> Miller wanted to make it clear that the purpose underlying the American proposal to provide MRBM's to NATO was twofold: First, it was to allay European concerns that Europe would not

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169. Ibid.

170. NAC RG 25, vol. 4501 file 50030-k-2-40 pt. 1, 6 Dec 60, POEADQ, 71st Meeting.

have a nuclear deterrent if the Americans became isolationist, and second, to prevent nuclear proliferation. The same motives underlay the original 1958 stockpile plan, and as a consequence, the Canadian CF-104 force. However, Miller noted, NATO plans were not compatible with Canadian nuclear disarmament policy. This had to be sorted out before any more forward movement could be made.<sup>171</sup>

Robertson was horrified about the MRBM proposal. He believed that it:

...would raise doubts as to whether the NATO powers seriously wanted disarmament and the abolition of nuclear weapons. Moreover, it would seem that the introduction of a battery of MRBM's that could eliminate the cities of Eastern Europe represented a significant shift in the present balance of power in Europe. We did not know what forces the Soviet Union had in Eastern Europe but it did not seem they had given nuclear weapons to their satellites.<sup>172</sup>

Robertson's inappropriate comparison between the captive nations and the free world notwithstanding, Bryce and Miller were dismayed. The Soviets had in fact deployed missiles to Eastern Europe. They had overwhelming conventional forces. Disarmament would be achieved only, Miller emphasized, if the West maintained a balance of military power and negotiated from a position of strength. MRBM's were needed for military, as well as political reasons. NATO had to counter Soviet deployments to maintain the balance. The real question was one of how joint control should be exercised.

Robertson then revealed that he thought American custody was better for Europe, since "It was impossible to ensure against a coup d' etat in some

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171. Ibid.

172. Ibid.

country which might put an irresponsible government into possession of nuclear weapons." His main concern was Germany as "It was essential to recognize that Germany had some major political discontents about which some German Government in the future might want to take action."<sup>173</sup> An interesting but hypocritical statement from the man who opposed joint control of nuclear weapons with the Americans in Canada on sovereignty grounds.

This discussion prompted Miller to study the custody and control issue further in terms of how it affected Canada. In a brief for Harkness, Miller informed the Minister that there was far too much misunderstanding on the control issue both by the Opposition and in Cabinet. The American position had remained constant:

...[A]ny proposal that has ever been made by the United States envisioned sharing the control. In essence the United States maintain the right to see that atomic weapons are not used until such time as it is decided by the President that an emergency of sufficient gravity exists to justify the release of the nuclear weapons both to the American and to Allied forces. Thereafter it is entirely up to the force to whom the weapons are released to decide whether or not they will fire them.<sup>174</sup>

In other words, those who were upset about the issue of joint control were arguing a non-issue, unless they favoured complete, unilateral control and custody of nuclear weapons by Canada.

Miller then explained each system. BOMARC had its warhead attached while on alert. The orders to release BOMARC would come through

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173. Ibid.

174. DGHIST, Raymont Collection, file 302, 9 Dec 60, memo to Harkness from Miller, "Control of Canadian Nuclear Weapons."

NORAD to the control centre, and then a separate Canadian order would be required to launch. As for Honest John and the CF-104's, Harkness was told that "the Canadian Government can arrange that under no circumstances could these weapons be used without their prior concurrence."<sup>175</sup> But most importantly, Miller also emphasized that there already was some degree of control exerted through Canadian representation on all of the NATO and NORAD staffs, which were integral to the planning process and release process. Therefore, there already were mechanisms in place to exert control.

All of this appeared moot when Canada voted in favour of the Irish Resolution and committed itself in the UN not to acquire control over nuclear weapons.

### Conclusion

The progression in the nuclear weapons crisis reached its next level in 1960. Whereas the previous stance revolved around Green's predilections over sovereignty issues in 1959, the situation was exacerbated by the introduction of disarmament negotiations, which were pushed by Robertson and Burns, as well as Green. The inability of the Prime Minister to see that there was a drastic contradiction in Canadian policy and correct it was itself exacerbated by the turnover in the Defence team over the course of the year and by opposition attacks through the SCODE medium. Before the new Defence team (Harkness and Miller) could come to grips with the situation, Green and Robertson committed Canada to a contradictory policy without

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<sup>175</sup>. Ibid.

informing Cabinet or the Prime Minister of the possible implications, something even Burns had warned Robertson about. Certainly there was little or no appreciation on the part of Robertson and Green about the financial and human effort required to develop and train a force structure and the lead times required for such activity. Rapid changes of course were not feasible in such a technologically and doctrinally complex environment. Robertson's fear of provocation and his consequent attempts to thwart Canadian defence policy must rank highly in the myriad of causes of the nuclear crisis.

1960 marks the second phase in public questioning as to what Canada's national security policy should be (the first was the NORAD debate in 1957-58). It is clear that the Government was backed into a corner in the SCODE hearings by the Opposition. The long-term effects of SCODE would eventually include the 1964 White Paper on Defence.

The impact of personalities on policy making was more dramatic in 1960 than in previous years. Harkness and Miller were trying to maintain continuity in Canadian strategic tradition but found themselves thwarted by Green and Robertson. The struggle to get a manned interceptor to replace the ill-fated CF-105 Arrow and air defence system improvements related to the nuclear agreements are cases in point. The RCAF realized that they had a serious civil-military relations problem with the Diefenbaker Government and started to take steps to maintain continuity. One issue here was that the un-uniformed policymakers generally did not appreciate that the short flight times of submarine-launched and intercontinental ballistic missies made alert consultation problematic. The fact that the Soviet Union constituted a serious threat to NATO was still secondary in Diefenbaker's mind to the perceived political 'threat' from the

Opposition. The situation would only get worse with John F. Kennedy's accession to power in the United States in 1961.

## CHAPTER 10

### CANADA'S NUCLEAR CRISIS II: FRUSTRATING INCREMENTALISM, 1961

#### Introduction

The second phase of Canada's nuclear weapons crisis was marked in many ways by the antagonism between John Diefenbaker and John F. Kennedy. This clash of personalities drastically magnified attempts by the disarmament proponents in the Canadian government to prevent Canadian forces from acquiring nuclear weapons to protect Canada. International tension ratcheted up with the erection of the Berlin Wall in August 1961 did not alleviate this problem. NATO strategy continued to evolve while Chairman of the Chiefs of Staff Committee Air Marshal Miller formulated a Canadian strategic concept to keep pace with it. At the same time, the RCN, the Army and the RCAF utilized their informal relationships with their American counterparts to move closer to acquiring a nuclear capability within their force structure.

#### The Continuing Nuclear Debate: January-February 1961

Douglas Harkness tried to get Howard Green to arrange to have the draft Government-to-Government agreement signed early in January 1961. This version presented the control issue in a more vague fashion: Harkness stated that control could be dealt with in each service-to-service agreement

as the case required. The objective was to get the process moving. Green delayed yet again, stating that he would ask "the officials of my Department, who are concerned with this question, to examine this draft and let me have their comments."<sup>1</sup>

While Harkness waited for Green's reply, the RCAF was incrementally moving forward. The first eight CF-104 instructors trained at Nellis AFB in Nevada during the spring of 1961.<sup>2</sup> Training 'shapes' were being procured for the newly stood up CF-104 Operational Training Unit (OTU), while a small number of RCAF training officers received clearances to acquire some nuclear weapons data from the USAF so that the OTU syllabus could be written. A cadre of RCAF armourers were prepared with the relevant data so that the cadre could be filled out rapidly. Special Ammunition Storage (SAS) facilities were also under construction. As for the BOMARC programme, the RCAF was able to incorporate personnel on joint Boeing-USAF nuclear weapons safety courses.<sup>3</sup> The USAF and the RCAF even started to negotiate the draft BOMARC service-to-service agreement wording in preparation for the day that the Government-to-Government agreement was signed. A Neptune maritime patrol aircraft was prototyped for Mk. 101 carriage as part of a plan to provide experience so that the Argus fleet could be equipped with a similar capability, but training and other aspects necessary to develop a cadre nuclear capability in MAC were

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1. DGHIST, Raymont Collection, file 302, 30 Dec 60, letter Harkness to Green; 13 Jan 61, letter Green to Harkness.

2. David. L. Bashow, Starfighter (Toronto: Fortress Publications, 1990) p. 9.

3. ATI, 10 Jan 61, memo DMTR to COR, "Nuclear Weapons Policy;" 20 Jan 61, COR(coord), "Nuclear Weapons: CF-104 and BOMARC Programmes."

blocked by the USN, which insisted on a formal service-to-service agreement before proceeding further.<sup>4</sup>

A new player was added to the anti-nuclear weapons side of the Canadian policymaking team in January 1961: George Ignatieff. Ignatieff, a Russian-born émigré, was Canada's Ambassador to Yugoslavia in the 1950s. He was then Assistant Under Secretary of State for External Affairs in 1961. Ignatieff was nominally Norman Robertson's deputy. In reality, Diefenbaker wanted Ignatieff to be his special advisor on national defence and nuclear affairs. As Ignatieff put it: "Diefenbaker wanted clear, black and white position statements, the kind of arguments a lawyer could use to win his case."<sup>5</sup> Diefenbaker told Ignatieff that he felt misled about the BOMARC, particularly in terms of the "A" (conventional and nuclear) and "B" (nuclear only) models. He thought that he had been manoeuvred by the RCAF into acquiring the "B" model, and he blamed Air Marshal Campbell for this confusion. Ignatieff's answer to this was either accept nuclear warheads or not accept them. Diefenbaker had in one briefing "attacked Campbell so viciously that ...[Harkness] finally intervened and said that this kind of abuse of a senior Air Force officer was unacceptable."<sup>6</sup>

Ignatieff and Robertson decided early in 1961 to coordinate their anti-nuclear activities. Green was easy to convince, but the Prime Minister still required work. Ignatieff talked frequently with Robertson during this period, and the two of them devised a formula that they knew the

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<sup>4</sup>. ATI, 28 Mar 61, CAS to VCAS, "Lead Times on Nuclear Weapons;" COR to VCAS, "Progress of RCAF Actions to Acquire a Nuclear Capability."

<sup>5</sup>. Ignatieff, The Making of a Peacemonger, p. 184.

<sup>6</sup>. Ibid., p. 187.

Americans would never accept. In essence, it followed the similar line imposed by Robertson already, that is, Canada must have joint control over the weapons, and acceptance of nuclear weapons would be contingent on the success of the (stalled) disarmament talks. In Ignatieff's words, this was a "holding action," a delay not meant to survive detailed scrutiny. They specifically played to Green's growing fears about radioactive fallout.<sup>7</sup>

On another front, the Opposition formulated a more detailed defence policy platform in January 1961 based on the following precepts:

1. No nuclear weapons either under separate Canadian control or under joint US-Canadian control.
2. NATO must build up its conventional forces.
3. Any NATO nuclear deterrent must be under joint NATO control.
4. Tactical nuclear weapons should not be given to individual NATO members.
5. Canada should withdraw from BOMARC and interceptor commitments, Canada should just be involved in warning functions.
6. Canada will commit her land, sea, and air forces to supporting UN police and peacekeeping activities.<sup>8</sup>

Pearson followed this up in a 27 January speech in which he stated that his opposition to nuclear weapons revolved around the sovereignty issue:

...[I]f we do acquire [nuclear weapons], the U.S. Government should not determine--as it can now-- whether Canadian forces can or cannot use them in defence. At present, a Canadian officer in charge of such weapons could not order their use without the approval of an American authority. This situation is not altered by the fact that the

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7. Ibid., pp. 188-190.

8. NAC MG 26 N2, vol. 114, nuclear weapons storage folder, 9 Jan 61, "Approved by Policy Committee, National Liberal Rally, Defence Policy."

Canadian authorities can also refuse to carry out a U.S. order to use them.<sup>9</sup>

This statement contained a number of erroneous assumptions. It assumed that Canada had no say in the process by which nuclear weapons were authorized; that is, Pearson discounted the substantial Canadian presence on the NORAD planning and operational staffs and elsewhere. As with other previous statements made during the NORAD and SCODE debates, there was no appreciation of time and space. The only response to Pearson's statement was either to affirm the dual key system and then be accused of throwing away Canadian sovereignty or discarding nuclear weapons altogether, which was the aim of the Liberal policy statement in the first place. Even though Pearson lacked the classified information on nuclear release processes and predelegation of authority, his argument was flawed since it posed only two alternatives when in fact there were others. Pearson was slowly boxing Diefenbaker in on the nuclear weapons issue.

An even more fractious and public split opened up in the Diefenbaker Cabinet early in February. Howard Green had made several supportive public speeches to Canadian anti-nuclear groups. The press heard a rumour that Harkness had encouraged RCN reserve officers at a mess function speech to counter the anti-nuclear movements. This hit the papers and quickly became a *cause célèbre*.<sup>10</sup> When the smoke cleared, it was apparent that Harkness had been misquoted by a journalist who was not

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9. NAC MG 26 N2, vol. 113, Nuclear Defence folder, 27 Jan 60, Statement by Mr. Pearson, "Control and Ownership of Tactical and Defensive Nuclear Weapons."

10. McLin, Canada's Changing Defense Policy p. 140.

even at the function. One citizen even wrote Harkness accusing him of implying that "such men as Howard Green, [and] Lester Pearson...are motivated by subversive thoughts."<sup>11</sup> In fact, Harkness had not used names and merely stated his "opposition to neutralism and pacifism as expounded by those who advocate unilateral disarmament...."<sup>12</sup>

When accused of not following government policy by citizens or the media, Harkness consistently argued that he did not oppose genuine disarmament efforts. He did believe, however: "That until such agreement can be reached and as long as there are those who believe in the use of force to achieve their aims, we must maintain our defences and contribute to the common endeavor to prevent the outbreak of war."<sup>13</sup>

Gallup polls bore out Harkness's view in February 1961. When asked if nuclear weapons made war more or less likely, 56% of those polled said that they made it less likely, with 25% believing that they made war more likely. In terms of the percentage of the population who favoured Canadian acquisition of nuclear weapons, 45% were in favour, 34% had no opinion, and 21% were opposed. This information was passed on to the Prime Minister.<sup>14</sup>

General Loper and Air Vice Marshal Hendrick continued their attempts to develop means to solve the nuclear weapons agreement impasse in February 1961. Loper approached Hendrick and raised the matter of the

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11. NAC MG 32 B 19, vol. 27 file 42-66 vol. 4, 1 Feb 61, letter Riddell to Harkness.

12. NAC MG 32 B 19, vol. 27 file 42-66 vol. 4, 8 Feb 61, letter Harkness to Goldman.

13. NAC MG 32 B 19, vol. 27 file 42-66 vol. 4, 15 Feb 61, letter Harkness to Endicott.

14. NAC MG 32 B 19, vol. 27 file 42-66 vol. 4, 23 Feb 61, memo Harkness to Diefenbaker.

planned Skybolt missile. Skybolt was a long-range stand off bomber-launched missile. If the USAF were equipped with such a system, was a new agreement with Canada necessary to fly and launch such weapons from Canadian airspace?<sup>15</sup> If so, Loper proposed that a formal treaty handling all aspects of nuclear weapons be formulated between the two countries. This would "escape the restrictions of the Atomic Energy Act of 1958."<sup>16</sup> If it were ratified by the Senate, it would override any restrictions. This had not been attempted with any other ally before, and it might work.

Loper thought that the treaty would include joint control by both Governments; custody by Canadian forces; "As much maintenance by Canadians as we wish to assume"; bomb disposal information; and "any other aspects of Canadian sovereignty which may be of special concern to us."<sup>17</sup> If Canada wanted to try, Loper added, the State Department should be asked directly. Unfortunately, this potential solution would soon be submerged in a personality clash.

#### First Clash: The Prime Minister versus the President

The accession of John Fitzgerald Kennedy to power in 1961 dramatically altered the already fragile Canadian-American defence relationship. No two men could have been more dissimilar than John Diefenbaker and John

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15. DGHIST, Raymont Collection, file 302, 2 Feb 61, memo Hendrick to Miller, "United States/Canada Atomic Arrangements."

16. Ibid.

17. Ibid.

Kennedy, which was a significant contribution to a breakdown. Journalist Knowlton Nash, who covered Washington for the CBC in the early 1960s, masterfully captured this in his work Kennedy and Diefenbaker. Diefenbaker had an obsessive dislike of Americans and feared rejection by Kennedy, where Kennedy had a complete lack of knowledge and interest in Canada and feared failure. Diefenbaker was an "aging, suspicious prairie populist", and Kennedy was a "youthful, quick-witted Boston sophisticate."<sup>18</sup> Kennedy was "a realist masquerading as a romantic", while Diefenbaker was a "messianic nationalist."<sup>19</sup> Monarchist Diefenbaker mistakenly thought that Kennedy's father Joseph had betrayed the British during the Second World War, while new world Irish-American scion Kennedy arrogantly thought Canada was a "child nation." Diefenbaker was courtly with women, while Kennedy behaved like a pig towards them.

Their first meeting on 8 February was a disaster. Kennedy had asked Dean Rusk, his Secretary of State, to find out how Diefenbaker's name was pronounced. Rusk asked Foy Kohler, his Assistant Secretary for European Affairs who told Rusk that it was a German name and thus pronounced "Diefen-bawker." The new President used this pronunciation in his speech, to the Prime Minister's chagrin. The worst was yet to come. In their coverage of the event, ABC News used "Diefenbacon," The Washington Post called him 'Diffenbaker', United Press thought it was "Fifenhauer," while a State Department release called him "Diefenbacker." These were all in fact

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18. Knowlton Nash, Kennedy and Diefenbaker: The Feud That Helped Topple a Government (Toronto: Maclelland and Stewart, Inc., 1990) p. 11.

19. Ibid., p. 13.

a major affront to Canada and the Prime Minister had to be dissuaded from lodging an official protest through diplomatic channels.<sup>20</sup> Little was accomplished at this first meeting.

This inauspicious beginning prompted both Diefenbaker and Kennedy to lay the groundwork for another meeting later in February 1961.<sup>21</sup> Diefenbaker wanted to discuss a wide variety of issues with the American President, while the Americans were primarily interested in sorting out the defence relationship. As Dean Rusk noted:

The Government's tendency to procrastinate and its defensive reaction to criticism of Canada's defence position has tended to confuse the public and helped spawn some neutralist and semi-pacifist groups....Should this general situation continue over a long period, a drift toward a kind of unconscious neutralism could develop with a concommitment loosening of defense ties with the United States....Loss or diminution of use of Canadian air space and real estate and the contributions of the Canadian military, particularly the RCAF and Royal Canadian Navy, would be intolerable, particularly in times of crisis.<sup>22</sup>

Rusk established a cordial relationship with Canadian Ambassador A.D.P. Heeney. Rusk was a quick study and absorbed Heeney's perspective that the two largest problems in the Canada-US relationship revolved around defence and economics and that both were intertwined with sovereignty and nationalism. In addition, Rusk looked forward to fishing

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20. Ibid., pp. 63-64, Smith, Rogue Tory, p. 380.

21. USNARA RG 59 E3077 box 1, File: Ambasador Merchant, letter Armstrong to Merchant, 8 Feb 61.

22. As quoted in Nash, Kennedy and Diefenbaker p. 66.

trips in Canada and with them the opportunity to carry out informal discussions.<sup>23</sup>

Miller, meanwhile, was attempting to determine if the Loper proposal had any chance of succeeding. The Chairman also explored another option. Could the United States legally make nuclear weapons available to Canada without an agreement? Clearly Miller thought that there was a possibility that American nuclear warheads could be moved to Canadian bases in an emergency, attached to the aircraft, and launched under NORAD command. A legal analysis indicated that this was not prohibited by the Atomic Energy Act of 1958. Was it operationally feasible? This would require further study.<sup>24</sup>

At the same time Miller continued to deal with Bryce and Robertson in preparation for the Diefenbaker-Kennedy meeting. Miller informed both that the issue over control was really a non-issue, that all proposals which had been made in the past "envisioned sharing control."<sup>25</sup> Canada still retained the right to determine whether her forces would actually use the weapons once they had been released. Was there any conceivable situation whereby Canada would need the weapons and NORAD would not release them?

Robertson did not reply directly. Instead, Robertson prepared a paper for the Privy Council which indicated that there would be problems in "develop[ing] acceptable formulae to provide for the joint responsibility...to

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23. NAC MG 30 E144 vol. 1 file: Ambassador the the United States 1961-1962, 9 Jan 61, letter Heeney to Green.

24. DGHIST, Raymont Collection, file 302, 8 Feb 61, memo from Lawson to Miller, "Nuclear Weapons for the Canadian Forces."

25. DGHIST, Raymont Collection, file 302, 9 Feb 61, memo Miller to Bryce.

exercise controls through consultations in situations likely to give rise to the use of nuclear weapons."<sup>26</sup> Miller disagreed with this part of the paper and thought that it should be removed before presentation to Cabinet. What this section does reveal is that Robertson was linking, at least in his mind, joint control over nuclear weapons and the problems with consultation. It is possible that Robertson was still trying to use this issue to exert some influence over what he viewed to be the American tendency towards provocative activity and precipitative action during times of crisis.

This sort of sophisticated diplomatic manoeuvring remained outside of Diefenbaker's grasp of the issues, and Robertson did not attempt to enlighten the Prime Minister or Green. In Cabinet, Diefenbaker stated that one of his objectives at the meeting would be to determine "how far President Kennedy would go in the direction of joint control over the use of nuclear arms if located in Canada."<sup>27</sup> Analysis conducted for Cabinet also indicated that Canada's accession to the Irish Resolution in the UN did not in fact "prevent the government of Canada from obtaining nuclear weapons from the United States at this time."<sup>28</sup> The existing policy, that is, the January 1960 statement, would remain the public policy and this was reaffirmed in a speech on 17 February.<sup>29</sup>

Green accompanied Diefenbaker on the February 1961 flight down to Washington, where he took the entire two hours to harangue the Prime

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26. DGHIST, Raymont Collection, file 302, 13 Feb 61, memo Miller to Robertson, 13 Feb 61, memo Robertson to Miller, "Prime Minister's Visit to Washington."

27. NAC RG 2, 14 Feb 61, Cabinet Conclusions.

28. Ibid.

29. NAC RG 2, 17 Feb 61, Cabinet Conclusions.

Minister on nuclear weapons and disarmament.<sup>30</sup> The actual meeting itself included Diefenbaker, Green, Heeney, Rusk, and Merchant. No military or defence department-level personnel were present. Most of the meeting revolved around the ongoing Congo and Laos issues and what role China might be playing in world tension. Diefenbaker suddenly launched into a defence of Canada trading with Cuba and China. Canada, he indicated, resented American interference in these sovereign matters. While on this subject, Diefenbaker asserted that Canadians "welcome[d] the President every week via TV into [their] living rooms but that Canadian news gets less treatment in the United States than that from a 'banana republic.'"<sup>31</sup>

There were other problems that needed to be addressed, Diefenbaker continued. There was a one billion dollar trade imbalance. Canadian legislation created to right this balance was considered 'anti-American' in the United States. He was, however, pleased about the production sharing arrangements with the United States on the F-104G MAP project but was concerned that the Opposition would use this issue against the Government.<sup>32</sup>

As for nuclear weapons, Diefenbaker told Kennedy that "The Canadian Government will not decide at the present time whether or not Canadian forces should be equipped with nuclear weapons."<sup>33</sup> The reasons for this

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30. Nash, Kennedy and Diefenbaker pp. 90-91.

31. FRUS 1961-1963 Vol. XIII, pp. 1140-1149, memcon, "Visit of Canadian Prime Minister Diefenbaker," 20 Feb 61.

32. Ibid.

33. Ibid.

was the ongoing disarmament negotiations. If a decision was made, Canada would insist on "joint custody and joint control." Kennedy wondered if the existing formula established with the British was acceptable; that is, the dual key system. Diefenbaker thought that this was the proper formula. With regard to storage, Canada would insist on joint control over MB-1, SAC, and ASW storage. However, these arrangements would not be made until the decision had been made to accept nuclear weapons for Canadian forces or not.<sup>34</sup>

It may appear mystifying to see such a non-issue repeatedly brought up for discussion by such high-level people. We must remember, however, that there had been a change in the American administration, and the Kennedy people were not fully conversant with the details. That said, there is a clear inconsistency in Diefenbaker's attitude to what constituted joint custody and control. The Canadian defence people had never altered their perspective, nor had the Americans. Both of these parties maintained that joint custody and control was acceptable. The vacillators were Robertson, Green, External Affairs, and the Prime Minister.

The personal relationship between the Prime Minister and the President deteriorated. Noting that Diefenbaker liked to fish, Kennedy bragged about a stuffed sailfish that he had caught. Diefenbaker took this the wrong way, and the first time Kennedy visited Ottawa, the Prime Minister prominently mounted on the wall a large Marlin he had previously caught and made snide remarks about Kennedy's fishing abilities. Kennedy reportedly

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34. Ibid.

remarked to his brother Robert, "I don't want to see that boring son of a bitch again!"<sup>35</sup>

After the meeting, Bryce informed Harkness that the MB-1 storage agreement negotiations should continue, as should the ASW storage arrangements but they were to be conducted on the assumption that joint control was necessary, that is, the Canadian Government had to agree to release the weapons from their storage sites in an emergency. The ASW weapons agreement should be processed through NATO and the MB-1's through NORAD. This much was also reported to Cabinet, and Diefenbaker confirmed that he had accepted the dual key formula for control and custody.<sup>36</sup> A distorted version leaked to the media, which concluded that an agreement had been reached on nuclear weapons. Diefenbaker then publicly denied that an agreement had been reached, but he did not clarify the difference between American storage for their forces and storage for Canadian forces. The Prime Minister's action added to the public confusion on the nuclear issue.<sup>37</sup>

As for the continuing F-101B acquisition situation, the CL-44 sale to the United States was off. The Americans instead proposed to fund 70% of the cost of F-104G's which would be given to NATO nations under MAP. Canada would pay for the other 30%, would take over eleven instead of five PINETREE radar sites, and then receive 66 F-101B interceptors. Cabinet was informed that this was a bargain and served many political as well as

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35. Smith, Rogue Tory, p. 382.

36. NAC RG 2, 21 Feb 61, Cabinet Conclusions.

37. Nash, Kennedy and Diefenbaker pp. 94-95.

military purposes. Canada needed an interceptor. The Liberal defence policy platform discounted the requirement for an interceptor, so now the heat was off in terms of Opposition backlash for acquiring a CF-105 replacement. Cabinet was also informed that "The F-101B was capable of being armed with either conventional or nuclear weapons but the choice on this subject would be for decision later. The aircraft would in normal course be delivered with conventional air-to-air missiles and not with nuclear missiles. No doors should be closed at this time."<sup>38</sup>

The Americans chose not to force the issue of nuclear armament for the CF-101. Militarily, they were concerned that transferring USAF F-101B's to the RCAF without nuclear armament would reduce the number of effective interceptors available to NORAD.<sup>39</sup> On 2 March 1961, Cabinet agreed to acquire F-101B VooDoo interceptors, though the announcement would not be made until July.<sup>40</sup>

### The Evolving Strategy

As we will recall from Chapter Nine, MC 14/2 (revised) continued to be NATO's strategic concept. The ambiguities contained in that document, combined with questions on how to handle the Berlin Crisis and the NATO MRBM deterrent problem did, however, produce some thoughtful

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38. NAC RG 2, 25 Feb 61, Cabinet Conclusions.

39. FOIA, message Commander ADC to Chief of Staff USAF WASH DC, 16 Feb 61.

40. NAC RG 2, 2 Mar 61, Cabinet Conclusions.

questioning early in 1961, which affected the evolving Canadian strategic concept of operations.

Once again, the British were in the forefront of the re-examination of NATO strategy. In essence, the British asked two questions. First, now that the Soviets had deployed tactical nuclear weapons in quality to support their overwhelming conventional superiority in Europe, was MC 14/2 (revised) obsolete? Second, to what extent and under what conditions should NATO plan for Phase II of an MC 14/2 (revised) pattern of war, and did this have to change as well? As before, the British were desperately concerned about their financial situation and the accompanying problems of finding the right conventional/nuclear force balance.<sup>41</sup>

In their analysis, the British had loosened up slightly in their opposition to operations short of nuclear war in the NATO area. They now argued that MC 14/2 (revised) was in fact flexible enough to accommodate "general war or local hostile actions", but they still argued that "there is no concept of limited war in Europe."<sup>42</sup> They noted that Norstad had been playing around with the pause concept and they were interested in this since "...[it] seems desirable to examine whether the strategy can be adapted so as to provide for whatever degree of force, not excluding nuclear weapons, might be required to induce an aggressor to abandon his aggression while, at the same time, minimizing the risk of precipitating all-out nuclear war."<sup>43</sup>

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41. PRO, CAB 131/25, Feb 61, Draft memo by UK MoD, "NATO Strategy and Nuclear Weapons."

42. Ibid.

43. Ibid.

Nuclear weapons were still required, though, in three cases: 1) after the pause had taken place, and the enemy continued his aggression; 2) in support of strategic nuclear forces; and 3) after strategic nuclear forces had been used. The battlefield still needed to be isolated from enemy reinforcement in all cases, which contributed to maintaining the integrity of the NATO area.<sup>44</sup>

The American perspective on the British views was based on the belief that MC 14/2 (revised) was sufficiently "broad and flexible" in its wording to handle all of these problems. It was merely a question of how SACEUR chose to interpret MC 14/2 (revised). The US JCS was concerned that too stringent interpretation, "particularly with respect to the threshold of nuclear employment, would undoubtedly serve to alert the Soviets as to specific Alliance intent and thereby facilitate Soviet planning."<sup>45</sup> Norstad was capable of introducing a pause concept without altering NATO's strategic concept since it was "already implicit in the NATO strategy." The biggest problem with formal adoption of a new concept was, in the American view, "letting it appear that the Allies fear the consequences of general nuclear war more than the Soviets fear them."<sup>46</sup>

The actual definition of what the pause concept was produced some uncertainty. Norstad originally noted in a public speech in 1960 that NATO Shield forces should, "at a minimum, be able to force a pause and, during this break, to establish clearly that the action is aggression...we should not

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44. Ibid.

45. USNARA, RG 218 JCS 1961 file 9050/3070 NATO, J-5 report, "NATO Strategy and Nuclear Weapons," 28 Feb 61.

46. Ibid.

use more force than is necessary."<sup>47</sup> Many observers had assumed that NATO forces were either conventionally trained and equipped or tactical nuclear forces. They did not understand that NATO forces in the Central Region were dual-capable in many respects, that tactical nuclear weapons complemented conventional weapons. SACEUR rated his forces capable of forcing a pause of some duration but incapable of resisting the enemy on conventional terms for a protracted period.<sup>48</sup>

There was, of course, a great deal of public and private speculation as to how long the 'pause' actually was supposed to be. Norstad clarified his earlier thinking, stating publicly that:

I have mentioned the rather interesting subject of the pause and spoken of forcing a break in a dangerous continuity of action. 'Pause' in the sense used here to mean a break, but a break which cannot be defined in precise terms of time, space, or strength of forces involved. I have never in my own mind related it to a period of time. The important objective is to provide an interval for decision and then to force a conscious decision to be made. This may mean minutes, hours or days. I would like to emphasize that the concept of the pause does not relieve us of the responsibility for taking all necessary steps, using all necessary means, to deny an aggressor the occupation of any NATO territory.<sup>49</sup>

Which of course meant maintaining a strong nuclear deterrent at all levels. Note that Norstad recognized the political problems which were developing in NATO nuclear consultation. The pause presumably was as much for NATO to make a decision as to force the Soviets to reconsider

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47. USNARA, RG 218 JCS 1961 file 9050/3070 NATO, JCS, "NATO Strategy and Nuclear Weapons," 17 Mar 61.

48. Ibid.

49. "SACEUR's Views-1961: Speech to the NATO Parliamentarians, 13 November 1961", Survival vol. 4, 1962, pp. 13-14.

theirs. On the whole, Norstad thought that the British questions were a healthy thing, which was in line with the objectives of the Bowie Report. NATO needed more conventional forces, better nuclear forces, and more control over the nuclear forces. It was not a question of reducing one for the other.<sup>50</sup>

Other problems confronting the NATO strategic concept focused on out-of-area political consultation and action. NATO Secretary-General Paul Henri Spaak was particularly concerned, given the fact that he was Belgian, and Belgium was having problems extracting itself from the Belgian Congo without leaving a vacuum that the Chinese or the Soviets would fill. Portugal was having similar problems with its former colonies in south east Africa, and France was embroiled in the Algerian crisis.<sup>51</sup> In effect, Spaak wanted the means to consult within NATO and develop responses to handle peripheral areas with conventional forces. In fact, Rusk at one point noted that UN peacekeeping operations in Egypt and the Congo were useful in this regard.<sup>52</sup> As before, NATO had to have the ability to respond politically and militarily with flexibility to a wide variety of contingencies.

Canadian military planners were skeptical about the pause concept and viewed peripheral conventional operations as ad hoc affairs that could be handled with special conventional stand-by forces. Consequently, the re-appraisal of NATO strategy did not have an immediate impact on the new

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50. FRUS 1961-1963 Vol. XIII, pp. 253-256, memcon, Norstad and Rusk, "NATO Problems," 1 Feb 61; See also pp. 269-272, message Bonn to State, 10 Apr 61.

51. FRUS 1961-1963 Vol. XIII, pp. 260-266, memcon, Spaak and Kennedy, "NATO," 21 Feb 61.

52. FRUS 1961-1963 Vol. XIII, pp. 1152-1153, message Rusk to State, 14 May 61.

1961 Canadian concept of operations, which continued to be based on MC 14/2 (revised).

The COSC requested and the JPC delivered a formal Canadian strategic concept entitled "CSC Paper 2(61): The Concept of the Employment of the Canadian Armed Forces in the Event of Unlimited Nuclear War." It was formally accepted by the COSC in mid-March 1961. In effect, CSC Paper 2(61) was designed to focus Canadian thinking on what Canadian planners viewed to be the most likely course of action in the event of war with the Soviet Union in the early 1960s.<sup>53</sup>

Canadian defence policy continued to be to prevent the outbreak of war and to provide for the security of Canada if deterrence failed. Canada continued to rely on collective security and in doing so "helps formulate and subscribes to the collective strategic concepts of NATO...."<sup>54</sup> Consequently, MC 14/2 (revised) was the underpinning of CSC Paper 2(61).

In addition to the Sword and Shield, NATO had to have the ability to deal with "local incidents and incursions which if left unchecked, might develop into major war."<sup>55</sup> As for North American defence, the Canadian concept included provisions for protecting SAC and National Survival (continuity of government, re-entry and rescue operations, decentralization).

If the Soviets initiated strategic nuclear warfare, the Canadian planners assumed that the Soviets would "[preserve] their country from destruction by first attempting to destroy all nuclear offensive power ranged against

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53. DGHIST file 400.01(D1), 18 Mar 61, COSC, "The Concept of the Employment of the Canadian Armed Forces in the Event of Unlimited Nuclear War."

54. Ibid.

55. Ibid.

them before it could be used."<sup>56</sup> Surprise would be the order of the day, and "further preparation and deployment of Soviet Bloc forces beyond that which had occurred as a result of the international situation would be kept to a minimum to avoid compromise of the initial attack."<sup>57</sup> The Soviets would then initiate a mass attack against Europe. In other words, CSC Paper 2(61) recognized that an attack might result from an international incident or protracted international tension of some kind, but like MC 14/2 (revised) it did not provide any detail or scenario. It specifically discounted the possibility that the Soviets would launch a massed conventional attack against Europe.

CSC Paper 2(61) assumed no strategic warning. There would be two to three hours warning of a bomber attack, and seven to 20 minutes warning of an ICBM attack. In terms of targeting, CSC Paper 2(61) assumed that SAC bases in the United States would bear the weight of enemy weapons. Weapons might not be deliberately targeted against Canada in the best case, though fallout would cover portions of the country. In the worst case scenario, Canadian cities would be directly attacked. The difference lay in how quickly Canada could transition from peace to war. The elements of this process included ready and alert air and ASW defence forces in being and the actual alert system itself.<sup>58</sup>

In effect, CSC Paper 2(61) was a worst-case outlook and placed great emphasis on immediately ready forces in North America and virtually ignored Phase II forces. Phase II was beyond definition and impossible to

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56. Ibid.

57. Ibid.

58. Ibid.

plan for in military terms. Existing military forces in Phase II would be involved in national survival operations, while the Phase I forces were designed to limit the damage to Canada itself. Canadian forces in Europe were to preserve the integrity of the NATO area in the event of war during Phase I. Their fate in Phase II was not discussed.<sup>59</sup>

CSC Paper 2(61) generally served as an umbrella for service-specific thinking in 1961, though the services were not forced by the COSC to use it as a blueprint for service planning.

Army planning and thinking did not change dramatically and remained wedded to its existing roles and missions. The first priority was maintaining 4 CIBG in Germany as part of NORTHAG. Second priority was given in equal parts to keeping two reinforcement brigade groups trained and equipped to form part of SACEUR's reserve and to re-training and re-equipping the Militia for National Survival operations. Third priority was the Defence of Canada brigade group tasked to CUSRPG, and the fourth was provision of forces and personnel for UN operations.<sup>60</sup>

The Army was not overly challenged with the conceptual aspects of NATO strategic musings in 1961. The designated UN Standby Battalion Group was prepared for immediate airlift to any trouble spot, and 4 CIBG was capable of participating in whatever level of violence SACEUR deemed necessary in NATO's Central Region.

The biggest problem involved the lack of definition for Phase II under CSC Paper 2(61). If Canadian strategic policy assumed that Phase II would

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59. Ibid.

60. NAC RG 24 acc 83-84/215 vol. 26 file 1200 pt. 2 vol. 18, APCC, "Tasks and Aims of The Army, 1961-1963."

totally consist of rescue and revitalization of Canada in the wake of a nuclear attack, what should the other two rotational brigade groups do? At what point would they be transported to Europe? How would they be transported to Europe? The Army Policy Coordinating Committee (APCC) argued that

...the current emphasis on 'forces in being' ie:, on forces required for Phase I, has resulted in neglect of the requirements to raise, train, and equip the additional forces that will be needed for Phase II. Procurement authority, for example, does not provide for a field force any larger than that which now exists and does not meet SACEUR's requirements....[A] most important task for the next two years is the development of an agreed concept for Phase II of a major war.<sup>61</sup>

The APCC also rated the probability of a conventional enemy attack against North America as low; therefore the DCF function did not require a vast application of forces. As for the National Survival function, the Militia's equipment was now of Second World War vintage and was too costly to replace. The need for mass mobilization of several divisions did not exist under CSC Paper 2(61), but there was a requirement to man national attack warning and fallout reporting centres, rescue operations (re-entry operations), and aid to civil power tasks to maintain law and order after a nuclear attack. Few organizational changes were required, and the equipment necessary for these new missions was not expensive.<sup>62</sup> Army planners did not, however, make a link between NATO trends shifting back towards more conventional operations and the need to create or maintain the potential for a larger Canadian Army based on mobilization with the

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61. Ibid.

62. Ibid.; DGHIST file 81/674 vol. 2, 12 Jul 61, "The Tasks and Problems of The Canadian Army: CGS Talk to National Defence College."

appropriate equipment. Army planners assumed, like the JPC, that the most likely course of action in the early 1960s would be a catastrophic nuclear war and planned accordingly.

The RCN initiated a comprehensive policy review in 1961 which in some ways diverged from the tenets of CSC Paper 2(61). Admiral Herbert Rayner, the new Chief of the Naval Service, asked Rear Admiral Jeffry Brock to lead the Ad Hoc Committee on Naval Objectives in determining what the purposes, roles, tasks, and composition of the RCN should be over the next twenty-five years. This study, known as the Brock Report, provides insight into RCN thinking in the way the Air Officers Commanding conferences do for the RCAF at this time. In effect, the Brock Report was the result of a brainstorming session.<sup>63</sup>

The Brock Report contributors closely followed the ongoing nuclear debate in Canada and strategic conceptual musings in NATO. Both idea streams found their way into the study. Disarmament and arms control was excised from consideration immediately: "Experience suggests that disarmament negotiations are likely to be in a large measure a manifestation of the Cold War rather than a means of ameliorating it."<sup>64</sup> The international situation was locked into a "self-enforcing nuclear impasse" now that the Soviets had secure retaliatory forces. This made a mass attack against Canadian cities improbable but "will tend to increase the feasibility of limited war."<sup>65</sup>

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63. DGHIST, July 1961 "The Report of the Ad Hoc Committee on Naval Objectives."

64. Ibid.

65. Ibid.

The big questions were: will tactical and defensive nuclear weapons be used in limited war or not? Will tactical and defensive nuclear weapons use lead to strategic nuclear weapons use? The committee thought that:

It appears unsound to assume that any use of nuclear weapons in limited war would inevitably lead to more widespread use of such weapons and, hence, by a process termed 'escalation', result in all-out nuclear war. In effect, such an assumption denies the concept of limited war itself, which means that war aims are limited, ie: a war for something less than absolute surrender....any limited war involving the United States and the Soviet Union, directly or indirectly, could only be entered into with the clear prior knowledge of the existence on both sides of secure retaliatory forces....[I]t is not really a question of what types of weapons are used but rather a failure to appreciate the political consequences of a resort to force. It is also contrary to the facts of the Korean War and the Suez Crisis.<sup>66</sup>

Consequently,

In future the cutting edge of policy is likely to depend increasingly on non-nuclear weapons and forces, since they will be the only kind of military forces which can rationally be employed to support policy in the more probable situations. Tactical nuclear weapons will have an essential role as a deterrent to enemy use of such weapons, though there will be great and increasing reluctance to initiated use of them.<sup>67</sup>

However, the committee concluded that it was "militarily unsound" to create a strictly conventional force structure:

...[to] be fully effective [Canadian maritime forces] should follow training, equipment and fitting policies which would give them the known capability to participate, if and when required, in engagements involving the use of nuclear weapons. This does not mean that they must have nuclear weapons in their possession in

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66. Ibid.

67. Ibid.

time of peace, provided adequate arrangements have been made for emergency situations [author's emphasis].<sup>68</sup>

There were essentially five categories of conflict in which Canadian naval forces would have to confront:<sup>69</sup>

- 1) no warning all-out nuclear war
- 2) miscalculation or escalation into all out nuclear war
- 3) limited war
- 4) civil disruption, subversion and enemy infiltration in the Third World
- 5) demonstrations of force and diplomatic exercises

To carry out these missions, the RCN needed, in addition to the existing force structure, ASW helicopters and variable depth sonar for the St Laurent and Mackenzie-class ASW vessels, several conventional ASW submarines, more missiles for air defence, and the construction of a General Purpose Frigate which could carry and land 250 infantrymen and support them with naval gunfire as well as carry out ASW tasks in a secondary role.<sup>70</sup>

The annual RCAF Air Officers Commanding Conference in 1961 once again allowed the RCAF leadership to discuss informally its thoughts on strategic problems.<sup>71</sup>

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68. Ibid.

69. Ibid.

70. Ibid.

71. Douglas Harkness spoke at the conference but his speech was deliberately not recorded by the transcribers.

The question as to whether the ICBM would replace manned bombers in the near-term was put to rest by "a breakthrough in intelligence" which produced "virtual unanimity among all intelligence agencies as to the size of the Soviet ICBM force." This had to be CORONA overhead imagery, new intelligence which demonstrated that "the build up of these weapons had been much slower than was previously estimated on the basis of very tenuous evidence."<sup>72</sup>

Air defence issues notwithstanding, Air Marshal Larry Dunlap held centre stage during this affair in part because of his proximity to SACEUR, who, as we will recall, was wrestling with the NATO nuclear force problem, and in part because the RCAF leadership was concerned about the Canadian CF-104 force in light of the nuclear weapons debate.

Dunlap had been briefed on new targeting plans at SHAPE and informed the conference attendees that any ballistic missile force that fell under SACEUR's command involved "target planning that is specifically related to military objectives which are of direct concern to [ACE]," that is, the missiles would be used against Soviet airfields and missile bases (some of which were in the western Soviet Union) and not against cities. Dunlap noted that "You can question whether they are tactical or strategic. We don't any longer use those words because they are too confusing...they would be employed against targets from which the enemy would take off and attack [ACE]."<sup>73</sup> As enemy delivery means gained greater range, they were moved further east. NATO aircraft could reach only so far so quickly,

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72. DGHIST file: Air Marshal Dunlap Speeches-1963, "Remarks by Air Marshal Dunlap, National Defence College Kingston, Ontario, 19 July 1963."

73. DGHIST, Raymont Collection file 2008, "Shorthand Transcript of 1961 AOsc Conference, 21-22 March 1961."

which increased the need for NATO ballistic missiles. The deepest targets which could affect ACE would have to be handled by SAC and RAF Bomber Command. SACEUR had to have the ability to react quickly, Dunlap emphasized. CF-104's, therefore, were still critical.

The biggest problem, according to Dunlap, was the consultative process which in his view:

...would take far too long....One of things considered and which is perhaps a step forward is that perhaps in time of peace nations would agree to a delegation of authority to perhaps the Secretary-General or to SACEUR to cover specific situations which can be foreseen in advance. For example, one of the perhaps simplest of the situations is when an aggressor does make an attack and does use weapons, and there is no doubt he is launching an atomic war and has launched weapons....The ones which are more difficult are the ones in which there is more tie associated with, and perhaps one can resolve them by consultative means on the outbreak of hostilities....The Council members are studying that line of approach....<sup>74</sup>

There was not going to be any rapid solution in the near future.

As for the Canadian CF-104 force, the RCAF leadership expressed concern about its place in the planning. What happened if the Government did not agree to accept nuclear weapons for it? Would this throw off SHAPE planning? Sites had to be constructed, crews had to be trained. Air Vice Marshal Wray noted that: "The Americans, of course, are most helpful in any way they can be, but because of a lack of a Canada-US agreement, we can only go so far."<sup>75</sup> Harkness, who attended this session, reassured Wray that:

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74. Ibid.

75. Ibid.

"I think this matter will be settled in the near future. In the meantime, I think we can go ahead on the assumption this is going to happen....[T]his is on the assumption that these weapons are going to come into use in the forces and come into use with nuclear warheads."<sup>76</sup>

As for NATO strategic change, none of the conference members thought that the pause concept would be accepted as NATO strategy any time soon. Dunlap reiterated that NATO strategic policy was to defend the NATO area as far forward as possible using all methods available.<sup>77</sup>

Dunlap also made a point in stating for the Minister that:

May I stress that this strategic guidance was subscribed to by Canada and its substance was fully understood by the departments of the governments strictly concerned, namely Defence and External Affairs. Not only was this strategic guidance subscribed to but so were the policies and implementing programmes.<sup>78</sup>

In other words, the Government knew what the commitments entailed. Dunlap inadvertently put on a lecturing tone in what clearly reflected SACEUR's concerns:

...Cabinet in supporting [the CF-104 acquisition] were aware of the mounting role of strike aircraft. How then could there be any doubt in the minds of the Canadian Cabinet in the environment of atomic weapons? That strategy relies on nuclear weapons both for deterrence and for defence, although limiting its uses to situations which so warrant. until our force structure in support thereof is radically changed, there is no alternative....[T]hat this ammunition

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76. Ibid.

77. Ibid.

78. Ibid.

happens to be atomic is no excuse for leaving our forces without the means of fulfilling their roles and missions.<sup>79</sup>

The RCAF leadership questioned Dunlap on custody, control and release arrangements in NATO. Their interest was obvious in light of the public questioning going on at the time. Campbell wanted to know if the nuclear weapons would be released and attached to the CF-104's at a particular stage in the alert process. Dunlap told him that the weapons were attached in peacetime and that the CF-104 force as a whole would be placed under SACEUR's command upon declaration of Reinforced Alert. The North Atlantic Council was the authorizing authority to change the alert level to Reinforced Alert at this time.<sup>80</sup>

The French problem, Dunlap enlightened his listeners, despite public pronouncements, was unrelated to sovereignty. de Gaulle was "endeavoring to get U.S. provision of information on the manufacture of atomic weapons. they weren't getting anywhere and they dug their heels in....This was a bargaining position."<sup>81</sup> This left Canada 'holding the bag', because Canada was the only non-US member with forces and bases in France that needed nuclear weapons. There were plans in the works to deploy nuclear weapons from Germany and the UK by air to temporary sites at bases in France at certain levels of alert. This idea, in addition to the Brock Report's concept of fitted for but not with nuclear ASW weapons,

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79. Ibid.

80. Ibid.

81. Ibid.

percolated in Air Marshal Miller's mind and would bear fruit later on in the course of the nuclear weapon debate in Canada.

The conference members addressed the matter of 1 Air Division vulnerability, which had been raised during the SCODE deliberations and in previous RCAF meetings. AIRCENT planners believed that, in a scenario in which the enemy struck first and there was some warning, dispersed interceptor aircraft might be held on the ground between 35 minutes to five hours. Even though "fallout would cover practically all of Europe" except parts of Spain, there was enough decontamination capability to ensure continuous operations for the fighter force. Once the CF-104 was introduced, however, the Canadian bases jumped to the top of the enemy's priority target list. AOC 1 Air Division bluntly stated that: "We don't think we will get too much warning. We are well within range of their surface-to-surface missiles....[T]he time-to-impact area is very tight."<sup>82</sup> Existing NATO missiles were retaliatory. Unless something was done to counter the enemy missile capability, vulnerability would continue. Wray wanted more deployment airfields and he wanted them pre-stocked for at least seven days including pre-stocked with nuclear weapons.<sup>83</sup>

NATO air commanders, according to RCAF representatives, were also starting to come to grips with the evolving reconnaissance requirements. The introduction of an ACE ballistic missile system, no matter where it came from, increased the need for more aircraft to conduct post-strike reconnaissance. With CF-104 strike aircraft, the pilot conducted his own reconnaissance. Missiles could not report back. Therefore, NATO air

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82. Ibid.

83. Ibid.

planners were intrigued with having the two planned squadrons of RCAF CF-104's equipped for such duties.<sup>84</sup>

RCAF commanders wanted the two reconnaissance squadrons to have access to dispersed nuclear weapons and pre-delegated authority to use them after the war had started. However, Commander of 4 ATAF was not allowed to release nuclear weapons for targets of opportunity. There were too many problems with custody, control, and release, since "it is a difficult one to sell both in military and political area[s] because in effect it means that you are delegating ...right down to the level of the chap in the aircraft."

As for limited war issues, Air Commodore Carpenter weighed in as he had in 1960. In his view not enough was being done to develop conventional capability to handle peripheral operations. He suggested that the RCAF had demonstrated its reluctance during the deployment of the UN force to the Belgian Congo. In the RCAF, Carpenter asserted, "the ability to fight limited wars may vastly increase in importance...[We must] design our forces because we are so small that we have some degree of flexibility [in this area]."<sup>85</sup>

At the end of March 1961, President Kennedy announced to Congress the future direction of American NATO policy, based on discussions with SACEUR and the President's national security advisors. There were three objectives:

- 1) American forces should be designed to deter any deliberate nuclear attack on the United States or its allies, as well as to reduce the danger of accidental nuclear war.

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84. Ibid.

85. Ibid.

- 2) The United States requires a more flexible array of forces with which to respond to threats at all levels....and increase our ability to confine our response to non-nuclear weapons.
- 3) U.S. military forces would be subject to ultimate civilian control and command at all times....including all decisions relating to the use of nuclear weapons, or the escalation of a small war into a large one.<sup>86</sup>

This confirmed for many observers the past year's speculation as to what the future of NATO strategy should look like. Actually implementing it, however, was easier said than done. It became more and more difficult to explain to the public the need to improve nuclear forces and at the same time increase conventional forces when for years the public had been told that nuclear weapons made up for conventional force deficiencies. The nuances were contained in how the forces would be used and this was not open to public scrutiny.

#### Second Clash: Harkness versus Green, The President versus the Prime Minister

The run-up to the second Kennedy-Diefenbaker meeting consisted of another Harkness-Green skirmish. Harkness reminded Green on 1 March that "considerable time had elapsed" and a decision had to be made soon, since the delivery system's "operational dates approach."<sup>87</sup> With no formal reply from Green, Bryce attempted to broker another meeting between the two men. Bryce also attempted to establish what the existing situation was

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86. Stromseth, The Origins of Flexible Response, pp. 28-30.

87. DGHIST, Raymont Collection, file 302, 1 Mar 61, letter Harkness to Green.

before this meeting took place so that Green and Harkness could agree to disagree. Essentially, MB-1 storage at Harmon and Goose Bay was acceptable assuming the Americans agreed to joint custody, control, and release authority. As for Argentia, NATO would determine release but custody would be joint. If BOMARC warheads and nuclear warheads for Canadian interceptors were deemed necessary, joint custody and control would be necessary. A new wrinkle had been added, according to Bryce: All negotiations had to be wrapped up in a "package deal." There would be no individual separate agreements.<sup>88</sup>

Green finally replied a month later to Harkness' 30 December 1960 draft Government-to-Government agreement. This would not do, asserted Green. Where were the service-to-service sections for each system? How could Canada sign the agreement without knowing exactly what Canada was agreeing to? Green demanded that release procedures for each weapon be included in the general agreement, since "this is my understanding that this is what the Prime Minister had in mind" when he talked to Kennedy.<sup>89</sup> Green recommended that Miller meet with Robertson to handle the re-draft. This constituted yet another delay tactic on the part of Green and Robertson.

Miller presented Robertson with the already-established formula, which consisted of a general Government-to-Government agreements and several service-to-service agreements which would be worked out at the command level (that is, 1 Air Division would deal with USAFE, COMCANLANT with CinCLANT, etc.). Robertson told Miller that "such an approach will not be

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88. DGHIST, Raymont Collection, file 302, 2 Mar 61, letter Bryce to Harkness.

89. DGHIST, Raymont Collection, file 302, 30 Mar 61, letter Green to Harkness.

acceptable with [External Affairs] nor...to the Government as a whole."<sup>90</sup> In other words, Robertson wanted a whole series of Government-to-Government agreements, with External Affairs negotiating directly with the American command concerned. This was unacceptable to Miller.

Harkness finally met with Green on 3 May in what proved to be an acrimonious meeting. Harkness told Green that this 'whole cloth' approach was not acceptable at all. He would not have External Affairs interfering with National Defence business. Harkness forced Green to agree to presenting the Government-to-Government agreement to Cabinet without the service-to-service agreements grafted on, and to drop the External Affairs concept of negotiating with the American commands.<sup>91</sup> Green, reluctantly, would go along, but stressed that "A decision to enter negotiations could not be considered a decision to accept nuclear weapons, but only as a wish to be in a position to do so if necessary."<sup>92</sup> The matter was brought to the Prime Minister's attention on 5 May. He made note of it but took no action to resolve the issue after Green told him that acceptance of the "dual key" system would prejudice the ongoing disarmament talks.<sup>93</sup> Green then backed off from his agreement with Harkness to submit the general Government-to-Government agreement to Cabinet.<sup>94</sup>

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90. DGHIST, Raymont Collection, file 302, 26 Apr 61, letter Robertson to Miller.

91. DGHIST, Raymont Collection, file 302, 4 May 61, letter Harkness to Green.

92. Granatstein, A Man of Influence p. 348.

93. DGHIST, Raymont Collection, file 302, 5 May 61, note to file, "Acquisition of Nuclear Weapons for Canadian Forces;" Smith, Rogue Tory p. 382.

94. DGHIST, Raymont Collection, file 302, 5 May 61, letter Green to Harkness.

The Kennedy-Diefenbaker meeting was rapidly approaching. Harkness in a letter to Diefenbaker informed him that:

There is no real difference in opinion concerning the content of the general agreement....I do feel that to include the supplementary [ie: service-to-service] agreements formally as part of the general agreement may well be unnecessarily cumbersome in regard to subsequent changes that may be desired in the detailed arrangements...my main concern being that we get on with the negotiations. We shall very shortly be in a position of having weapons systems in situ which will be complete except that warheads will not be immediately available if required.<sup>95</sup>

This statement was not made lightly. Harkness had consulted Miller to find out how much time was required to achieve a nuclear capability. Due dates for BOMARC were July 1962 for North Bay and December 1962 for La Macaza, while the first CF-104's were supposed to arrive in December 1962. The Honest Johns were supposed to be in Europe in early 1962. Ground and air crews had to be trained in totally new technologies and procedures, and the lack of the service-to-service agreements, let alone access to nuclear weapons themselves, was producing barriers.<sup>96</sup> Some of these barriers were overcome using informal techniques. For example, Mk. 28 and Mk. 43 'shapes' were not supposed to be released to Canada without the service-to-service agreement, so the RCAF built their own, took them to the American Armed Forces Special Weapons Project for certification, who subsequently approved them for use.<sup>97</sup>

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95. DGHIST, Raymont Collection, file 302, 11 May 61, letter Harkness to Diefenbaker.

96. ATI, 21 Apr 61, memo to CAS, "Lead Times-Nuclear Weapons Systems."

97. DGHIST, 79/429 vol. 12, VCAS, "Divisional Items of Interest for Week Ending 15 June 1962."

RCAF planners noted with satisfaction that "a great deal has been accomplished by close liaison with the USAF. This liaison is enabling us to engineer into the [CF-104] the capability of carrying nuclear weapons. It is enabling us also to begin the preparations of safety studies, loading and delivery hand books."<sup>98</sup>

The ASW aircraft were all ready for modification, and the Honest John battery was reaching the point where it just needed access to the warheads.

But it was still not enough. The outstanding areas in which Canada could not proceed without the nuclear agreements included:

- a) Construction of:
  - i) special ammunition storage sites
  - ii) special alert facilities
  - iii) assembly and maintenance buildings
  - iv) protective facilities
- b) installation of special release and control communications for the use of the governments concerned.
- c) Provision and training of personnel for protection, handling and use of nuclear weapons.
- d) Incorporation, in the weapon carrier, of an approved capability for the carriage and release of nuclear weapons.
- e) Provision of facilities and administrative support for US custodial detachments on Canadian bases.<sup>99</sup>

The draft general Government-to-Government agreement was the same as the one dated 30 December 1960, which was virtually identical to the one Foulkes, Pearkes, and Hendrick had produced back in December 1959.<sup>100</sup> The supplementary agreements, however, were the result of intense

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98. ATI, 8 May 61, memo CAS to Minister, "Lead Times-Nuclear Weapons Systems."

99. DGHIST, Raymont Collection, file 302, 15 May 61, memo Miller to Harkness, "Nuclear Weapons."

100. DGHIST, Raymont Collection, file 302, attachment to 11 May 61 letter Harkness to Diefenbaker.

External-Defence negotiation and would form the basis not only for the actual service-to-service agreements, but Canadian thinking on custody, control, and release procedures over the next three years.

The American position on custody, which the draft supplementary agreements emphasized, was defined as "the control of property, the control of access to, and the control of weapons employment prior to the release of the weapon for operational use."<sup>101</sup> It was designed so that a deliberate act of force would be necessary for an enemy to gain access to the weapons themselves. There were three additional elements: "ownership, accountability, and actual possession."<sup>102</sup> The first two were never passed on to the non-US user: The user was responsible for the third once released to that country by the American President or his designated representative. Non-US control was also exercised at the alliance command level which created and approved the employment plans. These important factors were not understood by External Affairs, the Opposition, or the Prime Minister during the nuclear weapon debates. Notably,

Control over operational use of the weapon and the release of the weapon for operational use is exercised by the Canadian Government...[which was entitled] to exercise this control in any way it wishes and to place restrictions or conditions...on weapons employment. At this point, there is neither negative or positive control from the US and the weapon is not, therefore, under joint control.<sup>103</sup>

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101. Ibid.

102. Ibid.

103. Ibid.

BOMARC would have an "enabling device which will necessitate a physical key which action by one designated Canadian officer and an independent physical key switch action by one designated US officer" located at the SAGE direction centre at North Bay. The American would have a communications line to nearest CONAD command which could release the weapons. In terms of procedure, both Canada and the United States would have to authorize CinCNORAD to increase his state of readiness to the point whereby the weapons could be released by CinCNORAD to Canada for use authorization if the enemy struck.<sup>104</sup>

Unlike other systems in which the warheads were mated with the delivery system after some alert level had been reached, the BOMARC would have its warhead attached all the time. Out of the 318 men in a BOMARC squadron, 30 were American custodians responsible for logically maintaining the warheads. The RCAF would be responsible for the security of the BOMARC base.<sup>105</sup>

The situation for the CF-104 force and the Honest John missiles was different from the BOMARC's in the draft agreement. The Americans would release the bombs for the CF-104's and the warheads for the Honest John's on order from the American President or his representative to the RCAF, which would then place the planes under SACEUR's operational control. Then SACEUR had to get permission from NATO authorities and Canada to employ the CF-104 force. This could get complicated:

If the [NAC] should decide to authorize SACEUR to declare a Simple or higher state of alert, the two Governments [Canada and the US]

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104. Ibid.

105. Ibid.

shall determine whether such a decision shall be deemed to constitute authorization for SACEUR to employ the nuclear weapons at any time when in his judgment such action is required. In the absence of such a decision by the [NAC], should either Government be of the opinion that the situation warrants the removal of the nuclear weapons from storage and/or their use, they will consult....Should the determination be affirmative, the approval thereby given will be deemed to constitute authority for SACEUR...to employ them [subject to the COSC's approval].<sup>106</sup>

Whether this cumbersome process could function in a rapidly changing situation was left open for discussion and not addressed in the agreement.

As for nuclear ASW weapons, they would be stored at Greenwood, Nova Scotia (for both RCAF and RCN use); Summerside, PEI; Comox, BC; and Torbay, Newfoundland for RCAF use and onboard RCN ships at sea. All sites would have USN custodial personnel. Some weapons would be designated for CUSRPG use, and other for SACLANT use. SACLANT would release the weapons to the RCAF and RCN through the American custodial personnel on the East coast, and USCinCPAC would release to CANCOMARPAC on the West coast.<sup>107</sup>

All of this detail served multiple purposes. First, it staved off External Affair's insistence that more technical detail be included. Second, the detail also served to educate the Prime Minister in the specifics of what actually constituted joint control, custody, and release. Third, it clarified for all who were involved what was actually required to achieve a nuclear capability in a way that the Opposition and the media did not and could not understand.

There was one problem. Since the decision to acquire the F-101B was still under discussion and had not been formally accepted by the Americans, it

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106. Ibid.

107. Ibid.

was not included in the supplementary section. Harkness asked Miller about alternative armament for the VooDoo back in April and had been told that the F-101 could carry either two MB-1 and two GAR 1D (or 2A) Falcons or just two Falcons. The Falcon was, as we have seen, a conventional weapon and of lesser effectiveness. Harkness prepared a letter to ask External Affairs to add the F-101B/MB-1 combination to the supplementary agreements but apparently did not send it, fearing that it would be used as a device to delay the whole agreement again.<sup>108</sup> This would come back to haunt the Defence people in the future.

The Americans were also concerned about the lack of the nuclear agreement, but increasingly saw it as part of a larger neutralist direction taken by Howard Green. For example, Green told the NATO Ministerial Meeting at Oslo in May that as far as he was concerned, Canada was between the two superpowers and had a duty to reduce the tension between them.<sup>109</sup> In another case, one week before Kennedy was to visit Ottawa Green publicly rebuked the United States and insisted that she "stop pushing Cuba around." Ambassador Heeney was called into the State Department by a baffled American staff and asked about this. Heeney was "appalled" by Green's behaviour.<sup>110</sup>

Livingston Merchant, the American Ambassador to Canada, had several private conversations with "the majority of Cabinet, the top hierarchy in

108. DGHIST, Raymont Collection, file 303, (n/d) letter Harkness to Green; NAC MG 32 B19, vol. 30 file 44-89, 11 Apr 61, memo Miller to Harkness, "F-101B Aircraft-Weapons."

109. FRUS 1961-1963 Vol. XIII, pp. 1152-1153, message Rusk to State, 14 May 61; USNARA RG 59 E3077 250/68/30/3 box 1, file: NATO 1959-62 3A, "Canadian External Affairs Minister Green's Remarks at Oslo," 9 May 61.

110. Nash, Kennedy and Diefenbaker, pp. 104-105.

External, Mike Pearson...and a handful of diplomatic colleagues."

Merchant was shocked "that anti-Americanism has gone wide and deep", and that "Cabinet and Mike Pearson have become genuinely concerned that anti-Americanism and talk of neutralism--talk which they have positively encouraged--was going so far as seriously to endanger Canadian national interests." Harkness had demonstrated "courage and conviction," but Merchant was "fearful that Diefenbaker will refuse to reach a decision on [nuclear] weapons for Canada until after the next election. Green's influence is still strong."<sup>111</sup>

Merchant went so far to meet with Diefenbaker prior to Kennedy's May 1961 Ottawa visit in an effort to circumvent Howard Green. The discussion quickly focused on nuclear weapons. Did the Prime Minister realize that the PINETREE-VooDoo arrangement was predicated on the need for the aircraft to be equipped with nuclear weapons? How could Canada negotiate in good faith for this delivery system if she would not sign the general agreement? Did acceptance of the F-101B's mean that Canada was about to sign the agreement?

Diefenbaker told Merchant that he understood American wishes, but had 'genuine concern' about Canadian opinion....First, there were strong divisions among the public--and not all opponents were 'communists and bums'. Second, [External Affairs] was 'riddled with wishful thinkers who believed that the Soviets would be propitiated and disarmament prospects improved if only Canada did nothing to provoke [them]....Diefenbaker said that this was a ridiculous view and that cabinet would reach a decision quickly....<sup>112</sup>

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111. USNARA RG 59 E3077 250/68/30/3 box 1, file: Neutralism, Nationalism, Anti-Americanism 1960-62 1.14, letter Merchant to White, 4 Apr 61.

112. Smith, Rogue Tory, p. 384.

Despite all efforts, Diefenbaker-Kennedy personality problems overrode the implementation of the nuclear weapons agreements. The stringent security arrangements set up just prior to the visit produced friction between US Secret Service agents and the Royal Canadian Mounted Police. In another case, the State Department asked External Affairs what types of pillows would be in the President's suite. When told they were goose down, the White House insisted that Kennedy used only shredded daycron pillows and attempted to order External Affairs to change them. These details were regarded by Diefenbaker as affronts to Canadian sovereignty.<sup>113</sup>

These 'affronts' paled in comparison to Kennedy's use of French in a speech made once he stepped off Air Force One at RCAF Station Uplands on 16 May. Not only was Kennedy's French better than Diefenbaker's fractured mumblings in Canada's other official language, Kennedy once again referred to "Prime Minister Diefen-bawker" and even called Canada "Canader."<sup>114</sup> To make matters worse, Olive Diefenbaker did not get on well with Jacqueline Kennedy. Olive was a University of Saskatchewan graduate, a high school teacher and vocational guidance instructor who was frugal. Jackie, on the other hand, was a socialite who was a product of "Vassar, the Sorbonne, [and] Manhattan High Society."<sup>115</sup>

The Kennedy-Diefenbaker discussions involved five topic areas: Cuba, Canada and the Organization of American States, NATO and nuclear weapons, NATO and Berlin, and the F-101B deal. No military or foreign policy advisors, save the two Ambassadors, were present. Diefenbaker

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113. Nash, Kennedy and Diefenbaker, p. 105.

114. Ibid.

115. Ibid. p. 123.

retracted Green's statements on Cuba. He wanted to know if the Soviets had placed nuclear weapons in Cuba. Kennedy assured the Prime Minister that this had not yet happened, but if the Cubans tried to expand elsewhere in Central America, the Americans would intervene. Kennedy also thought that Cuba could be used as a counterweight if the Soviets blockaded or interfered with Berlin traffic. No matter what action the United States took, Kennedy assured Diefenbaker, he would consult Canada first.<sup>116</sup> As for the OAS, Kennedy wanted Canada to join it so that the Americans could have another friendly ally and reduce trade to Cuba. Diefenbaker fobbed this off and discussed Cuban cigars.<sup>117</sup>

The discussion shifted to NATO and nuclear weapons. Kennedy was all for increasing NATO's conventional capability and was concerned about the independent French deterrent. Diefenbaker was opposed to the French deterrent and told Kennedy that there had been "an upsurge of feeling about nuclear weapons" in Canada. There was too much anti-nuclear weapons mail being sent to him. This affected Canadian acquisition and storage of nuclear weapons. It was conceivable that, under joint control, storage might be feasible in the future, but "it just could not be done at this time. In fact, he doubted whether he could carry his own Cabinet with him on the issue."<sup>118</sup> Kennedy asserted that if the anti-nuclear movement in Canada

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116. FRUS 1961-1963 Vol. XIII, pp. 1153-1155, memcon Diefenbaker and Kennedy, "Cuba and Latin America," 17 May 61.

117. FRUS 1961-1963 Vol. XIII, pp. 1155-1156, memcon Diefenbaker and Kennedy, "Canada, the OAS, and IA-ECOSOC," 17 May 61.

118. FRUS 1961-1963 Vol. XIII, pp. 1157-1158, memcon Diefenbaker and Kennedy, "NATO and Nuclear Weapons," 17 May 61.

prevailed, it would make Canada neutral in the Cold War. The Prime Minister said that he "would make an effort to change public opinion."<sup>119</sup>

Diefenbaker was being deceptive in this conversation. As we have seen, Canadian public opinion was overwhelmingly in favour of nuclear weapons. Most of the Cabinet were also favourably inclined, despite Green's machinations. Diefenbaker had already vacillated on the issue of joint control time and again. He now agreed to it but was vague about when it would be implemented.

On the matter of Berlin, the President informed Diefenbaker that serious effort was going into developing plans for Berlin beyond those of the LIVE OAK organization. Canada, asserted Diefenbaker, had a "direct interest" in these plans and expected to be informed as to the details. The British and French were arguing over the size of the probes and this was delaying the plans. Berlin could not fall, according to the Prime Minister. If it did, "NATO would prove to be a weak reed." Perhaps Cuba was the best place to apply pressure to relieve Berlin.<sup>120</sup>

Finally, the discussions came to the F-101B swap. Canada was ready to get on with the deal. There was, however, a snag in the American camp:

...in order to be in a position to defend offshore procurement in Canada of \$200 million worth of F-104G's in the face of a depressed aircraft industry in the United States and a balance of payments problem, it was essential to be able to demonstrate that the air defenses of both countries were being improved with the transfer of the F-101B's to the RCAF....to make the transfer of these fighters currently in the USAF inventory and currently equipped with

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119. Ibid; Nash, Kennedy and Diefenbaker, p. 117-118.

120. FRUS 1961-1963 Vol. XIII, pp. 1159-1160, memcon Diefenbaker and Kennedy, "NATO and Berlin," 17 May 61; See also Sean M. Maloney, "Notfallplanung fur Berlin: Vorlaufer der Flexible Response 1958-1963", MilitarGeschichte Heft 1.1, Quartal 1997 7 Jahrgang for a full examination of Berlin Contingency Planning.

nuclear-tipped rockets would result in a degradation rather than an improvement of our air defense if they were armed with conventional rockets.<sup>121</sup>

It is clear from this change in American policy that Merchant (possibly in consultation with Harkness and others) wanted to use the F-104G MAP deal and the F-101B deal as leverage to get on with the nuclear weapons agreements; that is, the aircraft needed MB-1's to be fully effective, the USAF was stripping its squadrons to provide Canada with interceptors, either sign the agreement or the MAP contract might be restructured.

Diefenbaker fell back on the alleged public opinion problem he had with nuclear weapons and promised to alleviate it. He also "hoped that the aircraft arrangement could proceed without awaiting a governmental decision on the matter of nuclear weapons for Canada." Kennedy "again expressed perplexity at the fact that the difficulties were so great for Canada in taking this step."<sup>122</sup>

The personality factor came back into play. Kennedy spent an inordinate period of time with Mike Pearson at a cocktail party, an affront that did not go unnoticed by Diefenbaker. Worse, a Diefenbaker staffer found a memo to the President (penned by Walt W. Rostow) in a garbage can. Entitled, "What we want from the Ottawa trip," the memo constantly referred to the need for Kennedy "to push" Diefenbaker/Canada on the Organization of American States (OAS), on Laos, and on Latin America. That was bad enough, but apparently someone has scribbled what looked like "SOB" in the margin

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121. FRUS 1961-1963 Vol. XIII, pp. 1161-1162, memcon Diefenbaker and Kennedy, "Triangular Aircraft Agreement," 17 May 61.

122. Ibid.

next to Diefenbaker's name (it was probably "OAS"). Basil Robinson recommended that the Prime Minister return it immediately. An enraged Diefenbaker wanted to lodge a diplomatic protest but was dissuaded from this action. Diefenbaker put the memo in his safe and would later attempt to use it to blackmail Kennedy. Kennedy was, in his eyes, "a callow young man."<sup>123</sup> In the words of Robert F. Kennedy, "my brother really hated John Diefenbaker. He thought him a contemptible old fool....My brother really hated only two men in all his Presidency. One was Sukarno and the other was Diefenbaker."<sup>124</sup>

The matter of the 'push memo' illustrates the Canadian-American cultural gap as much as the Diefenbaker-Kennedy personality clash. In Canada, 'push' has more ugly and forcible connotations than it does in the United States. In Canadian parlance, the word 'press' would be used in similar circumstances. This misunderstanding was not a minor one, as it had sovereignty implications. It played right to Diefenbaker's increasingly suspicious perception of the United States and it appeared to him that it was now a personal issue. Diefenbaker *was* Canada, and he had been personally slighted yet again; therefore Canada was slighted.

As for the F-101B deal, Cabinet quickly saw the political benefits that would accrue from not only providing a manned interceptor but from the F-104G MAP arrangement. Orders totaling \$200 million would be placed in Canada, of which Canada would put up \$50 million, the Americans \$150 million. In return for this \$50 million and taking over eleven PINETREE sites, Canada got a manned interceptor and support for almost nothing,

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123. Smith, Rogue Tory, p. 388; Nash, Kennedy and Diefenbaker, p. 121.

124. Nash, Kennedy and Diefenbaker, p. 11.

and "direct employment for [7000 to 8000] persons for three years and an equal quantity of employment would be generated indirectly."<sup>125</sup>

Ambassador Heeney met with McNamara's people at the Pentagon, and MOU's were exchanged. Cabinet met yet again to discuss how to handle the issue publicly. Nuclear weapons were not mentioned directly in relation to the F-101B acquisition, but the Prime Minister would note that the VooDoo was nuclear-capable if asked. The aim of the public statement would be to play up the jobs angle. There was still some residual concern about the Opposition taking the Government to task for the cancellation of the Arrow, but Cabinet agreed to the proposal and approved it finally on 9 June 1961.<sup>126</sup> There was nary a peep from the Opposition when Diefenbaker announced that Canada would acquire the F-101B VooDoo interceptor as part of Canada's contribution to NORAD.

On 24 July 1961, Douglas Harkness accepted the formal handover of the first CF-101B VooDoo at RCAF station Uplands, Ottawa. Emphasizing that the deal symbolized the Canada-US defence partnership, the Minister of National Defence told his audience that: "NORAD must be capable of providing defence for the retaliatory forces of Strategic Air Command and for the industrial and highly populated centres of Canada and the United States our air defence must be sufficiently strong to convince a potential aggressor that in an attack upon us with bombers he would suffer prohibitive losses in exchange for highly uncertain gains."<sup>127</sup>

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125. NAC RG 2, 6 Jun 61, Cabinet Conclusions.

126. NAC RG 2, 9 and 12 Jun 61, Cabinet Conclusions.

127. NAC MG 32 B19, vol. 30, file 44-89, "Remarks by the Honourable Douglas S. Harkness, PC, GM, MP Minister of National Defence At the handing-over ceremony of the F-101, July 24, 1961."

### The Berlin Crisis: August-September 1961

The ongoing Berlin Crisis spiked once again in August 1961 when the Soviets and the East Germans erected the Berlin Wall. The Diefenbaker Government's response to the Berlin Crisis highlighted both the problems in signing the general Government-to-Government nuclear agreement and the impact of rapidly evolving NATO strategy on Canadian strategic policy.

The pause concept discussed earlier in 1961 was supplemented by other important thinking that would eventually lead to alterations in NATO strategy. Khrushchev's threats over Berlin reached new levels of bellicosity in March and April 1961. American policymakers, specifically Dean Acheson and Robert McNamara, were increasingly concerned about how to respond to the various types of force that the Soviets could use against Berlin. Norstad's LIVE OAK organization was deficient in some ways, since it was purely military in nature and structured to deal with small-scale access blockages. Acheson and McNamara wanted a series of political and economic, and an expanded list of military measures now, including the incorporation of nuclear weapons use, increasing NATO conventional forces, and increased SAC readiness. The question was: At what point did LIVE OAK-like activities transition into conventional, tactical nuclear, and strategic nuclear war in NATO's Central Region, and how should the allies be consulted?<sup>128</sup>

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128. Sean M. Maloney, "Notfallplanung für Berlin: Vorläufer der Flexible Response 1958-1963", *MilitärGeschichte Heft 1.1, Quartal 1997 7 Jahrgang*.

This question and others were discussed by Cabinet late in July 1961. Diefenbaker, though not specifically referring to strategic intelligence, told Cabinet that Khrushchev "was now starting to drink again and speak more freely....[He] seemed to think he had superiority over the United States in missiles and nuclear weapons."<sup>129</sup> The Soviet Premier was "challenged at home and by China and must show progress [on] Berlin and the German situation." The East Germans might even try on their own to take over West Berlin. Ambassador Merchant had informed Canada that they were considering instituting measures like calling up Army and Navy reserves to move six divisions to Germany. Canada had to decide on a response and soon. Additionally, Canada also had to make a decision on MB-1 storage and the general Government-to-Government agreement. These negotiations might take two months, according to Howard Green, and they should be started "now."<sup>130</sup>

Green thought Canada should push for economic sanctions against the Soviets and perhaps deploy a second and maybe even a third brigade group to Europe alongside 4 CIBG. French action against Bizerte, Tunisia was the moral equivalent of Soviet action against Berlin, according to Green.<sup>131</sup> He also thought that the UN should mediate over Berlin and in Algeria. As for nuclear weapons for Canada, Green once again emphasized that acquisition would imperil disarmament talks and would be a provocative move in this time of crisis: "He hoped that Cabinet would not rush in to

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129. NAC RG 2, 24 Jul 61, Cabinet Conclusions.

130. Ibid.

131. The French struck FLN rebel sanctuary areas in Tunisia as part of their ongoing Algerian campaign which prompted a substantial outcry in the world community since Tunisia was not a belligerant.

approve Canada becoming a nuclear power....It was an issue that might determine whether or not Montreal, Toronto, Hamilton, Ottawa, Vancouver, and other Canadian cities might be blotted off the map...[It] was the future of Canadian civilization."<sup>132</sup>

Harkness then weighed in. The issue was not some moral equivalency between Algeria and Germany. Khrushchev's objective was to break up NATO. If NATO did not stand up to the enemy in Berlin, West Germany might leave NATO, reunify, and go neutral, or worse, come under Soviet domination. The United Nations "could not have much effect" and such propositions "had no relationship to reality." Defensive nuclear weapons for Canadian forces were not multi-megaton hydrogen bombs. There was no comparison. BOMARC's could not start a war. Diefenbaker tentatively agreed, but Green insisted that joint control infringed on Canadian sovereignty. Diefenbaker thought that the MB-1 agreement, which in his mind had been "held up as a trading point," should continue now as a step towards signing the general agreement.<sup>133</sup>

Green again raised the specter of nuclear war. Merchant, he told Cabinet, "had left him with the distinct impression that they were now set for nuclear war." Harkness challenged Green on this point. Canada, then, should have the most effective air defence she could get in the time available.<sup>134</sup> This meant accelerating the F-101B programme and arming them with MB-1's and allowing the Americans to store and use MB-1's from Harmon and Goose Bay.

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132. NAC RG 2, 24 Jul 61, Cabinet Conclusions.

133. Ibid.

134. Ibid.

Harkness was satisfied enough by the Cabinet meeting that he had Deputy Defence Minister Willis Armstrong contact Miller to arrange to meet with Robertson to sort out some minor changes to the draft general agreement prior to it going to Cabinet for final approval. After waiting four days, Robertson informed Miller that Green was going on holidays and that he had not yet examined the supplementary agreements at length.<sup>135</sup>

On 3 August, Kennedy sent Diefenbaker a message. In order to provide the best united front possible in the course of the Berlin Crisis and to protect SAC, Kennedy noted that:

There is...an aspect of our continental defense which, for reasons which we both understand, is imperfect. This is the lack of orderly arrangements for insuring that the RCAF as well as the USAF should be possessed of nuclear weapons to respond to any attack across the Pole....It would now only be prudent to renew with vigor our efforts to conclude negotiations...I recognize that this is not an easy matter for you, but I do believe that we cannot achieve a successful negotiating position on Germany and Berlin until we have taken every reasonable step to strengthen our military security.<sup>136</sup>

The Prime Minister did not reply for ten days. During this interval, the Soviets started to reinforce the Group of Soviet Forces Germany, which increased the tension once NATO intelligence people assessed and disseminated this information.<sup>137</sup> Miller was having further problems with Robertson, who had altered the wording of the draft agreement so that American responsibilities regarding custody were not defined. The detail

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135. DGHIST, Raymont Collection, file 303, 24 Jul 61, memo Armstrong to Miller; 31 Jul 61, memo Robertson to Miller, "Negotiations with the U.S. Concerning the Provisions of Stock-piles of Nuclear Weapons for Canadian Forces."

136. FRUS 1961-1963 Vol. XIII, pp. 1162-1163, message Washington to Ottawa, 3 Aug 61.

137. Maloney, War Without Battles, p. 158.

that existed in the former draft regarding the release procedure for the warheads was excised. Since this was the point in American law on which these agreements were based, the new draft was unacceptable. Miller promptly informed Harkness.<sup>138</sup> Diefenbaker finally called Kennedy and promised that he would have Harkness and Green expedite the nuclear weapons agreement.<sup>139</sup>

In the interim Dean Rusk prepared a classified speech for the North Atlantic Council, which was transmitted verbatim to Canada one week prior to its being presented.<sup>140</sup> Rusk called for linkage between LIVE OAK and NATO. Berlin contingency measures were risky given the state of the Shield forces in the Central Region. Consequently, there had to be closer coordination between the two activities. ACE had to be at a higher state of alert before any LIVE OAK measures could be implemented. NATO, therefore, "must also be prepared across a spectrum of military operations,"<sup>141</sup> which could include the reinforcement of Europe, the deployment of the ACE Mobile forces, movement of the Shield forces to their Emergency Defence Plan positions, the conduct of another Berlin airlift, the harassment of East Bloc shipping, the conduct of small and medium-scale probes down the Berlin access routes, and finally the use of nuclear

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138. DGHIST, Raymont Collection, file 303, 8 Aug 61, memo Miller to Harkness, "Negotiations with the U.S. Government Concerning the Acquisition of Nuclear Weapons for Canadian Forces;" 8 Aug 61, memo Miller to Robertson, "Negotiations with the U.S. Concerning the Provision of Stockpiles of Nuclear Weapons for Canadian Forces."

139. Nash, Kennedy and Diefenbaker, p. 137.

140. DGHIST, file 114.3Q1 (D14), 10 Aug 61, message NATO Paris to External Affairs. "Germany and Berlin-Military Build Up."

141. Ibid.

weapons in limited demonstrations, direct nuclear support of probes, or even large-scale use against bases in the USSR.<sup>142</sup>

The Joint Staff had done some anticipatory planning starting on 3 August, but the Rusk speech gave more impetus to these proceedings. Canada should at the outset reinforce 4 CIBG in West Germany with an additional 800 men to bring it up to war establishment strength. Second, 3 CIBG should prepare to deploy to West Germany. Third, 1 SSM Battery should take its Honest John rockets and launch equipment and deploy to join 4 CIBG in 1961 rather than in 1962. Perhaps a 'buck shee' arrangement could be made with the British to access their Honest John warhead stockpile in BAOR. Finally, the Army recommended accelerating the National Survival programme and the strategic materials stockpile programme in anticipation of nuclear attack.<sup>143</sup>

Diefenbaker then gave a speech at Halifax, Nova Scotia in which he declared that those who thought Canada should withdraw from NATO if forced to accept nuclear weapons were "dangerous to the survival of freedom itself....Would you, faced with the overwhelming power of Soviet might in East Germany close to West Berlin with large divisions fully armed, place in the hands of those who guard the portals of freedom nothing but bows and arrows?"<sup>144</sup>

Another long Cabinet meeting on Berlin followed on 17 August. Green pressed for a UN force for Berlin and thought that Canada "should not just

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142. Ibid.

143. DGHIST, file 114.3Q1 (D14), 3 Aug 61, Aide Memoir, "Berlin Contingency Planning;" 9 Aug 61, "Supporting Data to Aide memoir Berlin Contingency Planning;" 12 Aug 61, memo DMO&P, "Dispatch of a Second Brigade Group to Germany."

144. Lyon, Canada in World Affairs 1961-1963 p. 92.

fall in line with the Americans by taking actions which would tend to add to the atmosphere of threat." Green also discussed the Rusk speech in the NAC. He wanted Cabinet to allow him to get Heeney to talk to Rusk and get him to back off on Berlin contingency planning since it was too provocative in his view.<sup>145</sup>

Harkness countered Green's pacifism. Canada needed to sign the general nuclear agreement. That was the best way that Canada could prepare for the crisis, next to dispatching more forces to Europe. The situation was dire. The COSC believed that the Soviets would not necessarily go to war over Berlin, "but that war could occur nevertheless, particularly if there was a revolt in East Germany and if West German forces were tempted to move in and help...."<sup>146</sup> National Survival measures should also be accelerated. Cabinet would only agree to reinforcing 4 CIBG, studying the deployment of 3 CIBG to Germany and to implementing National Survival measures.<sup>147</sup>

As for nuclear weapons, Green finally submitted the draft agreement to Cabinet on 22 August. After a detailed briefing on the agreement itself, Cabinet members would only agree to "give further consideration to the matter" at a future meeting.<sup>148</sup>

The next day, Cabinet conducted an extended meeting on the draft agreement. Diefenbaker was now concerned "that if negotiations were

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145. NAC RG 2, 17 Aug 61, Cabinet Conclusions.

146. Ibid.

147. Ibid.; NAC RG 2, 21 Aug 61, Cabinet Conclusions.

148. NAC RG 2, 22 Aug 61, Cabinet Conclusions.

started with the U.S. the fact that they were taking place would almost certainly become known and would be interpreted as meaning that Canada had taken a decision in principle to obtain stockpiles of nuclear warheads."<sup>149</sup>

The Prime Minister was convinced that nuclear weapons would be acceptable for Canada's NATO forces but he was still concerned about opposition backlash over nuclear weapons in Canada. Therefore, Diefenbaker wanted deniability. In other words, negotiations were not supposed to imply that Canada would actually get nuclear warheads for its systems in Canada. The Prime Minister was, therefore, prepared to bargain in bad faith with the Americans because of his fear of Pearson and the Liberals.

Those in Cabinet who were opposed to nuclear weapons, led by Green, presented a whole range of arguments:

- 1) If Canada got nuclear weapons, the United Arab Republic would want them too.
- 2) If Canada got nuclear weapons, it would be too provocative an act during this time of crisis over Berlin.
- 3) The Americans possessed enough nuclear weapons, Canada did not need them.
- 4) NATO's new emphasis on conventional forces precluded the need for Canadian nuclear weapons.
- 5) If Canada got nuclear weapons, West Germany would get them too and the Soviets would attack Europe and Canada.
- 6) If Canada stockpiled nuclear weapons, its influence in world affairs and ability to provide moral leadership to other countries would be ended.
- 7) Canadian nuclear forces were only needed to protect SAC, SAC was provocative, SAC should not be protected.

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149. NAC RG 2, 23 Aug 61, Cabinet Conclusions.

- 8) If the Soviets decided at some point to give nuclear weapons to smaller countries, the fact that Canada had not obtained them would deter the Soviets from doing so.<sup>150</sup>

Establishing moral equivalency between Canada and the UAR was spurious. Diefenbaker was by no means Gamal Abdel Nasser's counterpart. Defensive nuclear weapons in Canada could not be considered provocative by the Soviets. Allowing the Americans to defend Canada with defensive nuclear weapons was already considered by Cabinet to be an abrogation of sovereignty. NATO had emphasized the need for more conventional forces, but it had also emphasized the equal need for better nuclear forces. West Germany already had access to nuclear weapons. SAC was the cornerstone of NATO's deterrent effort, and protecting it produced stability. Finally, the assertion that Canadian influence would be weakened was unsubstantiated. This assumed that the audience that needed to be influenced was the Third World, and not Canada's closest allies and trading partners in NATO. As with the Canada-UAR argument, making a moral equivalence between the relationship between a smaller Warsaw Pact nation and the USSR and Canada and the United States was invalid. NATO was not the moral equivalent of the Warsaw Pact, and Canada was not the moral equivalent of Poland or Czechoslovakia.

Cabinet delayed a decision yet again and again on 25 August.<sup>151</sup>

Canada had committed to accepting nuclear weapons, and her strategic policy, alliances, and forces were carefully structured to use them to deter and, if deterrence failed, limit the damage that could be wrought on Canada

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150. Ibid., NAC RG 2, 25 Aug 61, Cabinet Conclusions.

151. Ibid.

and her allies by the Soviet's use of nuclear weapons. All Canadian decisionmakers involved in strategic policy, elected and unelected, knew this to be true. The perspective emanating from Green, Robertson and others flew in the face of all this. To undermine the protection of the Canadian people was wrong, especially during the Berlin Crisis. It is unfortunate that Prime Minister John Diefenbaker was complicit in the anti-nuclear effort for his personal, self-interested objectives.

Green's views on arms control and disarmament were shattered on 22 August 1961, when the Soviet Union embarked upon an aggressive atmospheric nuclear test programme. The Soviets conducted 50 nuclear shots between 22 August and 30 October, the last one totaling approximately 59 megatons.<sup>152</sup> NATO even embarked on some civil defence measures in the face of noticeable increased fallout from these tests. The Americans soon joined in with Operation NOUGAT, which, unlike Soviet tests, consisted mostly of underground shots.<sup>153</sup> Diefenbaker was angry about the lack of consultation with Canada and NATO on the American test programme. This situation contributed to Diefenbaker's swing in Green's direction on the nuclear weapons negotiations issue. The Prime Minister suddenly announced in Cabinet that if the Americans did not accede to joint control, the deal was off. Nobody bothered to tell the Americans.<sup>154</sup>

A Diefenbaker speech in the House on 11 September re-fueled the public debate over nuclear weapons. He made some vague statements ("being

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152. Louis Halle, The Cold War as History (New York: Harper Collins Publishers, 1991) p. 398.

153. U.S. Department of Energy, "Announced United States Nuclear Tests July 1945 through December 1981," January 1982.

154. Nash, Kennedy and Diefenbaker, p. 138; NAC RG 2, 14 Sep 61, Cabinet Conclusions.

prepared to make those changes which the realities demand") and incorporated a tribute to Howard Green's push for nuclear disarmament. A number of media outlets and the Opposition predicted Green's resignation and that the Government would formally announce the acquisition of nuclear weapons.<sup>155</sup> At the same time, somebody (Knowlton Nash thinks it may have been John Kennedy) leaked the 3 August letter from the President to the Prime Minister to Ben Bradlee, the Washington editor of *Newsweek*. The resulting story speculated on the nature of the agreement and baldly stated that the Kennedy Administration was pushing (in the Canadian sense of the word) the Diefenbaker Government on nuclear weapons.<sup>156</sup>

Attacked by Pearson and the Liberals in the House, Harkness had to respond:

In talking and writing about defence policy, many people have become so obsessed with equipment matters...that they have come to look upon these as the main features of defence policy rather than as one of the means by which basic defence policy is carried into effect. The type of equipment depends on the strategy being followed to implement our defence policy and on the tactics which it is believed we will have to employ....[T]his means that our forces must be equipped to give them the maximum possible mobility and flexibility. It requires that they be equipped with weapons comparable to if not better than those of a potential adversary.<sup>157</sup>

All of Canada's planned nuclear delivery systems had to have nuclear weapons to be effective and in no way were to "be compared with such

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155. Jocelyn Maynard Ghent, "Canadian-American Relations and the Nuclear Weapons controversy, 1958-1963" (unpublished PhD dissertation, University of Illinois, 1976, University Microfilms International Order Number 76-24087) p. 116.

156. Nash, Kennedy and Diefenbaker, p. 139.

157. Hansard, 12 Sep 61, House of Commons Debates.

strategic nuclear weapons as are maintained by the United Kingdom, the United States, and the Soviet Union."<sup>158</sup> There were real, quantifiable threats: "the situation is much the same as that of a man living in a lonely cabin in the woods who fears he may be attacked by a bear. He does not wait until the bear actually attacks him to buy a rifle, but secures it beforehand and has it ready in the event of need."<sup>159</sup>

Paul Hellyer argued in the House that ICBM's made air defence measures useless and that "We continue to believe that it is not worth while to put Canada into the atomic club."<sup>160</sup> Canada's priority, in his view, should be towards building up NATO's conventional forces and "if atomic weapons of the defensive type are required...in NATO, we would not object to Canadian forces being so equipped if these weapons came under NATO collective control."<sup>161</sup> Pearson also shifted gears in a House speech on 14 September, arguing that the only sure way to maintain peace was through SAC and the ability to protect that deterrent. Then, during a 15 September House debate, Pearson argued that joint control made Canada a member of the so-called "nuclear club" and that it also interfered with disarmament negotiations. Canada should, perhaps, restrict herself to the warning function or "birdwatching" as it was condescendingly called by the

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158. Ibid.

159. Ibid.

160. Lyon, Canada and World Affairs 1961-1963 p. 95.

161. Ibid.

Government. Now it was the Opposition's turn to be vague, contradictory, and obscure on the nuclear weapons issue.<sup>162</sup>

Harkness gave Pearson a blast: "We would warn the Americans that the enemy was coming, we would tell him who he is, we would fix and track him, but then we would virtuously withdraw and let the Americans do the killing. This is a solution worthy of Pontius Pilate, not of a Lester B. Pearson and his associates."<sup>163</sup>

This coincided with a serious problem that developed in the NAC. Not all LIVE OAK nations wanted close coordination with NATO defence planning in the Central Region. At the same time some NATO member nations were not impressed with what appeared to them to be a "big three" device to control when NATO went to war over Berlin. The American Ambassador to NATO, Thomas Finletter, warned Washington that if there was no consultation among France, the UK, and the United States with the rest of the Alliance, NATO "might even fall apart." Finletter "learned in strictest confidence [that] Canada, Italy, and the Netherlands are countries which have expressed dissatisfaction...and have implied that if the matter is not corrected they cannot be counted on...."<sup>164</sup> The Belgians then joined the revolt. The net result of the application of this pressure over the next two years was to focus more attention on developing a true flexible response strategy for NATO which would directly affect Canadian strategic policy and force structure in 1963 and 1964.

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162. Ibid.

163. Ibid. p. 100.

164. FRUS 1961-1963: Western Europe and Berlin Microfiche Supplement frame 180  
message NATO Paris to State, 19 Sep 61.

## Inching Towards a Canadian Nuclear Capability: June-December 1961

The process of equipping the Canadian forces with nuclear delivery systems progressed slowly throughout the last half of 1961. There was much to do, and the RCAF in particular exploited its formal and informal relationships with the USAF and the USN to the maximum. In particular, the RCAF used the existing nuclear weapons information sharing agreements to maximum effect and the Americans even bent the rules at times.<sup>165</sup>

The first Canadair CF-104 flew in 14 June 1961 but 6 Operational Strike-Reconnaissance Training Unit (later changed to 6 OTU) at Cold Lake, Alberta would not receive its first single seat CF-104 until September. The first dual-seat CF-104D aircraft did not arrive until January 1962. Prior to training at Cold Lake, the first RCAF CF-104 pilots were sent on course to Chatham, New Brunswick, where they started flying CF-86 Sabres in low-level 'profile' navigation missions against the many covered bridges in that province.<sup>166</sup> One area that caused problems was the delivery method. NATO authorities would not tell the RCAF how the weapons were to be delivered, so the RCAF training personnel built all three methods (retarded, toss, and

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165. ATI, (n/d) "Implications of the Acquisition of Nuclear Weapons by the RCAF."

166. Bashow, Starfighter p. 11-13; DGHIST file 79/429 vol. 11, AMTS Divisional Items of Interest for Week Ending 18 Aug 61; letter Col. William Anderson to Maloney, 13 June 1995; confidential interview.

dive), into the curriculum basing this on some sanitized USAF F-104C and F-105 manuals that had been acquired through the CJSM(W).<sup>167</sup>

Another hold up relating to the lack of government decision on nuclear weapons involved the communications arrangements for the SAS sites at Zweibruecken and Baden-Soellingen. If the Government wanted a separate release channel from Ottawa, in addition to the American and NATO channels, this would require modification to the buildings, antenna parks, trunk lines, and headquarters. Arrangements would also have to be made with the West Germans, who owned the land. Plans were drawn up for this capability just in case the Government demanded it.<sup>168</sup>

1 Air Division staff and RCAF staff officers at SHAPE, AIRCENT, and 4 ATAF had conducted an intense information gathering campaign throughout 1961 with the aim of being as prepared as possible without the actual service-to-service agreement necessary to achieve a full nuclear capability. This included the formulation of a complete checklist of information. The planners wanted to know about USAFE Oplan NR 143-59, the nuclear strike plan; how the lock wires and seals on the arming systems worked; what the safety criteria were for aircraft on Quick Reaction Alert (QRA); how the crews and pilots would be evaluated; how communications might function. Not all of this information was provided by USAFE and 4 ATAF.<sup>169</sup>

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167. ATI, 25 May 61, DAMTS to CAS, "Implications of Acquisition of Nuclear Weapons by RCAF."

168. Ibid., ATI, 1 Aug 61, memo COR to D/VCAS.

169. ATI, 31 May 61, "Report on a Visit to SHAPE, 1 Air Division, and USAF(E) Formations. Subject" Some Preparations Required to Give 1 Air Division an Atomic Strike Capability."

It was not enough to just acquire aircraft and train air and ground crews. 1 Air Division planners learned that there were more than 800 targets within 4 ATAF's area of responsibility alone, half of which were strike targets and half of which were reconnaissance targets. 1 Air Division needed an expanded intelligence organization to handle the Canadian portion of this load, whatever this proportion might be. Since pilots would be tasked to handle multiple targets, the staff figured that they needed to be familiar with at least 4 000 separate targets.<sup>170</sup>

The CF-101 work-up was easier in many ways. The 66 aircraft, 56 singles and 10 dual trainers, had previously belonged to USAF CONAD squadrons (most of which were located in the southern United States) which were disbanded so that Canada could receive them. In 1961 the RCAF cadre pilots attended ground school at Otis AFB and then did flight training at Hamilton AFB. There they learned the workings and tactical employment of the GAR-2 Falcon and, to a lesser extent, the MB-1 Genie. The course was hampered by the security clearance problem, though two navigators were "accidentally" loaded on a USAF course in which certain information on how the MB-1 was to be operationally employed was made available to them. The pilots learned the recommended escape manouevre (placing the belly of the aircraft to the blast). All of the crews were given a combat ready check by the USAF staff. None of the crews were not told outright at the time what the exact yield of the MB-1 was. Upon graduation this RCAF cadre went to

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170. ATI, 29 May 61, Minutes of Current planning Committee Meeting 5/61; 29 May 61, memo CPers to VCAS, "Security Clearence Problems: Personnel to RCAF ZED List." The RCAF planners knew that they might be tasked to provide coverage of 2 ATAF targets in northern Germany and 6 ATAF in Italy.

Namao, Alberta to train Canadian CF-101 crews and passed on all of this information throughout the fall of 1961.<sup>171</sup>

There was also movement on the nuclear ASW front. At some point in 1961, a US Navy mobile training team was sent to Canada under the auspices of the Joint Atomic Information Exchange Group to conduct a four-day course on nuclear weapons safety and aircraft compatibility with the Mk. 101 NDB for both the RCAF and RCN.<sup>172</sup> The RCN then established Project SNOWFLAKE to see what exactly was needed to re-wire the CS2F Trackers to carry armament circuits for NDB's.<sup>173</sup> Liaison was established between the RCN and the US Navy Naval Weapons Evaluation Facility (NWEF) at Kirtland AFB, New Mexico to schedule weapons compatibility trials. As with the CF-101 training, there were a number of information blocks. The NWEF would release only information that had already been released under the 1955 and 1959 information sharing agreements. If the RCN wanted more Nuclear Weapons Restricted Data information, a formal application had to be made through the AFSWP.<sup>174</sup>

An RCAF team traveled to Kirtland AFB, New Mexico in September to visit the NWEF in order to examine the possibilities of modifying the RCAF's P2V7 Neptune for Mk. 101 nuclear weapons delivery. All the NWEF needed was a Neptune wiring diagram from the RCAF, as the RCAF

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171. Interview with Group Captain Rayne (Joe) Schultz, 16 Jan 96, Ottawa, Ontario.

172. NAC RG 24 acc 83/84/167 vol. 3734 file 8100 vol. 9, 7 Mar 61, memo to ACNS(A&W), "Special Weapons Training for Canadian Aircrew/Nuclear Safety for Canadian Aircrew."

173. Stuart E. Soward, Hands To Flying Stations: A Recollective History of Canadian Naval Aviation Volume II: 1955-1969 (Victoria B.C.: Neptune Developments, 1995) p. 260.

174. ATI, 4 Oct 61, memo AMTS to CNTS, "Nuclear Weapons Compatibility CS2F-2."

Neptune's electric system for releasing conventional ASW weapons were slightly different from USN Neptunes. From this the NWEF could give the RCAF the appropriate standards for the safety and release system. The NWEF was even willing to certify the weapon loading equipment, but the RCAF had not brought this with them.<sup>175</sup>

By October 1961, the RCAF realized that the task of transforming the RCAF to accept nuclear weapons was much larger than had been anticipated and could no longer continue on an ad hoc, delivery system basis. The technological complexity of the CF-104, in addition to the stringent safety requirements demanded by the USAF in the carriage of nuclear weapons, posed staff and coordination problems. The situation was different from the BOMARC and CF-101 systems, since they had already been designed to use nuclear weapons and had all of the appropriate safety systems built into their design and maintenance procedures. The problems with the nuclear ASW programme straddled both extremes, since the P2V7 Neptune was an American-built aircraft, and the Americans had already modified theirs to carry NDB's, while the Argus was a Canadian aircraft that had no such modification as yet. MAC had a Neptune at Kirtland, and it had been modified for Mk. 101 delivery, but the entire installation for the Mk. 101 had to be designed from the ground up.<sup>176</sup>

There was still no movement in Cabinet on the general agreement by October 1961. The first BOMARC missiles started to arrive in Canada on 19 October (though they were without warheads and they would not be placed

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175. ATI, 4 Oct 61, memo AMTS to CNTS, "Nuclear Weapons Compatibility CS2F-2"; 24 Oct 61, memo RCAF LO to CAS, "Special Weapons Compatibility-P2V7 Neptune."

176. ATI, 4 Oct 61, "Supporting Data for Air Council Meeting: Proposed Organization to Effect the Introduction and Maintenance of Nuclear Weapons."

in their launch shelters until December), while 1 SSM Battery was prepared to launch a rocket with a dummy warhead for the benefit of Canadian policymakers to prove that they were ready. NATO allies in Europe wanted to know how much space 1 SSM Battery needed for nuclear storage and communications systems. These events prompted Harkness to prepare yet another plea to Cabinet to sign the agreement.<sup>177</sup> Norman Robertson was somehow able to prevent the topic from being added to the Cabinet's agenda.<sup>178</sup>

At the same time the Joint Staff was asked, with RCAF help, to prepare a working paper that could be attached to the Cabinet memo. This paper was in part structured to refute all of the anti-nuclear weapons arguments that had so far been raised. It was an extremely blunt piece of staff work:

Through her participation in NATO, Canada is committed politically and militarily to a nuclear defence strategy and cannot shirk her defence responsibilities while expecting a full voice in the Alliance. To reject nuclear weapons for her own armed forces, while supporting a nuclear strategy, can only weaken the Alliance and prejudice Canada's stature in the eyes of the other nations of the world.<sup>179</sup>

For those who believed that Canada would be the first middle power to join the so-called nuclear club, the Joint Staff pointed out that membership was restricted to those nations with an independent strategic capability. Joint control did not count, and Canada would have joint control. In fact,

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177. DGHIST, Raymont Collection, file 303, 18 Oct 61, memo to Cabinet, "General Agreement on Atomic Weapons."

178. Granatstein, A Man of Influence p. 349.

179. DGHIST, Raymont Collection, file 303, 11 Oct 61, "Joint Staff Working Paper: Nuclear Weapons for Canadian Forces."

Italy and Turkey, by their acceptance of Jupiter IRBM's, predated Canada in acquiring joint control of nuclear weapons. The proposition that the Soviets would now give nuclear weapons to the Warsaw Pact satellite nations on the basis that Canada was now acquiring them was equally wrong as "Soviet behavior would indicate that the USSR needs no such excuse to dictate what armament it will provide...it will be because of military necessity."<sup>180</sup>

Speculation that Canada's acquisition of nuclear weapons would increase the threat of nuclear war was unsupported. To the contrary, "if North America were to come under attack, it is most unlikely that Canada would be spared because she did not possess them."<sup>181</sup>

The disarmament arguments were the easiest ones to refute, according to the Joint Staff, as "such an approach is difficult to reconcile with Canada's sales of Uranium"<sup>182</sup> to Canadian allies, which reached at one point 50% of the material the Americans needed for their stockpile.

The most spurious argument against Canadian nuclear weapons acquisition was "if Canada adopts nuclear weapons, she may forfeit her influence with the 'uncommitted nations' and with it their ability to act as peacemaker." The Joint Staff pointed out that the Soviets had not lost any influence with the so-called uncommitted nations by their possession of a nuclear stockpile. Canada's "greatest ability to exert influence undoubtedly lies in her partnerships in NATO and NORAD, where she has a voice and influence far greater than her national stature would suggest. By shirking

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180. Ibid.

181. Ibid.

182. Ibid.

from meeting her NATO and NORAD commitments to adopt nuclear weapons, she can only prejudice this voice and influence."<sup>183</sup>

In a memo to the Joint Staff, Miller gloomily told them: "I do not want this paper distributed. It reads too much like a propaganda blurb for atomic weapons. I do not know what it can accomplish...."<sup>184</sup> In retrospect it should have been leaked through the RCAF to its supporters to have any dramatic effect.

The Army had not been lax on the introduction of Honest John into its force structure. The equipment was delivered in July 1961 and included twenty four practice rockets equipped with a spotting charge. There were no plans to acquire conventional high-explosive warheads for either battery and it was well understood within the Army and elsewhere that it was strictly a nuclear delivery system. Throughout the summer of 1961, Commander 4 CIBG entered into discussions on Special Ammunition Storage and access with HQ US Army Europe. The Americans would discuss only administrative facilities for the custodial staff: "HQ USAREUR will not participate in further discussions in the absence of a satisfactory bilateral agreement between Canada and the US on the use and control of nuclear warheads."<sup>185</sup> All was not lost, however. 4 CIBG privately discussed warhead access with HQ BAOR, with which, as we will recall, 4 CIBG worked extremely closely. Perhaps the British could be persuaded to develop an "understanding?"

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183. Ibid.

184. DGHIST, Raymont Collection, file 303, 26 Oct 61, memo Miller to Joint Staff.

185. DGHIST, Raymont Collection, file 140, 6 Jul 61, memo Clark to Harkness, "Status Report: 762mm Rocket System (Honest John)."

1 SSM Battery at this point was "not technically trained on the arming procedures associated nuclear warheads," though it had been able to acquire a nuclear warhead training simulator device in preparation for this advanced training and was capable of performing all of the other actions necessary to launch and tactically employ Honest John's. The British arrangement with USAREUR was that their Honest John warheads were stored in sites that had British security teams and American warhead custodians. The British transported the warheads to the firing sites upon release and the American team armed the warheads there. In other words, even though there was no formal arrangement for Canadian-designated warheads from the warhead stockpile allocated to BAOR, there remained the possibility that in an emergency, warheads could be made available to 1 SSM Battery in Europe.<sup>186</sup>

BAOR and 4 CIBG had already established that, on approval by the West German government, a Special Ammunition Storage Site would be constructed at Hemer within the 4 CIBG garrison area. Canada and the UK would share construction costs. Until such time as Canada signed its bilateral agreements, the site would house warheads and rocket motors for 50 Medium Regiment, Royal Artillery. Once the agreements were signed, then Canadian-designated warheads and rocket motors would be moved into the site or a portion of those warheads already in the site would be designated as 4 CIBG-tasked. Until the site was actually built in 1964, warheads and rocket motors were available from a number of other British SAS sites located at Dortmund, Muenster, and Ludenscheid.<sup>187</sup>

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186. DGHIST, Raymont Collection, file 303, 25 Oct 61, memo Walsh to Harkness, "Control and Storage of Nuclear Warheads for 1 SSM Battery."

187. NAC RG 24 acc 83-84/215 file 1200 pt. 4.2 vol. 16, 14 Dec 60, memo to VCGS, "Support Arrangements: Surface-to-Surface Missile battery, RCA;" Maloney, War Without

A problem arose when Brigadier Ware, Commander 4 CIBG gave an interview to the media in which he was quoted as saying that: "He can get Allies to use nuclear weapons on Canadian-chosen targets simply by telephoning his opposite number in either UK or US forces."<sup>188</sup> Lieutenant-General Geoffrey Walsh, who had taken 27 CIBG to Germany in 1951 and had by now replaced Clark as the Chief of the General Staff, reprimanded Ware: "The question of provision of nuclear warheads for Canada has been under negotiation for some time and it is a particularly sensitive subject due to certain segments of public opinion....any statements by ourselves can prove embarrassing....you are not at liberty to comment further."<sup>189</sup>

Harkness went to Cabinet twice in November 1961 to demand a decision on the general agreement. The missiles were starting to arrive at the BOMARC site at North Bay, and 1 SSM Battery was about to leave for Europe. These units would be useless without nuclear warheads. When asked, Harkness told Cabinet that conventional warheads might be made available, but they would have to be produced and this could take six months. The weapons would not be effective even with conventional warheads, since the plans and concept of operations on which their acquisition was predicated required nuclear warheads. No decision was reached on 21 November (Diefenbaker even ordered the Cabinet Secretary to

Battles, p. 142-143. Technically, there were Special Ammunition Storage Sites where the warheads were stored and ready for use. Then there were Support Sites where third-line maintenance on the warheads was carried out in peacetime. The third type were Depot Sites where war reserve weapons and replacement components were held. See DGHIST file 112.9M2.009 (D216), 24 Jul 61, DMO&P, "Special Support of Atomic Activity in Northern Army Group."

188. DGHIST, Raymont Collection, file 303, 15 Nov 61, message Walsh to Ware.

189. Ibid.

leave the room and no notes were taken). Harkness returned on 30 November and told Cabinet that a recent Gallup Poll concluded that 61% of Canadians were in favour of nuclear weapons acquisition, 8% had no opinion, and 31% were against. How could Cabinet continue to stall on this matter when the people were in favour of these defensive measures? No decision was reached.<sup>190</sup>

The CF-101 interceptors were delivered to Canada throughout the fall of 1961. The first squadron, 425 Alouette Squadron, converted at Namao, Alberta in October and served as the operational conversion unit. Between October 1961 and March 1962, five CF-100 squadrons underwent operational conversion at Namao prior to deploying to Comox, Ottawa, North Bay, and Bagotville.<sup>191</sup>

Preparing the CF-101 force for NORAD service did not occur overnight, and there were some bureaucratic hurdles to overcome in addition to the lack of general and service-to-service nuclear agreements. Someone had accidentally placed a low priority on the RCAF funding requirements list going to the Treasury Board, which resulted in having not enough money available to construct MB-1 Special Ammunition Storage Sites and Quick reaction Alert areas for the CF-101 squadron bases. This oversight was not noticed until late November 1961. Air Marshal Campbell had to "climb aboard" his staff to sort it out and quickly.<sup>192</sup>

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190. NAC RG 2, 21 and 30 Nov 61, Cabinet Conclusions.

191. Milberry, Sixty Years, pp. 334-335; "Canada's VooDoo: Withdrawal of last CF-101s from Service", Air Clues v. 39, No. 2 February 1985 ; (no date, no author) 416 Squadron (privately published sqiadron history); Kevin Keaveney, McDonnell F-101B/F (Arlington TX: Aerofax Inc., 1984) pp. 5-6; Lou Drendel and Paul Stevens, VooDoo (New Carrollton, TX: Squadron/Signal Publications, 1985) pp. 55-58.

192. ATI, 21 Nov 61, memo CAS to VCAS, "Nuclear Weapons-101B."

Detailed construction information for the SAS sites was not supposed to be passed on in the absence of the general Government-to-Government and service-to-service agreements. However, the USAF had bent the rules for some of this information so that BOMARC site construction could progress. Campbell wanted to get similar information for the CF-101 sites, but progress was slow in the fall and "entirely in the hands of the USAF and dependent on their cooperation and goodwill." By December, the information was in the hands of the architects, and the sites had been selected.<sup>193</sup>

While all this was going on, the NORAD staff changed their requirements for the numbers of QRA aircraft that they wanted on alert which in turn altered the requirements for QRA site construction. Essentially, NORAD originally wanted four nuclear-armed interceptor aircraft on QRA (constant fifteen minutes alert) per squadron. This was changed to two aircraft per squadron. Another complicating factor was an RCAF plan to disperse its interceptors at certain levels of readiness. This meant that deployment bases capable of accepting MB-1's had to be built as well. These changes required further study into 1962.<sup>194</sup>

The RCN quietly continued with Project SNOWFLAKE. On 7 December two RCN CS2F Trackers from development squadron VX-10 flew to Kirtland AFB "to carry out the clearance drop test of a simulated nuclear depth bomb. the drop was successful and the CS2F was given a clean bill of health

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193. ATI, 24 Nov 61, memo to CAS, "Nuclear Weapons-CF-101B;" 15 Dec 61, memo AMTS to CAS, "Nuclear Weapons-CF-101B."

194. ATI, 13 Dec 61, memo COps to CPlansI; 1 Dec 61, memo DAMTS to CPlansI, "Nuclear Weapons- CF-101B Aircraft;" 17 Jan 62, memo DAMTS to CPlansI, "Nuclear Weapons- CF-101B Aircraft."

allowing the modifications to be subsequently incorporated into additional Trackers.<sup>195</sup> On the same day, the third and fourth BOMARC missiles belonging to 446 SAM Squadron were placed in their launch shelters at the North Bay BOMARC base.<sup>196</sup>

The battle for the general agreement continued, with Hugh Campbell expressing private concern that External Affairs meddling in the matter of custody and control might imperil the ability of the defence forces in getting timely authorization for their use, assuming that the agreements were not scuttled completely.<sup>197</sup> Harkness was forced to add the CF-101/MB-1 section to the Robertson-proposed supplemental agreements, which once again gave Robertson and Green an excuse to delay the process.<sup>198</sup>

The release of another Gallup Poll result in December 1961 indicated that two-thirds of the Canadian people supported nuclear weapons acquisition.<sup>199</sup>

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195. Soward, Hands To Flying Stations Vol. II, pp. 260-261.

196. DGHIST, 79/429 vol. 12, VCAS, "Divisional Items of Interest for Week Ending 9 December 1961."

197. ATI, 11 Dec 61, memo Campbell to Miller, "Nuclear Weapons-Requirements for RCAF Air Defence Interceptor Squadrons."

198. DGHIST, Raymont Collection, file 303, 19 Dec 61, letter Harkness to Green.

199. McLin, Canada's Changing Defense Policy p. 143.

## Conclusion

The ongoing struggle over the Canada-US Government-to-Government nuclear agreement remained polarized, with Douglas Harkness and Air Marshal Frank Miller on one side and Howard Green and Norman Robertson (supported by George Ignatieff) on the other. Green and Robertson introduced deliberate delay tactics which aggravated the situation. The Prime Minister was in the middle but was leaning in Green's and Robertson's direction. This lean was accentuated due in equal parts to fear of Opposition criticism in the House of Commons by Pearson and to the unnecessary Kennedy-Diefenbaker personality conflict, which permeated all aspects of the Canada-US relationship. Green can be blamed for the disunited front presented by the Diefenbaker Government since he behaved as though Canada was a neutral, non-aligned nation, while at the same time Canada acquired the nuclear-capable CF-101B interceptor aircraft to replace the aging CF-100 fleet.

Concurrent with all this, Miller, Hendrick, and Loper attempted to work around the block as much as possible within the confines of American law. Incremental strides were made in command and control arrangements and in other more minor equipment areas. Canadian forces continued their incremental preparatory measures to achieve a nuclear capability.

The Berlin Crisis, however, indicated the need for a wide spectrum of responses to Soviet belligerancy and that such measures could be put into action only with a secure strategic nuclear deterrent. By procrastinating on the nuclear agreement, Canada was unable to contribute to the protection of this deterrent. NATO strategy continued to evolve during this period with an emphasis on more conventional forces and better nuclear forces.

Strategic conceptual musings focused on the pause concept. Canada's force structure was generally in a good position to deal with any proposed changes to NATO's strategy but her ability to fight a protracted conventional war had deteriorated dramatically with unwillingness of the Diefenbaker Government to pay for it.

Once again, we are confronted with the growing divergence between Canada's long-established, realistic, and acceptable national security policy and the behaviour of Howard Green and his supporters. It was not realistic to arrest the momentum of the existing national security policy. There was a real threat. Canada had made commitments. Canada had to remain militarily capable to carry these commitments out not merely for prestige reasons but for the legitimate security objectives consonant with those commitments. Too much money, manpower, industrial resources and diplomatic effort was invested in Canada's contribution to NATO and NORAD. Too many Canadians were gainfully employed. Green and Robertson refused to accept this and thought they could do an about-face by resorting to manipulative bureaucratic methods and ignoring the interests of the Canadian people. Deliberately blocking acceptance of the nuclear agreements during the Berlin Crisis was the height of folly. The situation would only get worse in 1962 with the advent of a new crisis.

CHAPTER 11

CANADA'S NUCLEAR CRISIS III: CAMELOT VERSUS THE PEACEABLE  
KINGDOM, 1962-1963

Introduction

The third act in the nuclear weapons crisis drama was its climax. Canadian-American relations plunged into a tailspin, assisted by the total estrangement between John Diefenbaker and John F. Kennedy. The continuing machinations emanating from within External Affairs continued to interfere with the formal accession to a nuclear weapons-sharing arrangement between the two countries, while the armed forces continued their incremental approach to achieving a nuclear capability. The complex interplay among personalities, technology, and strategic policy brought out the worst political crisis in Canadian history as Nikita Khrushchev and John F. Kennedy squared off over Cuba and threatened to launch the world on the path to armageddon. After the world pulled back from the brink, Mike Pearson and the Opposition counterattacked and knocked down the rotting structure that was the Diefenbaker Government and that they had successfully undermined.

Developments in Early 1962

The Progressive Conservatives were suffering from internal division in 1962. There was a significant "dump Dief" camp which believed that a future election would finish off the party if Diefenbaker remained in control.

In part to stave off opposition from within his own party's ranks, and in part to shore up the Government in the House, the Prime Minister called for a snap election in June 1962. It was against this backdrop that the next phase of the nuclear crisis was played.<sup>1</sup>

As we saw in Chapter 10, the RCAF started to toy with the idea that, in the absence of a formal Government-to-Government agreement guaranteeing Canadian access to nuclear warheads, some form of understanding could be arranged with the Americans so that a portion of the stockpile could be delivered to Canadian units in an emergency. This thinking became one of many election issues. At some undetermined point in 1962, the USN established one such understanding with regard to providing nuclear depth bombs to RCN and RCAF maritime forces in an emergency.<sup>2</sup>

In January 1962, Air Marshal Campbell privately expressed his concern to his staff that:

...somebody might mention to the Minister [Harkness] the possibility of nuclear warheads for both the BOMARCS and the MB-1s remaining in storage at selected points in the [United States] to be available for deployment to Canada under emergency conditions only. We all know that there would be an unacceptable time requirement....but the CAS wishes it to be spelled out....<sup>3</sup>

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1. Smith, Rogue Tory, pp. 430-432.

2. See Sean M. Maloney and Joel J. Sokolsky, "Ready, Willing, and Able: The RCN and Nuclear Weapons, 1955-1970", unpublished conference paper, September 1992; Interview with Brigadier General Herb Sutherland, (CF Ret'd) Ottawa, 5 March 1992.

3. ATI, 22 Jan 62, memo Acting VCAS to CPlans I, "Nuclear Weapons."

In other words, the RCAF did not want a possible emergency standby plan serving as a solution to a political problem.

Unfortunately for the RCAF, Robertson, Green, and Ignatieff got wind of the standby concept and sent a memo outlining it to Diefenbaker in January.<sup>4</sup> Bob Bryce refused to support External's proposal and even cautioned the Prime Minister against considering it, let alone publicly discussing it.<sup>5</sup> Diefenbaker then gave a press conference on 24 February in which he baldly stated that nuclear weapons could be made available to Canadian delivery systems within half an hour to an hour of an alert. This speech was repeated in the House of Commons two days later. When queried by the Opposition about the lack of a formal agreement, the Prime Minister argued that this was an acceptable course of action, since in his view the American law demanding joint control was unacceptable, and until it was changed a standby system had to suffice. This was misleading.<sup>6</sup>

The Americans were nothing short of "astonished."<sup>7</sup> No such arrangement existed, and even if it were formally agreed to, current estimates implied that it would take at least 15 hours to move the weapons to Canada. It was merely one possibility under examination by the RCAF. In State's view, the speech:

...stem[med] from [a] compound of ignorance of [a] complex subject, profound reluctance [to] face up to disagreeable subject, [an]

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4. Nash, Kennedy and Diefenbaker, p. 152.

5. Robinson, Diefenbaker's World, p. 239.

6. Lyon, Canada in World Affairs, pp. 105-106; McLin, Canada's Changing Defense Policy, p. 142.

7. Nash, Kennedy and Diefenbaker, p. 153.

unfortunate propensity [to] point to [the] US as immovable stumbling block and heat of the moment in lively parliamentary exchange with Pearson for whom he feels [a] positive emotional dislike....[the] liberal opposition despite its own less than forthright stand on nuclear weapons, will not let the matter lie and will seek daily to probe this soft spot....<sup>8</sup>

On 28 February Diefenbaker denied in the House that such an arrangement existed. He then went on to emphasize that such an arrangement should exist. This even prompted Professor Douglas Le Pan, formerly of External Affairs, to come out publicly against the scheme. Le Pan argued that such a stance would undermine the deterrent value of the weapons.<sup>9</sup>

Sensing an opening, and with that opening the possibility to generate movement on the Government-to-Government agreement, Dean Rusk went public in a news conference on 9 March. If Canada wanted nuclear weapons, Canada must decide for herself. Custody must be in American hands, but the United States was willing to work out joint control issues with Canada. Rusk emphasized that the United States was willing to discuss the matter "at any time."<sup>10</sup> Livingston Merchant then met with Diefenbaker, who implied that negotiations might proceed.<sup>11</sup>

The Opposition then proceeded to subject Harkness "to an intense prolonged grilling" on nuclear weapons in the House. Pearson, Hellyer, and

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8. FRUS 1961-1963 Vol. XIII, pp. 1167-1168, message Embassy Canada to State, 27 Feb 62.

9. Lyon, Canada in World Affairs pp. 107-108.

10. Ibid., p. 109.

11. Granatstein, A Man of Influence p. 349.

Martin all took turns lambasting the Government for not living up to its NATO responsibilities. This time the attack was based on the Government's alleged reneging on not providing nuclear warheads for the CF-104 force. Harkness "put on an impressive display of evasive tactics during the four hour discussion" and declared, accurately, that the point was moot since the CF-104's would not be shipped to Europe for some time. Pearson then hit upon the one-hour standby non-arrangement, asserting that this plan was "preposterous." Harkness, of course, could not comment in any case as there was no such arrangement or agreement. Another similar round followed on 20 March.<sup>12</sup>

The chasm between Diefenbaker and Kennedy reached new depths. Diefenbaker's gracious congratulations regarding John Glenn's orbital flight received no official acknowledgment nor reply from the White House.<sup>13</sup> This was followed by Pearson's visit to the White House for a dinner of Nobel Prize winners. The Canadian media widely reported that Pearson and Kennedy remained closeted for over forty minutes discussing topics like Vietnam, nuclear testing, and the UK-European Common Market imbroglio. Diefenbaker saw it as a deliberate attempt by Kennedy to interfere with Canadian foreign policy.<sup>14</sup>

The entire affair took a disturbing turn when Diefenbaker summoned Livingston Merchant for a tirade which Merchant described as a situation in which Diefenbaker "was excited to a degree disturbing in a leader of an

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12. Lyon, Canada in World Affairs pp. 110-111; Hansard, House of Commons Debates, 20 March 1962.

13. Nash, Kennedy and Diefenbaker, p. 151.

14. Ghent, "Canadian-American Relations and the Nuclear Weapons controversy, 1958-1963," pp. 133-134; Nash, Kennedy and Diefenbaker, p. 157.

important country, and closer to hysteria than I have ever seen him...."<sup>15</sup> The Liberals were making full use of the Kennedy-Pearson meeting, as were the media. Kennedy, in the Prime Minister's view, was deliberately interfering in Canadian affairs. Diefenbaker then pulled out the infamous May 1961 'push memo' from his special safe. The Canadian public would go crazy when they were informed that the Americans were prepared to 'push' Canada in many ways. He was now "forced" to use it in the election campaign to counter the Opposition.<sup>16</sup>

Merchant was horrified. At first he lied to the Prime Minister, telling him that Kennedy had a great deal of respect for him. He urged him not to reveal the contents of the memo as it "had no official status and was not intended for Canadian eyes." There would be a "backlash", and the Prime Minister would be forced to explain how he came by the memo in the first place. As a last ditch effort, Merchant then played the NATO card:

Finally I said that the Prime Minister bore a heavy responsibility as an ally of the United States and as a member of the Free World coalition. Domestic elections could be divisive in any country. I thought he should give sober historic thought before he responded as he intended to the capitalization of his political rival on an incident that was innocent and certainly not intended as intervention.<sup>17</sup>

Merchant was disturbed by the encounter. He informed the State Department that:

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15. FRUS 1961-1963 Vol. XIII, pp. 1172-1177, letter from Merchant to Ball, 5 May 62.

16. Ibid.

17. Ibid.

Given Canadian sensibilities and apprehensions of American influence, it is in our interest neither to intervene in Canadian domestic elections nor to give the appearance of doing so. Were we to intervene and be successful, our candidate would be labeled as a running dog of the United States and inhibited from acting along lines agreeable to us....<sup>18</sup>

The Ambassador recommended that Kennedy arrange a visit with Diefenbaker to solve this one. The President of the United States exploded, referred to the Prime Minister of Canada as "a prick, a fucker, a shit," and refused to have any further personal communications with the man.<sup>19</sup>

#### NATO Strategy and the Ministerial Meeting at Athens, April-May 1962

Athens' importance to Canadian strategic policy was multifaceted. NATO was trying to redefine strategy without declaring that it was in fact doing so, and Canadian analysis of the meeting provides us with insight into this process, as well as American strategy which affected Canadian interests. MC 14/2 (revised) remained the dominant expression of NATO strategy in 1962. As we have seen in the previous two chapters, there were a number of debates which seriously questioned the continuation of MC 14/2 (revised) in this mode. These were the pause concept, the Bowie Report with its emphasis on a conventional force build-up and the MLF, and Kennedy's March 1961 announcement that he would push for a flexible force structure and increased civilian control over nuclear weapons. The most important

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18. Ibid.

19. Nash, Kennedy and Diefenbaker, p. 160.

challenge was the revolt in the NAC after the Berlin Crisis, led by Canada over the tripartite domination of NATO strategic policy.

A dedicated NATO activist, Secretary General Dirk Stikker ensured that the main strategic issues did not remain on the back burner in the NATO forum. Stikker was not in favour of challenging MC 14/2 (revised) at this point since it would undermine NATO unity in what was then a perpetual crisis over Berlin. He did favour, as General Norstad did, increasing conventional forces and moving them forward to the Iron Curtain from the Weser-Lech line. Stikker was concerned that, without a formal understanding between NATO and the United States, American nuclear support remained uncertain in a crisis which did not meet the pattern of MC 14/2 (revised). American provision of more and better nuclear weapons information would go a long way toward reducing the unease. All of these issues required open and free discussion by NATO leaders.<sup>20</sup>

To this end the NATO Defence Committee generated two studies on NATO strategy by the end of February and passed them on to NATO member states to stimulate discussion.<sup>21</sup> NATO countries were asked to consider increasing conventional forces; that a pause concept might be incorporated into emergency defence planning in ACE; that NATO might make "discriminate use of nuclear weapons" in order to prevent escalation

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20. FRUS 1961-1963 Vol. XIII, pp. 357-360, meeting Stikker and Rusk, "NATO Nuclear Questions," 5 Feb 62; pp. 360-364, meeting Stikker and Kennedy, "Call of Secretary General of NATO," 6 Feb 62.

21. Robert S. Jordan, Political Leadership in NATO: A Study in Multinational Diplomacy (Boulder, CO: Westview Press, 1979) pp. 145-146.

to strategic nuclear war; and the possibility that NATO could fight a protracted large-scale conventional war to contain an enemy attack.<sup>22</sup>

These ideas reflected a number of problems. The first was the ongoing problem of a graduated response to Berlin incidents and the possibility of escalation to strategic nuclear war. Second, the West German population and its leaders felt increasingly exposed in that the defence of the Weser-Lech line did not guarantee the security of the eastern-most portion of the country, which had domestic political repercussions which could be exploited by the enemy.<sup>23</sup>

Other important and long-term issues affecting Canadian strategic policy were raised at this time. The British advocated the creation of a "NATO Peacetime Nuclear Administrative Committee." This was the genesis of the NATO Nuclear Planning Group which emerged later in the 1960s. The aim of establishing this committee was to give the European NATO members "a greater sense of participation in the whole range of NATO military planning," that is, nuclear weapons planning. It would have an advisory function, not a command function. It would handle liaison and coordination between SACLANT and SACEUR and assess Soviet nuclear planning.<sup>24</sup> If such a committee was formed, the CF-104 force would therefore allow Canada access to more corridors of influence within the Alliance.

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22. PRO, DEFE 4/143, 1 Mar 62, JPS, "NATO Strategy and the Role of NATO Forces."

23. Maloney, War Without Battles, pp. 200.

24. PRO DEFE 5/125, 20 Mar 62, Chiefs of Staff Committee, "Control of Nuclear Weapons."

George Ignatieff had by this time replaced Jules Leger, who had suffered a heart attack, as Canada's Ambassador to NATO.<sup>25</sup> Ignatieff and the External Affairs staff produced a detailed examination of the direction in which they believed American and NATO strategy was heading and what it meant for Canada. First of all, the External study asserted that there really was no new direction in Kennedy's strategic policy, that it was merely "a clarification, a sharpening up and a franker facing of major issues.... Some new phrases have appeared in the American vocabulary but these do not represent new ideas."<sup>26</sup> In essence, all the Kennedy Administration was emphasizing was adherence to the existing conventional MC 70 goals with some fine tuning regarding theatre nuclear force structure command and control. The real problem, and it was not a new one, was the dispute between the UK and the US as to what constituted the "correct" balance of conventional and nuclear forces and how the nuclear forces would be used (incrementally or all at once).<sup>27</sup>

In an interesting point, the External staff argued that the new interpretation of American strategic thinking with regard to NATO was not something that was to be imposed on Europe to ensure American dominance. Rather, "the effect of nearly exclusive reliance upon US nuclear striking power is to saddle the US government with an appalling responsibility and to place at risk in every minor crisis the cities and

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25. Ignatieff, The Making of a Peacemonger, p. 197.

26. NAC RG 25 vol. 4486 file 50030-40 pt. 8, 14 Feb 62, DEA study for George Ignatieff-Personal, "NATO Long Term Planning: The Resumption of the Debate."

27. Ibid.

population of North America."<sup>28</sup> In other words, the Americans should not be expected to have the onus placed entirely on them by the Europeans. On the other hand, the staffers were convinced that the Americans and British were extremely concerned about the West Germans' having too high a proportion of the conventional forces in Europe (with corresponding effects on who controlled operational strategy in the Central Region) and having in the future a perhaps less friendly West German government with access to long range nuclear weapons capable of striking the Soviet Union, weapons which might not be under NATO control.<sup>29</sup>

There were vital Canadian interests at stake in the resolution of the NATO strategy question. These included:

- (a) The political solidarity of NATO and its vulnerability to external threats and pressures;
- (b) The distribution of power within the Alliance, and specifically the avoidance of a German preponderance or a German nuclear weapons programme;
- (c) The political health and vitality of the North Atlantic Community including its ability to formulate and pursue constructive policies in fields apart from defence.<sup>30</sup>

Canada could not remain aloof from the strategy debate. If the British and Germans were successful in getting NATO to implement an "all or nothing strategy" and war occurred, "withdrawal from NATO would not relieve Canada in any material degree from the possibly disastrous consequences" of a nuclear war. It might be embarrassing if Canada were

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28. Ibid.

29. Ibid.

30. Ibid.

asked to contribute more conventional forces, but that was easier to live with.

As for the nuclear command and control issue, the Canadian stance was that the Americans should have sole custody and even control of nuclear warheads tasked to NATO. The Europeans should be encouraged to accept this, despite the Canadian position on the joint control and custody issue for weapons in North America. External Affairs was not in favour of the NATO MRBM programme and was convinced that American Polaris submarines assigned to SACEUR could do the job just as well.<sup>31</sup>

Canada's ability to influence all of these debates was constrained, however:

The present unresolved status of the nuclear weapons issue in Canada clearly represents a serious restriction upon Canada's ability to pursue a constructive role in accordance with Canadian interests in the great strategic debate within NATO. This is likely to be true with the passage of time and as the debate enters a more decisive phase....Canada is exposed to the charge that she has failed to live up to the commitment accepted at the 1957 Heads of Government meeting. This must be expected to reduce Canada's prestige and influence in the complex and difficult negotiations which lie ahead. In a general sense, Canada's stand on nuclear weapons invites the charge that Canada is indifferent to the security requirements of her Allies....More specifically it deprives Canada of two potent arguments:

- (a) The North American commitment to NATO is beyond question;
- (b) Joint stockpiling arrangements are a feasible alternative to the establishment of independent nuclear deterrents.<sup>32</sup>

In other words, without a nuclear-armed CF-104 force, Honest Johns, and significant conventional forces stationed in Europe, Canada had little

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31. Ibid.

32. Ibid.

credibility and influence in the NAC. This would threaten Canadian influence in the short term and Canadian security in the long term.

The next move in the strategic debate involved Norstad. SACEUR issued his revised Emergency Defence Plan in April 1962. In it Norstad incorporated the pause concept but not as it had previously been understood. He now officially recognized that there would be some form of preliminary conventional phase prior to MC 14/2 (revised)'s Phase I, but he distinguished between LIVE-OAK-type operations and an enemy attack on the Central Region. The pause would therefore come between a LIVE OAK probe encounter and an enemy attack on West Germany. The pause was at that point in time when NATO reinforced its forward positions and the Soviets reconsidered escalating the probe incident to attack the Central Region. The West Germans were not at all happy with this interpretation which required further discussion.<sup>33</sup>

Under the terms of the SACEUR EDP, NATO retained the right to initiate nuclear weapons use at any level or phase of a conflict, including any run up to MC 14/2(revised)'s Phase I. If the Soviets attempted any form of attack against NATO territory, be it conventional, tactical nuclear, theatre nuclear, or strategic nuclear attack, SACEUR was not prevented by any political constraints in the use of nuclear weapons to limit or stop these aggressions.<sup>34</sup>

There were several other important changes to the SACEUR EDP which eventually would affect Canadian forces stationed in Europe. The EDP

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33. FRUS 1961-1963 Vol. XIII, pp. 372-373, letter Taylor to Kennedy, "The New U.S. Strategy," 3 Apr 62; PRO DEFE 5/126, 17 Apr 62, "Brief for Anglo-French Staff Talks;" DEFE 13/254, 23 Apr 62, message BDS Washington to MOD London.

34. PRO DEFE 4/143, JPS, "SACEUR's Revised Emergency Defence Plan."

altered the priorities in the SACEUR nuclear strike plan. The destruction of enemy nuclear delivery systems remained paramount, but the interdiction programme was dropped to one level below destruction of enemy troop concentrations. In addition, greater emphasis was placed on armed strike reconnaissance against targets of opportunity using nuclear weapons.

Nuclear weapons, which to this point could already be used against targets in neutral countries only with SACEUR's express approval, now required approval only if the weapons used were larger than 10 kt. As for command and control, SACEUR retained predelegated authority for selective nuclear weapons use (either singly or in small numbers) in any context short of general war; that is, he could use them in LIVE OAK-type situations or with the ACE mobile forces on the flanks if it were deemed necessary.<sup>35</sup>

Unfortunately, the Canadian COSC minutes dealing with preliminary Athens deliberations and NATO strategy are missing, and the External Affairs records are not accessible at the time. Canadian policymakers had access to the constant reports sent back to Ottawa by George Ignatieff and A.D.P. Heeney, who was still Canada's Ambassador in Washington. Cabinet was fully briefed on the issues by Harkness and Green on 24 April 1962.<sup>36</sup>

Most analysts of the Athens meeting in May 1962 have focused their attention on Robert McNamara's speech in which he laid out the Kennedy Administration's defence policy. Without going into detail, McNamara's points included his belief that NATO's nuclear forces were adequate; that

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35. Ibid.

36. See, for example, NAC RG 25 vol. 4496 file 50030-E-1-40 Pt. 2, 30 Jan 62, message Heeney to External, "NATO Military Planning;" NAC RG 2, 24 Apr 62, Cabinet Conclusions.

the Soviets would not initiate nuclear weapons if the West remained superior in this regard; that NATO needed and was capable of supporting a conventional force build-up; that NATO should adopt a new strategy centred on flexible responses to Soviet actions and capabilities; and that NATO needed increased political control of nuclear weapons so that a flexible response strategy could actually be implemented.<sup>37</sup>

The real accomplishment of the Athens meeting was not merely some new openness on the tenets of broad American strategy. NATO adopted the so-called "Athens Guidelines" which represented Alliance agreement on nuclear weapons use by NATO forces. Summed up:

In effect nuclear weapons could be used if the Soviets used nuclear weapons in the NATO area, but only on a scale proportional to that employed by the Soviets. If the Soviets attacked with conventional forces, NATO could use tactical nuclear weapons if necessary, and then only on a scale appropriate to the circumstances. Any other situation requiring nuclear weapons use would be considered on a case-by-case basis.<sup>38</sup>

The Americans also stated that they were prepared to consider some confidence building measures within NATO:

Procedures should be instituted under which we would share information about our nuclear forces and consult about basic plans and arrangements for their use in the NAC and the Standing Group-Military Committee. Although we should withhold highly sensitive operational information concerning sorties, commitments, time on target, penetration tactics and the like, we can and should provide a considerable body of information including targeting policy, nuclear

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37. Stromseth, The Origins of Flexible Response, pp. 43-47.

38. Maloney, War Without Battles, p. 199. This work mistakenly puts the Athens meeting in May 1963, not 1962.

force strengths, analysis of force capabilities, some intelligence on Soviet Bloc strengths.<sup>39</sup>

This also included:

- (i) advance delegation to some person or group of authority to order use of the MRBM Force (*in conjunction with other nuclear forces available to NATO*) in the clearly specified contingency of unmistakable large scale nuclear attack on NATO
- (ii) Agreement that the decision to order use of the force in other contingencies should be based on a prearranged system of voting in the NAC, which a majority of our allies will almost certainly wish to provide for voting by unanimity or by a group including the U.S.<sup>40</sup> [Italics mine]

There was virtually no movement on the NATO MRBM issue.

The Canadian media and the Opposition had no inkling of what Athens was all about. They instead focused on a sanitized version of the McNamara speech, which McNamara presented at Ann Arbor, Michigan in June.<sup>41</sup> Canadian media interpretation of this event argued that the supposedly new emphasis on a conventional force build-up meant that Canada did not need to arm the CF-104 force with nuclear weapons. This was a misperception of events, which the Opposition immediately used in the House to attack the Government yet again on the nuclear issue.<sup>42</sup>

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39. FRUS 1961-1963 Vol. XIII, pp. 384-387, State and Defense Paper, "Suggested NATO Nuclear Program," 22 Mar 62.

40. Ibid.

41. For the text of the Ann Arbor Speech, see Schuyler Foerster and Edward N. Wright (eds) American Defense Policy (Sixth Edition) (Baltimore: The Johns Hopkins University Press, 1990) pp. 295-297.

42. Lyon, Canada in World Affairs, pp. 91.

Norman Robertson then asked Frank Miller whether or not the CF-104 force could be exclusively equipped with conventional weapons instead of nuclear weapons. Miller, sensing a trap, stonewalled Robertson and would not provide him with an answer one way or another.<sup>43</sup>

The next challenge to the CF-104 force came from within the ranks of the RCAF. In July 1961, Campbell established a Special Studies Group (SSG) to determine what the RCAF should look like in the 1970s. The SSG was headed by Air Commodore Fred Carpenter. Most of the SSG's work between its formation and June 1962 did not have a direct relationship to the ongoing nuclear debate in Canada. As we have seen in previous chapters, Carpenter had for the past two years pressed for the RCAF to adopt a force structure emphasizing peripheral and conventional operations. Carpenter now used the McNamara speech at Ann Arbor as a launch pad to attack the CF-104 force.<sup>44</sup>

As before, Carpenter asserted that the Cold War stalemate moved the East-West conflict into the peripheral regions. It was in these regions that the Cold War would be won or lost. Canada could gain more influence in the world "by adopting and applying such a policy of flexibility" and make a real contribution to "her own and her allies' security and freedom."<sup>45</sup> Carpenter wanted to base large numbers of tactical conventional fighters in Canada and deploy them to Europe and/or the peripheral areas as required. Now was the time to make this decision, not in the 1970s, since in

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43. Granatstein, A Man of Influence, p. 351.

44. DGHIST file 90/302, 29 Jun 62, memo Carpenter to Miller, "Report of the Special Studies Group-Long Range Objectives for the RCAF."

45. Ibid.

Carpenter's view NATO strategy was shifting towards conventional operations, and the Canadian electorate was against nuclear weapons. Carpenter asserted but did not prove that the CF-104 force was so vulnerable as to be useless. Savings could also be made by reducing the maritime patrol squadrons, since, again in Carpenter's view, "The USSR is not likely to devote a major share of its resources in the development of a Polaris strike system."<sup>46</sup>

Campbell recognized that Carpenter's assertions were in the main incorrect, based on faulty presumptions, and did not reflect the prevailing opinion within the RCAF. The Special Studies Group was heretofore disbanded by the Chief of the Air Staff before it could cause further damage.<sup>47</sup>

### The 1962 Election

Nuclear weapons were considered by observers to be an insignificant issue in the 1962 campaign. Pearson and the Opposition routinely accused the Government of "procrastination and indecision" on the matter and when asked to ante up by the Government in the House, generally evaded the issue.<sup>48</sup> The Opposition did, however, modify its platform. Pearson was quoted in the media as saying that he believed that "We should have a defence policy which will not require Canada to become a nuclear power in

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46. Ibid.

47. DGHIST file 90/302, 23 Jul 62, memo Campbell to Carpenter.

48. Fleming, So Very Near Vol. II, pp. 460-461.

the sense of making, or using, or securing nuclear weapons for her forces and which would be under national control...or by having our soil used on a nuclear base under the national control of any other country."<sup>49</sup>

Pearson canvassed Paul Hellyer, Douglas LePan, and Walter Gordon for input into a hastily formed defence platform for the election. In effect, the platform asserted that "There is no protection against missile attack whether intercontinental, or intermediate from aircraft, surface ships or submarines. The only defence now is the prevention of attack by deterrence, based on the certainty of immediate and annihilative retaliation." Canada's only role should be surveillance, detection, and air refueling. BOMARCs were "useless without nuclear warheads" and "should be scrapped."<sup>50</sup>

Pearson asserted that acquisition of nuclear weapons by Canada would not add "in any substantial way to our own or to collective defence." It would also "weaken our advocacy at the UN and elsewhere of the limitation of membership in the nuclear 'club'." There should be no nuclear weapons in Canadian hands and none under any joint control system. It was only in this way that Canada could limit nuclear weapons from falling into the hands of Japan, West Germany, China, and Cuba. Pearson waffled, however, noting that "they should be made available to Canadian forces in NATO for defensive tactical purposes, if they are under NATO, and not national, control."<sup>51</sup> Overall, Canada should devote most of her resources to a "permanent international police force" and increase the RCAF's

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49. DGHIST, Raymont Collection file 303, 28 Mar 62, tear sheet from "The Nation's Business."

50. NAC MG 26 N6, Defence folder: Memos on Defence Policy 62-65, 9 Mar 62, memo to distribution list, Personal and Confidential, "Defence Policy."

51. Ibid.

transport capability to lift an assigned Army brigade group for this purpose. Anti-submarine vessels were "out of date and of no use whatsoever against atomic submarines."<sup>52</sup>

Air Marshal Wilf Curtis, who had by this time retired from the RCAF, was unimpressed with Pearson's rhetoric and wrote to tell him so. The nuclear arms issue should not become an election issue, in Curtis's view, as it was vital that Canada be defended against a real threat.<sup>53</sup> Pearson wrote back to explain his waffling position on the matter:

I have tried to recognize the particular difficulty of putting forward a definite defence policy in any dogmatic and final way, in the absence of one from the Government. I have done this by qualifying my views....So far as nuclear weapons are concerned I have tried to avoid being final and dogmatic (and have gotten into a good deal of political trouble as a result) and have been careful in my choice of words....I have said that our policy should as not to 'require' us to use nuclear weapons, which is of course less definite than to say we will never use nuclear warheads in any circumstances.<sup>54</sup>

It was exactly this sort of obfuscation that got the Diefenbaker Government into hot water on the issue.

Even the Soviets chimed in with some shrill rhetoric. They sent a telegram to Howard Green claiming that if Canada acquired nuclear weapons, this was tantamount "to boosting of atomic psychosis", "would put the Soviets on alert," and would "complicate [the] international situation.

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52. Ibid.

53. NAC MG 26 N2, vol. 49, file 806.2, 29 Mar 62, letter Curtis to Pearson.

54. NAC MG 26 N2, vol. 49, file 806.2, 5 Apr 62, letter Pearson to Curtis.

"Green returned the statement to the Soviet Embassy and declared this as evidence of Soviet interference in Canada's internal affairs.<sup>55</sup>

The campaign itself remained unfettered by the nuclear issue. Diefenbaker chose to pull out the usual anti-American rhetoric and even implied that Kennedy was deliberately destabilizing Canada. In the end, the Conservatives lost ground in Parliament. They retained 116 seats, while the Liberals got 100, Social Credit, 30 and the NDP, 19.<sup>56</sup>

The election also triggered a run on the dollar, and the Government had to scramble to prevent a massive economic crisis. When it bottomed out, the dollar had dropped to 92 cents US from well above par. Cabinet Secretary and acknowledged economic wizard Bob Bryce and Finance Minister Donald Fleming and their staffs were able to arrest the decline in time. They even at one point shouldered the Prime Minister aside to accomplish this Herculean task which included going to the IMF for some loan restructuring. Diefenbaker labeled this an "American plot", and it only added more to his suspicion regarding the Americans.<sup>57</sup>

#### Force Development to August 1962

The armed forces continued their incremental moves towards achieving a nuclear capability throughout 1962. There were no significant attempts to

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<sup>55.</sup> DGHIST, Raymont Collection file 303, 14 Jun 62, message Moscow to Ottawa; Lyon, Canada in World Affairs, p. 113.

<sup>56.</sup> Granatstein, A Man of Influence, p. 350; Smith, Rogue Tory, pp. 442-445.

<sup>57.</sup> Ibid., pp. 137-139; Nash, Kennedy and Diefenbaker, p. 160-161.

get the Government-to-Government agreement signed prior to October. The situation in Europe with regard to the Honest Johns continued as before.

The RCAF's 446 and 447 SAM squadrons accepted their first missiles without warheads. A USAF evaluation of 446 Squadron stated that it "exceeded the individual and unit training requirements in all training areas....the RCAF squadron actually achieved an unprecedented 110% of these programmed training requirements."<sup>58</sup> 446 Squadron was well on its way to achieving its aim of having 18 missiles operational (again, without warheads) by the set target date of 1 March 1962.<sup>59</sup> 447 Squadron at LaMacaza was another matter. A Treasury Board problem with construction funds for the communications buildings delayed station completion. Consequently, the first ten missiles were not fully installed and checked out until 14 September which in turn delayed the SAGE-BOMARC connection tests even further.<sup>60</sup>

Nevertheless, there were still several pieces of the puzzle missing. In an aide memoire for Campbell, the VCAS explained that there were seven steps needed now to achieve a nuclear capability: the Government-to-Government agreement; the service-to-service agreements (technical arrangements for warhead security, storage, handling, and maintenance); the actual implementation of these arrangements; a USAF Initial Capability Inspection (ICI) to ensure that the installations were done

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58. DGHIST 79/429 vol. 12, AMTS, "Divisional Items of Interest for week ending 12 Jan 62."

59. DGHIST 79/429 vol. 12, AMTS, "Divisional Items of Interest for week ending 9 Feb 62."

60. DGHIST 79/429 vol. 12, AMTS, "Divisional Items of Interest for week ending 8 Jun 62 and 14 Sep 62."

properly; the delivery and installation of the warheads themselves; the establishment of formal release procedures; and a Final Capability Inspection by the USAF.<sup>61</sup>

Smith noted, however, that the CADIN agreement in the late 1950s was being used to acquire "certain detailed technical arrangements", which included most of the construction, training, installation and checking of most of the equipment in the North Bay site. 446 Squadron even passed its ICI on 1 March 1962. The site was, in all respects, ready to receive the warheads and install them. Smith told Campbell that "in an emergency, installation and check out of the warheads at each site could be done in seven days."<sup>62</sup> The actual operational release procedures would take some time, perhaps three months, and it probably could be done concurrently (with informal USAF help) with the negotiation of the Government-to-Government agreement.<sup>63</sup>

The construction of the Northern NORAD Region HQ Combat Centre at North Bay was completed in August 1962. It would, however, take another eight months before the huge underground facility was equipped with a SAGE computer and the computer was attached to the Canadian BOMARC bases.<sup>64</sup> This meant that Canadian BOMARCs would have to be temporarily attached to SAGE sites in the United States until then.

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61. ATI, 8 Mar 62, memo Smith to Campbell, "Aide Memoire: Timing Required for the Acquisition of Nuclear Warheads-North Bay BOMARC."

62. Ibid.

63. Ibid.

64. K.G. Roberts, "Air Defence Goes Underground," Roundel September 1963 pp. 8-13; T.G. Coughlin, "City in a Mountain," Roundel June 1961 pp. 24-26.

As for developing a nuclear capability for the CF-101B, several RCAF teams from the armaments engineering branch visited the United States early in 1962 to determine where exactly the RCAF stood. In essence, the same steps necessary to give BOMARC a nuclear capability were applied to the CF-101B/MB-1 combination.<sup>65</sup>

RCAF officers were surprised to learn that a follow-on weapon to the MB-1 was under development. The MMB-1, as it was called, was conceived as a dual-capable weapon; that is, it could be equipped with a conventional or nuclear warhead. It was not ready yet. The Canadian officers also "ascertained that a conventional head did exist for the MB-1 but the USAF personnel regarded this combination as hopelessly ineffective."<sup>66</sup>

The exact MB-1 weapons effects information still could not be released by the American AFSWC at Albuquerque to the RCAF without the Government-to-Government agreement.<sup>67</sup> A status report to Campbell noted that:

...although a specific Governmental agreement would normally be the first of the above series of actions leading to the acquisition of nuclear weapons, the implications of our recent procurement of the CF-101B's and the cooperation of the USAF has made it possible to make some progress in developing the necessary technical arrangements.<sup>68</sup>

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65. ATI, 10 Apr 62, "Aide Memoire: Timing Required for the Acquisition of Nuclear Weapons-CF-101B Program;" 19 Feb 62, "Visit Report-CJS(W) and Pentagon CF-101B Program-Scheduling of Preparations to Accept Nuclear Weapons 13-15 Feb 62."

66. Ibid.

67. ATI, 12 Mar 62, memo DADSI to CAS, "Status of Actions to Provide Nuclear Capability, CF-101B/MB-1(ADC)."

68. ATI, 10 Apr 62, "Aide Memoire: Timing Required for the Acquisition of Nuclear Weapons-CF-101B Program."

This cooperation included the USAF's sending a "proposed manual" of safety and release procedures to the RCAF through Air Vice Marshal Max Hendrick. All service parties agreed that this constituted a "pseudo-technical agreement", while at the same time the USAF wanted the RCAF to know that a Government-to-Government agreement was necessary before the safety and release procedures became "operative."<sup>69</sup> Hendrick's people at the CJSW(W) spared no effort to collect open source information from the USAF, who even downgraded and declassified material especially for them.<sup>70</sup> By mid-1962, the RCAF had sited the QRA and SAS facilities, acquired the ground support equipment, and established security arrangements. Planners predicted that the QRA sites could be completed by December 1962 and the SAS sites by the spring of 1963. Notably, "it is anticipated that most of the details of the security and communications facilities which will be required by the USAF can be obtained even in the absence of a Governmental agreement."<sup>71</sup>

The status of the CF-104 force was much different. The aircraft were still being built, and 6 OTU was still converting pilots to fly low-level profile missions. The necessary steps to have a nuclear capability were slightly different from the BOMARC and CF-101B/MB-1 units. Instead of an ICI, NATO units had to pass an Operational Readiness Inspection (ORI) before

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69. ATI, 7 May 62, Hendrick to Miller, "Release of Military Atomic Information;" 23 Jul 62, memo CAS to COSC, "CF-101B Program-Special Weapons Service-to-Service Agreement."

70. ATI, 7 May 62, minute sheet, DND to DArmEng.

71. ATI, 10 Apr 62. "Aide Memoire: Timing Required for the Acquisition of Nuclear Weapons-CF-101B Program."

nuclear weapons could be delivered. Then NATO authorities had to conduct a tactical evaluation or TACEVAL before the squadrons could be assigned for duty.<sup>72</sup>

As with the other systems, informal relationships between the RCAF and USAF facilitated information passage. Training the CF-104 force pilot was, in the end, dependent on information on the weapons that the force would employ. As we saw in the last chapter, enough information was available for the RCAF to build its own practice drop "shapes" and have them certified by the AFSWP at Sandia. By March 1962, the RCAF was able to confirm that the CF-104's would initially employ the Mk. 28 Mod-1 nuclear weapon.<sup>73</sup>

The RCAF, RCN, and USN wrestled with the problems imposed by the lack of the agreements throughout 1962. The draft service-to-service agreements wording had originally omitted the possibility that nuclear ASW weapons might be placed on board RCN ships exclusive of the aircraft carrier. The new plan to retrofit several St Laurents with helicopter decks, acquire and operate Sea King ASW helicopters from them prompted a change in the wording.<sup>74</sup>

Another problem existed in the creation of release authority and command relationships. All of the government-level negotiations regarding nuclear weapons which had been conducted since 1959 regarding maritime

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72. ATI, 10 Apr 62, "Aide Memoire: Timing Required for the Acquisition of Nuclear Weapons-CF-104."

73. ATI, 7 Mar 62, memo CPS to DArmEng, "Status of Actions to Provide a Nuclear Capability-CF-104/Mk 28 Mod 1 (Air Div.)."

74. ATI, 29 Jun 62, CPlansI to VCAS, "Nuclear Weapons-Draft Schedule Proposed Government-to-Government Agreement."

nuclear weapons revolved around the use of SACLANT as the releasing authority for the weapons to Canada. However, this left out the Pacific Coast, which was not technically part of SACLANT's area though it was by definition part of the NATO area. How would the USN release nuclear ASW weapons to CANCOMARPAC? CANCOMARPAC was not assigned to a NATO command, nor were its American equivalents. Attempting to establish a relationship between the US 7th Fleet and CANCOMARPAC outside of NATO would pose huge political problems which would only aggravate the tense situation as it existed. In effect, a maritime NORAD would have to be created for this purpose. RCN forces assigned to CUSRPG in the Atlantic and not to SACLANT had similar problems.<sup>75</sup>

The command anomalies that this could produce would be staggering. For example, RCAF Neptunes that were NATO SACLANT assigned might have to be re-tasked to CANCOMARLANT after the weapons had been released to CANCOMARLANT while he was wearing his NATO Canadian Atlantic Sub-Area "hat" for use in the NATO sub area. There was no easy answer in 1962, but Admiral Rayner approved a proposal to allow release of nuclear ASW weapons to east and west coast Canadian maritime force commanders "on or prior to the Simple Alert stage" after consultation with American commanders.<sup>76</sup> This was to be inserted into the Government-to-Government agreement draft prior to negotiations with the Americans.

On the positive side, the RCN and the RCAF made a joint agreement in March 1962 with the USN "for the purposes of exchanging information on

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75. ATI, 29 Mar 62, letter Reyno to Welland, "Nuclear Weapons-Draft Schedule Proposed Government-to-Government Agreement."

76. ATI, 7 Aug 62, memo CAS to COSC, "Nuclear Weapons-Proposed Government to Government Agreement."

the subject.<sup>77</sup> This agreement was probably similar in nature and status to the pseudo technical agreement between the USAF and the RCAF regarding CF-101B information. The RCN also placed a liaison officer in the RCAF Special Weapons Branch of the Directorate of Armament Engineering to ensure information flow.<sup>78</sup> The RCAF/RCN/USN arrangement allowed Canada to send personnel on USN nuclear weapons courses held in Norfolk. These included two officers from the armament directorate and two complete P2V2 Neptune loading crews, one from Comox and one from Summerside. The course was the "ASW Special Weapons Loading Course."<sup>79</sup> These men then served as a training cadre for their respective home stations.

As for the hardware, a number of Neptunes were modified to accept Mk. 101 and Mk. 57 nuclear depth bombs and prepared for a Pre Operational Safety Study which was to be held in October 1962.<sup>80</sup> By August, "as a result of the pre-initial safety study, action was initiated to prototype two Argus aircraft which will embody the modifications and equipment recommended." Once these modifications were accepted by the USN, "fleet modification would be authorized."<sup>81</sup> In the words of one memo, "The

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77. ATI, 8 Mar 62, memo CNS to CAS, "Special Weapons Planning."

78. ATI, 9 Apr 62, memo CAS to CNS, "Special Weapons Planning."

79. ATI, 30 Apr 62, memo DArmEng to DMO, "Training-ASW Special Weapons/Neptune Aramament Personnel Nominated;" 9 Apr 62, D/VCAS to COps, "Nuclear Weapons-Maritime."

80. ATI, 18 Apr 62, memo ADSI 4 to DA PRog, "Special Weapons-CF-101B Programme."

81. ATI, (no date) memo CAS to Air Memeber, CJS(W), "RCAF/USN Nuclear Programme."

RCAF/RCN/USN nuclear programs appear to have reached the point where some formality with the USN should be introduced.<sup>82</sup>

Air Marshal Hugh Campbell grew increasingly agitated in August 1962 over the lack of progress on the formal agreements. He solicited opinions from his senior staff officers. Air Commodore E.M. Reyno, the Deputy VCAS, suggested that the RCAF press the Minister to ignore all other systems save the CF-101B/MB-1 and BOMARC. The other weapons could be added "subsequently" in the ill-defined future.<sup>83</sup>

Reyno thought that the RCAF's public relations campaign should tell the Canadian people the truth: that BOMARCs and MB-1's were by no means offensive weapons; that the only way to destroy an enemy bomber was to cook the nuclear weapons it carried while inbound over the North; and that air defence was a critical component to add credibility to the deterrent against war. "People are laughing at us now because we have carriers but no weapons", and this was not good for morale, let alone protection.<sup>84</sup>

Pressure was starting to build from the Americans, particularly through NORAD and the PJBD. In a letter to Harkness, Campbell stated that "twice in the past year and a half CinCNORAD has pleaded that we attempt to get approval for air defence weapons even if for no others."<sup>85</sup> If Campbell could not get all of the nuclear weapons the RCAF required for its tasks, perhaps he could get the Minister to prioritize the air defence systems since they

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82. ATI, 10 Aug 62, memo Cameron to Reyno, "RCAF/RCN/USN Nuclear Programs."

83. ATI, 1 Aug 62, memo D/VCAS to VCAS, "Acquisition of Nuclear Weapons."

84. Ibid.

85. DGHIST, Raymont Collection file 303, 10 Aug 62, memo from Campbell to Harkness, "Nuclear Weapons for Air Defence."

bore a clear and direct relationship to Canadian defence. That could be argued publicly. He informed Harkness about the advanced stages of capability in the air defence systems (CF-101B and BOMARC) despite the lack of a formal agreement. However, Campbell cautioned the Minister about the emergency availability conceptual thinking that was still making the rounds in Ottawa. This thinking was, in Campbell's professional view impractical and according to the USAF, "planning emergency transportation of nuclear weapons to forward locations in Canada is not an effective answer to the problem."<sup>86</sup> Either Canada signed the agreement, or the CF-101B's and BOMARCs should be returned to the United States and the Americans allowed to defend Canadian airspace.<sup>87</sup>

This letter accompanied one written by Air Chief Marshal Frank Miller. Miller laid out the reasons why maintaining stockpiles of MB-1's and W 40 warheads for the BOMARCs in the United States for airlift to Canada in an emergency was not acceptable. The Americans maintained only two special transport squadrons to move nuclear weapons, and their aircraft were specially fitted for this task. Therefore, the RCAF would have to move the warheads.<sup>88</sup> Eight RCAF C-130 transports would have to be modified and their crews would be needed on constant standby in order to pick up and deliver the W 40's to the two BOMARC bases. This tied up those transports twenty-four hours a day, seven days a week. It took two hours for each armament crew to mate each warhead to each airframe. There were only

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86. *Ibid.*

87. ATI, 10 Aug 62, memo Campbell to Harkness, "Nuclear Weapons for Air Defence."

88. DGHIST, Raymont Collection file 303, (no date) memo Campbell to Miller, "Acquisition of Nuclear Weapons-BOMARC."

two such crews per base. If the mating time were to be reduced to ten hours (for the twenty-eight missiles at each base), six more armament teams per base were required. Thus, "these crews would have to work without relief for a period of ten hours which exceeds the safety criteria for loading crews." More Americans in the custodial detachments would be required to supplement the loading crews. More ground vehicles were required. More accommodation was required. In short, the entire BOMARC base would have to be redesigned and it would cost a lot of money and take even longer to implement over the long term.<sup>89</sup>

There were other reasons on which Campbell did not elaborate. These included the possibility that weather could interfere with the transport operation; that there might be a danger of moving the warheads by air in a hostile environment; that the time to mate the W 40s with the BOMARC missile airframe precluded immediate use in a situation whereby NORAD had two hours warning; and that actions taken to load nuclear weapons in haste would increase the probability of an accident during a crisis situation.<sup>90</sup>

It is probable that Miller leaned to the lengthy time necessary to prepare the BOMARCs to make his point instead of focusing on attaching MB-1s to CF-101's in an emergency. This would have been an easier proposition. The CF-101B crews knew how to employ the weapon. Attaching a large rocket to an aircraft designed to accept it takes minutes and required less special training than mating a W 40 to a complex BOMARC airframe. In a dire

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89. DGHIST, Raymont Collection file 303, 6 Sep 62, memo CAS to COSC, "Nuclear Weapons for Defence."

90. Some of these reasons were elaborated on in a separate RCAF memo discussing the issue. See ATI, 6 Sep 62, memo Campbell to Miller, "Nuclear Weapons for Defence."

emergency RCAF CF-101B's could even fly down to USAF bases, upload MB-1's and conduct operations. Factors which militated against this approach revolved around weather and warning time. Such a scheme would have produced too much uncertainty for NORAD planners who were schooled in applying numbers of delivery systems and weapons versus inbound targets and determining probabilities of kill.

For comparative purposes, USAF's Air Defense Command employed an aerial dispersement concept for its interceptor squadrons which was similar to the emergency deployment concept favoured by Norman Robertson and examined by the RCAF earlier in 1962. For example, a similar method was employed in the USAF ADC northeast air defense sector covering New England. At the Air Defense Readiness (or DEFCON 2) level of alert, MB-1's were transported from a depot at Wurtsmith AFB to Griffiths AFB by C-119 aircraft 400 miles away. Alternative arrangements included flying the interceptor aircraft from the squadrons at Griffiths to Wurtsmith, picking up MB-1's, and then deploying to dispersal airfields (local and civilian airports).<sup>91</sup>

Harkness wrote Diefenbaker late in August laying out the nature of the problem in detail. A PJBD meeting had determined that it would in fact take fifteen hours to deliver nuclear warheads to Canadian air defence forces. The Prime Minister's response is unrecorded.<sup>92</sup>

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91. Bill Green, The First Line, p. 365.

92. ATI, 6 Sep 62, memo Campbell to Miller, "Nuclear Weapons for Defence;" NAC MG 32 B19, vol. 57, 17 Aug 62, memo Harkness to Diefenbaker.

Canada, Nuclear Weapons, and The Cuban Missile Crisis: September-October 1962

At a March 1962 dinner the new Assistant Under-Secretary for External Affairs, Ross Campbell, had a conversation with Rufus Smith, the Counselor to the American Embassy in Ottawa. Campbell remarked that Canadian defence policy "was a mess" and was told in turn by Smith that Canada's position in NATO was compromised. Campbell pointedly responded, "Oh, come now, you know that when the chips are down we'll be with you." Smith stated that he "thought the chips were down."<sup>93</sup> The Americans were about to learn how far down the chips actually were, and how much support Canada would actually give them in an dire emergency.

This section of the study will briefly sketch out the crisis itself for contextual purposes and makes no aspirations to providing a new interpretation of its global aspects. It will provide insight into the Canadian aspects of the crisis with relationship to the themes discussed in earlier chapters; mainly Canadian nuclear delivery systems, alert systems, command and control, decisionmaking in the Diefenbaker Government, and alliance matters involving nuclear weapons.

Cuban Defence Minister Raul Castro met with Nikita Khrushchev in July 1962 and consummated a mutual defence pact. Later that month American intelligence sources indicated that Soviet merchant ship movements in the Black Sea were destined for Cuba. By August, the Central Intelligence Agency informed the President that the Soviets might try to place nuclear weapons in Cuba to 'counterbalance' NATO IRBM

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93. USNARA RG 59 E3077 box 1 250/62/30/3 file: Ottawa memcons 1/A.8, memcon Campbell/Smith, 23 May 62.

deployments in Turkey which were in the process of being executed. American reconnaissance flights in late August revealed that there were Soviet surface to air missile sites under construction on the island. On 4 September, Kennedy issued a public statement warning against any attempt to establish nuclear bases in the Cuba.<sup>94</sup>

Coincidentally, the Canadian armed forces participated in a NATO-wide command post exercise (CPX), FALLEX 62, throughout September as the crisis was building. Designed to "test the ability of NATO and National Commands and organizations to operate efficiently under conditions of transition from peace to war involving nuclear attack,"<sup>95</sup> FALLEX 62 had been in the planning stages since May 1962 and preparations for Canadian participation had been underway since then.<sup>96</sup> This allowed the Canadian forces a dry run through the various alert systems immediately prior to the outbreak of the crisis in October.

With reference to the existing alert states discussed in Chapter 8, Canada was involved in several alerting systems, none of which were interoperable. The primary device which spelled out Canadian commanders' and leaders' activities during each phase of an alert was called the War Book. Each Government department and each armed service had one. The first of these was issued in 1955, and revisions were made through the years. Previous exercises highlighted numerous 'detail'

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94. See Laurence Chang and Peter Kornbluth (eds) The Cuban Missile Crisis 1962: A National Security Archive Documents Reader (New York: The New Press, 1992) pp. 352-354; James G. Blight and David A. Welch, On The Brink: Americans and Soviets Reexamine the Cuban Missile Crisis (New York: Hill and Wang, 1989) pp. 374-376.

95. DGHIST, Naval Board Minutes, 23 May 1962; "FALLEX 62," Survival Vol. 5 1963, pp. 19-22.

96. Ibid.

problems and the current edition had been revised but not promulgated just prior to FALLEX 62. FALLEX 62 used a draft for the purposes of the exercise.<sup>97</sup>

While FALLEX 62 was in progress, the first Soviet ship carrying MRBM's, the Omsk, arrived in Cuba, followed by the Poltava with eight more on 15 September. On 21 September, the Canadian Joint Intelligence Committee received intelligence from American sources that the situation was getting worse. Mike Pearson started asking questions about Canadian policy towards Cuba in the House of Commons on 28 September. For the first six days in October, Robert McNamara met with Admiral Robert Dennison, CinCLANT/SACLANT, and ordered him to prepare for a blockade. This increased CinCLANT's state of readiness on 6 October. By 11 October, CANCOMARLANT, Rear Admiral K.L. Dyer, decided to increase the range and frequency of his LRMPA missions over the Canadian area on his own initiative.<sup>98</sup>

Douglas Harkness once again tried to get the Government-to-Government agreement onto the Cabinet agenda for discussion. This was prompted by the imminent deployment of the first CF-104's to Europe and appears to have been unrelated to the growing crisis. Norman Robertson was able to influence Howard Green into delaying any such discussion, citing ambiguities in the current draft. Robertson then bureaucratically sabotaged the entire endeavour by suggesting that "an interdepartmental

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97. Ibid., ATI, 18 Oct 55, "DND War Book;" Dec 1962, "DND War Book."

98. Chang and Kornbluth, The Cuban Missile Crisis 1962: A National Security Archive Documents Reader pp. 356-357; Haydon, The 1962 Cuban Missile Crisis p. 224; Tony German, The Sea Is At Our Gates: The History of the Canadian Navy (Toronto: Maclelland and Stewart, 1990) p. 263.

working group" was needed to "thrash out the details."<sup>99</sup> Finance Minister Donald Fleming now:

...was beginning to entertain suspicions that Dief was attracted by the idea of making a moral issue out of the [nuclear] question and visualizing himself as leading what would be pictured as a crusade for peace. This role could be purchased only at the cost of breaking faith with NATO and the United States, and irresponsibly adopting a 'holier than thou' attitude while sheltering ourselves behind the American nuclear deterrent.<sup>100</sup>

A USAF proposal to give another 22 F-101B's to the RCAF was also scrapped.<sup>101</sup>

On 14 October, American U-2's photographed the construction of Soviet MRBM sites in Cuba. The next day, the National Photographic Interpretation Center in Washington confirmed this and informed McNamara. McGeorge Bundy informed John F. Kennedy on the 16th, which in turn prompted six more U-2 flights which in due course revealed that SS-4 MRBM missiles were in Cuba and sites for SS-5 IRBM's were under construction.<sup>102</sup>

Soviet plan ANADYR was designed to install 24 SS-4 SANDAL and 12 SS-5 SKEAN nuclear missile launchers in Cuba with the express purpose of threatening SAC bases. The SS-4 had a ranges of 1250 miles and could carry

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99. Granatstein, A Man of Influence , p. 351.

100. Fleming, So Very Near Vol. 2 , p. 578.

101. FOIA, USAF, "History of the Air Defense Command, January-June 1964 Vol. 1: Narrative."

102. Chang and Kornbluth, The Cuban Missile Crisis 1962: A National Security Archive Documents Reader, pp. 357-360; Blight and Welch, On The Brink, pp. 378.

warheads up to 16 MT in yield (such a test was conducted successfully in 1961). The SS-5 had 2500 miles range and was believed to carry a 3 or 5 MT yield warhead. For targeting purposes, the SS-4 force could reach Washington D.C. and at least 15 SAC bomber and ICBM bases, while the SS-5 could reach any target in North America, including all Canadian population centres and military bases. CIA analysis confirmed most of these facts on 16 October.<sup>103</sup>

The actual specifications of the Soviet nuclear deployment to Cuba was not known for many years. It included 36 SS-4 missiles and 36 nuclear warheads for them (yields between 200 and 700 kt). It also included six free-fall bombs of an unknown yield for the IL-28 BEAGLE light bombers, as well as 96 tactical nuclear weapons for the FROG SSM's and the KOMAR missile patrol boat cruise missiles. Twenty-four more warheads of 800 kt yield were sent to Cuba in anticipation of the SS-5 deployment but were not unloaded from their transport ships.<sup>104</sup>

Operational Soviet missiles stationed in Cuba equipped with high-yield nuclear warheads invalidated all NORAD war planning assumptions and force structure. The precious 22-minute warning for ICBM attack and 2 to 3 hours warning for bomber attack would be cut down to single digit minutes. On the plus side, the SS-4 was liquid fueled, which could take up to 8 hours for fueling and provide more warning time if a close watch were kept.

103. Steven J. Zaloga, Target America: The Soviet Union and the Strategic Arms Race, 1945-1964 (Novato CA: Presidio Press, 1993) pp. 208-209; Mary S. McAuliffe, CIA Documents on the Cuban Missile Crisis 1962 (Washington D.C.: CIA History Staff, 1992) pp. 143.

104. John Lewis Gaddis, We Now Know: Rethinking Cold War History (Oxford: Clarendon Press, 1997) p. 274; Anatoli I. Gribikov and William Y. Smith, Operation ANADYR: U.S. and Soviet Generals Recount the Cuban Missile Crisis (Chicago: Edition q, inc., 1994) p. 26.

Coordinated with a missile launching submarine attack, the MRBM/IRBM force in Cuba was an extremely serious threat that had to be countered at all costs. At another level, threatening the Alliance's main deterrent and North American cities might persuade the United States not to respond with SAC and other forces if the Soviets assaulted Berlin and/or Western Europe with overwhelming conventional strength.

The same day the SS-5 information was brought back, an RCAF Argus made its first submarine contact 300 miles southeast of Halifax. The target was heading for the Op BEARTRAP area, which as we will recall from Chapter 6, was the area which Canadian maritime commanders assumed Soviet missile-launching submarines would enter to shoot at SAC bases in New England. US Navy Admirals Taylor and Koch, from CinCLANT, arrived discreetly at CANCOMARLANT's headquarters in Halifax for discussions, the nature of which still remains secret.<sup>105</sup>

Another American U-2 overflight discovered the existence of a nuclear storage facility near an MRBM site on 20 October. Other intelligence information indicated that 20 of the 40 planned Soviet nuclear warheads were on Cuban soil. While this was happening, RCAF and USN aircraft discovered a Soviet ZULU-class missile submarine refueling on the surface from a Soviet oiler northwest of the Azores.<sup>106</sup> If the Soviets intended to attack North America with their bomber force, Canadian and American planners had assumed many years before that such an attack would be coordinated and even preceded by a missile submarine attack against

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105. Haydon, The 1962 Cuban Missile Crisis, p. 226; German, The Sea Is At Our Gates, p. 263.

106. German, The Sea Is At Our Gates, p. 263.

military targets. The presence of even one of these submarines gave a sense of urgency to Canadian military planners. What Canadian and American commanders did not realize at this point was that the Soviets had actually deployed eleven attack and seven missile capable submarines piecemeal into the western Atlantic over the course of the past two months specifically to support the Cuban operation.<sup>107</sup> SACLANT, Admiral Robert Dennison, considered any placement of Soviet submarines close to the east coast to be an "extremely provocative move" and planned to act accordingly.<sup>108</sup>

Intense internal American discussions on courses of action followed. The prevailing response was to impose the blockade around Cuba. John McCone, Director of Central Intelligence, realized that the Cuban problem could not remain de-linked from the Berlin problem. Thus, any American action over Cuba would involve NATO, since the Soviets might provoke another Berlin crisis to balance the Cuban crisis. Consequently, McCone suggested that the West's position would be stronger if NATO allies were on side: "The president felt that [Harold] Macmillan, de Gaulle, Adenauer, and Diefenbaker should be made personally aware of the crisis details in advance of his address to the nation."<sup>109</sup>

Rusk suggested that Livingston Merchant, who had recently retired from foreign service, should brief the Canadian Prime Minister. Merchant was reached while watching a college football game at Princeton and proceeded with great haste to Washington. He then got on a plane and flew to Ottawa

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107. Oleg Sarin and Lev Dvoretsky, Alien Wars: The Soviet Union's Aggressions Against the World, 1919-1989 (Novato, CA: Presidio Press, 1997) p. 145.

108. USN OA, Admiral Robert Lee Dennison Oral History, p. 283.

109. Dino A. Brugioni, Eyeball to Eyeball: The Inside Story of The Cuban Missile Crisis (New York: Random House, 1990) pp. 319-320.

late on the night of 21 October.<sup>110</sup> Ivan White, who was temporarily in charge of the American Embassy in Ottawa, let Bob Bryce know that Merchant would be arriving with something critical, though White did not tell Bryce what it was. At the same time, an External Affairs representative who was in Washington attending an intelligence conference unrelated to Cuba noticed that most of the American members kept getting called away. Eventually the Americans broke down and explained in general terms what was going on. This information was passed back to Norman Robertson. The Prime Minister was then informed, also in general terms, that there would be a showdown over Cuba.<sup>111</sup>

Douglas Harkness was not informed that Merchant was in town until 1000 hours on 22 October. A meeting with Diefenbaker, Green, Bryce, and Miller was not scheduled until 1700 hours, one hour before Kennedy was to make his speech on international television.<sup>112</sup>

22 October was a long day in every capital. Oleg Penkovsky, who performed feats of espionage and had alerted the West as to Soviet intentions, was arrested in Moscow by the KGB. Fidel Castro mobilized his people against an American invasion. Dean Acheson flew to Paris and briefed Charles de Gaulle, while David Bruce briefed Harold Macmillan in London. The USAF and Turkish armed forces made the first fifteen Jupiter missiles operational. By 1300 hours, CinCCONAD jumped the gun and alerted USAF Air Defense Command. This alert allowed him to place

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110. *Ibid.*, p. 333.

111. Robinson, Diefenbaker's World, p. 285.

112. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

nuclear-armed interceptors on 15 minute alert. Sixty-six F-101B's, 64 F-106A's and 31 F-102A's, for a total of 161 nuclear-armed interceptors, flew to 16 dispersal bases (non-military and municipal airfields) within the continental United States.<sup>113</sup>

Air Marshal Roy Slement then called the VCAS, Air Vice Marshal Clare Annis, from NORAD HQ. CinCNORAD was asking permission, through Slement, to arm the USAF ADC squadrons at Harmon AFB and Goose Bay with nuclear weapons; to increase the level of alert for RCAF ADC CF-101B and the BOMARC squadron at North Bay; and to disperse some of the USAF ADC interceptor force to airfields in Canada.<sup>114</sup> The inclusion of the BOMARC squadron in this list of requests is interesting given that there were no warheads, nuclear or otherwise, attached to the BOMARC airframes, since there was no nuclear weapons agreement between the two countries yet. Nothing could be done until the Prime Minister had received the intelligence briefing.

Merchant, White, William Tidwell (the CIA briefing officer), and the Ottawa CIA chief of station, Rolfe Kingsley, met with Harkness, Green and Diefenbaker in the East Bloc's Council Chamber. The Americans produced blown up U-2 overflight photos, explained what was happening in Cuba, "outlined the actions which were to be taken," that is, the American blockade and invasion plans, and provided a copy of Kennedy's evening speech. Harkness asked about what stages of alert the American military

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113. Chang and Kornbluth, The Cuban Missile Crisis 1962, pp. 365-367; Blight and Welch, On The Brink, pp. 379; Sagan, The Limits of Safety, pp. 94-96.

114. Haydon, The 1962 Cuban Missile Crisis, p. 125.

foresaw in the near future and was told that they did not know exactly how things would progress.<sup>115</sup>

Harkness thought that the blockade would lead to a naval conflict, "which might be more likely to produce a general war than a direct landing in Cuba." In his view, "only a landing would definitely and finally clean up the situation."<sup>116</sup> Diefenbaker declared that "the evidence was overwhelming."<sup>117</sup> The Prime Minister also told Merchant that "the best diplomatic efforts will be necessary to resolve the crisis" and pledged Canadian support in the UN. Diefenbaker also instructed Merchant to inform Kennedy that Canada would participate in a UN mission to observe the removal of the missiles if there was a diplomatic breakthrough. Canada would also deny her airspace to Soviet Bloc aircraft.<sup>118</sup> It appears as though this was Norman Robertson's idea, which Robertson had thought up earlier in the day after some of his External people informed him as to what was happening in Washington.<sup>119</sup> Basil Robinson noted in retrospect that "it is not hard to imagine the lights that must have flashed on in Diefenbaker's mind at this reminder of an occasion when Pearson himself had gilded his reputation and been rewarded with the Nobel Peace Prize."<sup>120</sup>

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115. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

116. Ibid.

117. Brugioni, Eyeball to Eyeball, p. 333.

118. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

119. Granatstein, A Man of Influence, p. 352.

120. Robinson, Diefenbaker's World, p. 287.

Finally, Diefenbaker "stated that in the event of a missile attack on the United States from Cuba, Canada would live up to its responsibilities under the NATO and NORAD Agreements."<sup>121</sup>

Diefenbaker recounted in his 1977 memoirs:

...[Merchant's] purpose was to convey President Kennedy's demand that my government should give carte blanche in support of unilateral action by the United States. Specifically, President Kennedy, through Mr. Merchant (as well as through service channels) requested that we immediately and publicly place the Canadian NORAD component on maximum alert. I considered it unacceptable that every agreed requirement for consultation between our two countries should be ignored.<sup>122</sup>

Diefenbaker claims that he then called Kennedy on the telephone:

I asked him why he had not raised United States forces to a level of maximum alert. He said that this would cause international repercussions, but if Canada did so, it would not have the same effect. I told him that our defence forces were alerted and would be ready if a real crisis developed....When the President again raised the question of a national alert in Canada, I asked, "When were we consulted?" He brusquely replied, "You weren't," as if consultation in North American defence was of no importance to him.<sup>123</sup>

Prime Minister Diefenbaker's version of events bears little resemblance to reality. The Kennedy-Diefenbaker telephone conversation actually took place the next day (Tuesday 23 October). Diefenbaker could not have called Kennedy sometime after 1700 hours that day, because Kennedy was preparing for the speech he was about to make to the world at 1800 hours.

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121. Brugioni, Eyeball to Eyeball, p. 334.

122. Diefenbaker, One Canada Vol. III, p. 82.

123. *Ibid.*, p. 83.

Canadian forces were not yet at any level of alert, and American forces were already on alert. Under the terms of the alert consultation agreement discussed in Chapter 8, the Merchant/Tidwell briefing certainly constituted some form of consultation. It was certainly more consultation than Eisenhower gave Diefenbaker in the Lebanon and other crises in which the air defence forces were alerted. No other participant in the meeting noted that Diefenbaker gave any indication of displeasure with the state of affairs during or immediately after the briefing.

Kennedy gave his speech at 1800 hours, 22 October 1962. The US JCS told the State Department that the United States armed forces would be at DEFCON 3 by 1900 hours. One eighth of the SAC B-52 force was placed on airborne alert, while 183 B-47's and their associated tanker dispersed to thirty three airfields. ICBM crews were alerted and the USN Polaris submarine force dispersed to stations at sea. In addition to the already-alerted ADC forces, twenty-two more nuclear-armed interceptors were placed in the air in the south off Cuba.<sup>124</sup>

The JCS then asked SACEUR, General Lauris Norstad, to increase NATO's alert level in Europe. There was some confusion as some American forces in Europe were automatically alerted through the American system, and Norstad, being a NATO commander, did not have control over them. Norstad communicated with British Prime Minister Harold Macmillan, who thought that any NATO mobilization over Cuba would repeat the same mistakes as the 1914 mobilization which helped precipitate the First World War. Norstad concurred. After consultation

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124. Chang and Kornbluth, The Cuban Missile Crisis 1962, pp. 366.

between Norstad and Kennedy, Norstad "was explicitly authorized to use his discretion...."<sup>125</sup>

At 1900 hours, Air Marshal Frank Miller entered Douglas Harkness' office and informed him that the Americans had gone to DEFCON 3. He then asked if he could bring Canadian forces up to "Ready" state. Harkness said to go ahead and do it. Miller, however, noted that the new War Book which authorized the Minister of National Defence to authorize this action had not been accepted by Cabinet and that the old War Book had problems with it. They both agreed that the Prime Minister should be informed and asked if this was acceptable activity.<sup>126</sup>

This was the first mistake. The original War Book, as we saw in Chapter Eight, explicitly stated that the Minister of National Defence and senior military officers had the leeway to use their initiative. It also stated that the COSC could move the forces to Discreet, but that the Minister of National Defence could put the forces at Ready. It required Cabinet approval to move through Simple, Reinforced, and General levels. Harkness should have just ordered Ready (the equivalent of DEFCON 3).

Harkness then called Diefenbaker, and the two men met at once in the Centre Block of the parliament buildings:

I gave him the information I had received and told him the course of action I proposed and asked his agreement. He was loath to give this and said it should be a Cabinet decision. Whilst we were still arguing the matter, Howard Green arrived at the office. I explained the situation to him and to my surprise he agreed to the action I proposed. However, the Prime Minister was insistent that authority

125. Sagan, The Limits of Safety, p. 103.

126. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

should be given by the full Cabinet in the morning and would not call a special Cabinet meeting that night as the House was sitting.<sup>127</sup>

Harkness was aghast. The Americans had B-52's in the air and wanted to disperse tankers and MB-1's to the ADC squadrons in Canada. Canada was pledged to defend North America. What was Diefenbaker playing at?

The Minister of National Defence returned to a waiting Frank Miller and:

...discussed what action we could take, without declaring a formal alert, which would put us in a position of maximum readiness....I ordered immediately full manning [of the service emergency headquarters], intelligence and communications centres, warning orders to the Commands and manning of their communications.<sup>128</sup>

Kennedy, meanwhile, received word through Rusk of Diefenbaker's pledge to support a UN disarmament initiative and inspection in Cuba if it were necessary. Diefenbaker had made such a pledge public in the House of Commons later that evening after seeing Harkness. According to CIA briefer William Tidwell, "The Kennedy brothers appear to have taken offense at this, feeling that Diefenbaker was questioning the integrity of the United States." Tidwell noted rapidly that this was a mis-understanding and "tried to correct the impression, but I was too junior to make such an impression."<sup>129</sup>

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127. Ibid.

128. Ibid.

129. Brugioni, Eyeball to Eyeball, p. 334.

On Tuesday 23 October, the blockade went into effect, and the USN and USAF conducted multiple low level reconnaissance flights over Cuba.

Deputy CinCNORAD Air Vice Marshal Roy Slement called RCAF HQ operations centre and reminded Annis and Hendrick that NORAD was at DEFCON 3. CinCNORAD had instructed him to make three requests of the COSC. The first two were to put the RCAF ADC to DEFCON 3 equivalent and disperse the CF-101B force. The third item was "that NORAD should be allowed to bring in nuclear weapons if necessary into Canada and start the arming process."<sup>130</sup> Frank Miller then entered the operations centre and was briefed on the requests. Miller then went to see Diefenbaker, Green, and Harkness, who all " just bowed away from the question of nuclear tips." Miller then called Slement and said that some other method was required to get the ball rolling on nuclear armament. Miller called Slement and told him that he thought that CinCNORAD should ask the Canadian Government to arm its F-102's at Goose Bay with nuclear Falcons. In minutes NORAD HQ made a formal request to Miller to do so.<sup>131</sup>

The COSC met with Harkness early in the morning and confirmed American intelligence reports with Canadian sources. In this meeting, in which no formal notes were taken, Harkness, Air Marshal Miller, Admiral Rayner, General Walsh, and Air Vice Marshal Campbell examined "the steps which could be taken to put [Canadian forces] in the same state of

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130. DGHIST, Hendrick Papers, Daily Diary, 25 October 1962.

131. Ibid.

readiness as the U.S. forces, and what was required at each subsequent stage."<sup>132</sup>

If Harkness and COSC were following the War Book (either the pre-1962 or draft edition) and they wanted to enact the Discreet and Ready states (DEFCON 4 and 3 equivalent) and then Simple Alert (DEFCON 2 Equivalent) at the national level, this would have entailed the following actions.

For a Discreet State of Military Vigilance, the Chiefs could ask the Minister for permission, or the Chiefs could individually declare the state and then inform the Minister. Basically, Discreet allowed the Chiefs to examine and confirm plans for: emissions controls, communications system expansion, troop movements, and the protection of DND facilities. Each service was then to inform its Commands, man emergency headquarters, increase the staffing at existing headquarters in preparation for advancement into the formal alert system (Simple, Reinforced, General), tighten security at facilities, and restrict leave.<sup>133</sup>

The Chiefs were also authorized to "examine and start progressively executing emergency defence plan and mobilization plan to the extent indicated by the gravity of the emergency."<sup>134</sup> As for the service commanders, they were authorized to deploy naval forces, implement

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132. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

133. ATI, Dec 62, "Department of National Defence War Book."

134. Ibid.

National Survival plans, and examine with CinCNORAD the control of air traffic.<sup>135</sup>

For the Ready State of Military Vigilance, the state that Harkness wanted to move to in order to conform with DEFCON 3, the COSC had to request a state change to the Minister. Each service Chief was then to concentrate overseas reinforcements and make preparations to transport them, prepare to clear military hospitals, disperse logistic stocks from potential target areas, while the Minister was to advise Cabinet in preparation to implement Simple Alert formally. The Navy and Army had a number of administrative tasks to complete. The RCAF was to confirm that air control measures were ready to be implemented. At Simple Alert, reserve units were to be called up and moved, while the CNS and CAS implemented their War Books and permitted their commands to implement theirs.<sup>136</sup>

The RCAF Emergency Defence Plan assumed that the alert states would change when the NORAD DEFCON changed and that RCAF actions would respond accordingly. For example, RCAF exercises prior to the Cuban Missile Crisis assumed that within 1 hour of declaration of the Ready state, the COSC would ask Cabinet permission to allow the deployment of nuclear weapons from the United States to Canadian units using the standby procedure.<sup>137</sup> The timing and detailed actions for this stage was unclear given the existing Government policy on nuclear weapons and was probably

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135. Ibid.

136. Ibid.

137. DGHIST, file 71/493, (no date) Chief of the Air Staff, "Exercise BOOK CHECK: Sequence of Events."

one of the reasons why the DND War Book was under revision at the time of the crisis.

Harkness and the Chiefs now had to compress the Discreet and Ready stages as rapidly as possible. He then instructed the Chiefs "to have all preparations made to issue orders on these and other numerous matters as soon as I telephoned from Cabinet that the alert had been authorized."<sup>138</sup> "These other matters" probably referred to Slemmon's request to disperse USAF ADC fighters to Canadian airfields and to allow nuclear weapons to be brought to Harmon and Goose Bay for the American squadrons there. It might also have referred to SAC's desire to disperse tanker aircraft to the bases in northern Canada to increase the readiness for the B-47 force and to allow for more SAC B-52 overflights, since SAC had dramatically increased the number of bombers on Airborne Alert. Again, there does not appear to be any indication that these measures were incorporated into the 1962 edition of the DND War Books.

At the same time, Annis and Campbell discussed the possibility of using the situation to get the Americans to arm the BOMARC squadrons, which would make the overall nuclear issue a fait accomplait. Annis was concerned that "the Americans might react much more broadly" and rock the boat (translation: if the response was too formal, the Government might actually consider it in Cabinet and block it). Slemmon, unaware of the discussion, then called and informed them that "we've been thinking of this question of what would be the fastest way if we were to put [nuclear] tips on

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138. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

your weapons up there."<sup>139</sup> Slement thought that the best way was to have the CF-101B's fly to American bases and upload there. In his view, to move them to Canadian bases "would take a great deal of work because the key problem would be the training of the technicians." Hendrick thought this might be a great opportunity to crash train RCAF technicians on the MB-1's, but this was shot down by Annis as excessive given the political circumstances.<sup>140</sup>

As for the BOMARCs, the NORAD staff believed that "within six days of any starting time they could have a half squadron capability and within nine days the BOMARC squadron could be fully operational with nuclear tips."<sup>141</sup> Hendrick also thought that they should dust off the planned service-to-service agreement and get the Americans to sign it while the pressure was on, presumably so that the RCAF could use this as a lever with the Diefenbaker Government on the nuclear weapons issue:

I was told again that the Chairman has been so busy looking for a probe that maybe there might be some success and there seems to be a feeling that any boat rocking at this time may be dangerous if we started acting as though we knew the Government was going to give authorization to bring nuclear tips into the country....So we are very much here being held down with the iron hand.<sup>142</sup>

Harkness was able to get Diefenbaker to call a Cabinet meeting, which met at 1030 hours. Cabinet agreed that National Survival measures should

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139. DGHIST, Hendrick papers, Daily Diary, 25 October 1962.

140. Ibid.

141. Ibid.

142. Ibid.

be placed in effect, that is, the emergency regional headquarters should be manned and their communications checked. As for alerting the Canadian forces, most of what was said that day has been deleted from the historical record. Harkness informed Cabinet that NORAD was at DEFCON 3. The American forces were all at this stage, including the squadrons at Goose Bay and Harmon. CinCNORAD was asking Canada to increase the stage of alert for the air defence forces to conform to DEFCON 3, that is, Ready stage. A heated discussion ensued. There was no movement on the nuclear weapons issue.<sup>143</sup>

A number of Cabinet ministers wanted to see what the British position was and follow suit while at the same time claiming that they did not want Canada "stampeded" into any action by the United States. On the plus side, Harkness was able to get Cabinet to convene the Cabinet Defence Committee (which had not met in years) to sort out some of the War Book inconsistencies.<sup>144</sup> On the whole, though, "The Prime Minister argued against [the alert] on the grounds that it would unduly alarm the people....[H]e and I came to some fairly hot words, but he refused to agree to the alert chiefly, I think, because of a pathological hatred of taking a hard decision."<sup>145</sup>

Douglas Harkness then went back to the Chiefs and:

...ordered them to put into effect all of the precautions we had discussed in the morning, but in as quiet and unobtrusive way as

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143. NAC RG 2, 23 Oct 62, Cabinet Conclusions.

144. Ibid.

145. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

possible....Everything was ordered to go ahead as though we were on alert. these measures accomplished the majority of the purposes of an alert, ie: to get into a state of preparedness to meet an attack....I did not tell the Prime Minister or any other members of the Cabinet of the steps I had taken, but I did keep him informed throughout the day and evening of intelligence reports which came in.<sup>146</sup>

Harold Macmillan sent a message to Diefenbaker later on 23 October urging him not to declare an alert, in order "to avoid any provocative action."<sup>147</sup> Macmillan also thought that the matter should be handled in the UN. George Ignatieff reported back that he was "isolated" in the NAC because Canada had not come forward with explicit support for American actions over Cuba as the rest of NATO had.<sup>148</sup>

President Kennedy called Diefenbaker in the afternoon. He asked Diefenbaker to raise the Canadian air defence alert level to correspond with DEFCON 3 as a precaution and also asked for a pledge of Canadian support in the UN. This time, however, Diefenbaker thought he was being ordered around by Kennedy and refused to acknowledge that he would authorize either action. Taking the easy way out, the Prime Minister heatedly told Kennedy that he would have to take it up with Cabinet. That day, Diefenbaker announced in the House that the United States had not seen fit to consult with Canada about the Cuban situation.<sup>149</sup>

146. Ibid.

147. Robinson, Diefenbaker's World p. 288.

148. Fleming, So Very Near: Vol. II, p. 565; Nash, Kennedy and Diefenbaker, p. 197. Ignatieff even went to Soest to visit with 4 Brigade during the crisis because he felt so lonely in Paris. See Maloney, War Without Battles, p. 173.

149. Nash, Kennedy and Diefenbaker, p. 196; Haydon, The 1962 Cuban Missile Crisis, p. 229.

A combination of personal ambition, vanity, potential glory, perceived American arrogance, and overreliance on the British prerogative convinced John Diefenbaker not to allow a formal alert of Canadian defence forces so that they could prepare to repel a threat that existed and was building. Coupled with Robertson's and Green's three-year delay tactic on the nuclear agreement, none of Canada's continental defence systems were equipped at this point in the crisis to carry out their duties as part of the NORAD alliance system.

Despite this state of affairs, Air Defence Command's chief of staff, Air Commodore A. Chester Hull, received instructions from his superior, Air Vice Marshal Max Hendrick. Hull was to call ADC unit commanding officers and tell them to "do all things associated with a certain defence condition." This translated to: "make all preparations necessary to receive nuclear warheads' in the air defence forces."<sup>150</sup>

The situation in Europe, however, was somewhat different, and Ottawa was not well informed about what was happening with the Canadian forces stationed there. 1 Air Division was in the midst of deploying its CF-104 aircraft to Europe in Operation RHO DELTA, and the squadrons would not be activated for several weeks.<sup>151</sup> 4 Brigade, on the other hand, was combat ready and prepared to fight in the defence of the Central Region. Brigadier Mike Dare assured that the Brigade's war plans were integrated with I (British) Corps and that 1 SSM Battery could contribute:

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150. Telephone interview with Lieutenant General A. Chester Hull, CF Ret'd 15 June 1997.

151. Bashow, *Starfighter*, p. 17.

The whole of [NORTHAG] was on alert and the American custodial attachment attached to us immediately did so, although they were not ordered by their central command. They had independent release for atomic warheads if circumstances required it....The young man in charge of the American detachment moved his men to the storage area, ready to respond....<sup>152</sup>

The Brigade was then alerted and 'bugged out' to its survival areas. It eventually deployed with live ammunition to its Emergency Defence Plan positions. At the same time Major General Jean V. Allard, the Canadian in command of the 4th British Division, prepared a multi-national force under the auspices of LIVE OAK in preparation for a move down the Helmstedt approach to Berlin. Certain USAFE nuclear units were alerted through the American chain of command, but SACEUR did not authorize an alert of his nuclear forces until 25 October. At that point 163 American, West German, and British nuclear delivery aircraft were alerted.<sup>153</sup>

As for Canada's maritime forces, Admiral Dyer once again increased his surveillance patrols and gained another submarine contact 500 miles southeast of Halifax. Maritime Air Command commanders were personally and informally told to increase their state of readiness. Dyer continued to chafe at the bit as he wanted to send the fleet to sea and disperse his logistics force, but the CNS, Admiral Rayner, was not prepared to go that far yet.<sup>154</sup>

152. Maloney, War Without Battles, p. 174.

153. Ibid., pp. 173-175; National Security Archive, Cuban Missile Crisis microfilm, frame 1325, message JCS to State, 25 Oct 62.

154. Haydon, The 1962 Cuban Missile Crisis, p. 129; NAC RG 24 vol. 549 file 096.103 v.3, 25 Oct 62, message AOC PD to CAS.

By Wednesday 24 October, Harkness was finally able to push Diefenbaker into holding another Cabinet meeting so that the Canadian forces could be moved up to Ready state. The first meeting at 0930 ended inconclusively. A number of ministers were persuaded by the Macmillan argument that an alert would precipitate war.<sup>155</sup>

Diefenbaker had more discussions with the British and appeared to have been relying more and more on the British High Commissioner's opinion rather than on Canadian military and political leaders. The British High Commissioner "pointed out that it was difficult to classify weapons strictly as offensive and defensive." Diefenbaker was further irked by the State Department's use of aerial photographs in a UN meeting and with the media. In Diefenbaker's mind, this was privileged information and he had been manipulated by Kennedy and not actually consulted. The Cabinet meeting shifted to a discussion of Canadian military dependents in Europe rather than a discussion of how to reinforce the units in Europe.<sup>156</sup>

Harkness was beside himself:

This proved to be a long and unpleasant meeting at which members of the Cabinet were asked for their individual opinions. Most favoured the alert. The meeting was about to end inconclusively when I made a final effort with a rather angry outburst that we were failing in our responsibilities to the nation and must act, which produced an outburst from the Prime Minister to the effect that he would not be forced into any such action.<sup>157</sup>

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155. NAC RG 2, 24 Oct 62, Cabinet Conclusions.

156. Ibid.

157. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

Miller hunted down Harkness and informed him that SAC and CinCLANT had gone to DEFCON 2. CinCSAC had in fact issued his orders en clair to his command both to reassure them and to send a message to the Soviets. Harkness then went to Diefenbaker's office and told him that Canada could not delay any longer. He replied " in an agitated way, 'all right, go ahead."<sup>158</sup> There were limitations, however. Only RCAF Air Defence Command could increase its state to Ready.<sup>159</sup> This was done at 1334 hours, and CinCNORAD was informed, almost one and half days after the rest of NORAD had gone on alert. CF-101B's were now placed on fifteen minutes alert.

The RCN was concerned that it was not included in the alert, particularly since USCinCLANT had deployed ten diesel submarines and seventeen P2V Neptunes to NAS Argentia in preparation for the establishment of a sea-air barrier in accordance with defence plans. The Naval Board instructed that the HMCS Bonaventure task group which was visiting Portsmouth, UK, should return home. A Canadian destroyer escort force engaged in a joint exercise with the USN was instructed to refuel at San Francisco. The force stopped to help the USN hunt a submarine contact. The RCN implemented most of required actions for a Military Vigilance Ready alert level without actually declaring it. Admiral Dyer then activated his wartime command structure in Halifax and decided to establish the RCN Defence Plan as the basis of his command's activities.<sup>160</sup>

158. Ibid.

159. National Security Archive, Cuban Missile Crisis microfilm, frame 1211, message Ottawa to State from Ivan White, 24 Oct 62; NAC RG 24 vol. 549 file 096.103 v.3, 24 Oct 62, message CANAIRHED to CANAIRDEF.

160. DGHIST, file 87/95, Headquarters of the Commander in Chief Atlantic Command, "CinCLANT Historical Account of the Cuban Crisis-1963", p. 121; Haydon,

As discussed in previous chapters, several RCN CS2F Tracker aircraft had been modified for nuclear depth bomb delivery. During the crisis:

L.Cdr. Shel Rowell therefore felt obligated to so inform [HMCS] Shearwater [Commanding Officer] Capt. Ted Edwards (surprise), which in itself was a bit of a bombshell since apparently the subject had never been previously discussed. Rear Admiral Dyer, on being informed was similarly caught off guard. The outcome, after consultation with the USN, was a contingency plan to disperse the six modified Trackers to Yarmouth NS, with the crews standing by to await further orders. The proposed plan was to fly the aircraft to either Quonset Point or Norfolk Naval Air Station, where they would be employed as necessary by the USN should the crisis escalate to the point where nuclear depth bombs were authorized for use. Such authorization under the 'Rules of Engagement' was normally only given if a missile carrying submarine came within range of the continent and gave an indication that it was preparing to launch its missiles.<sup>161</sup>

The reason for such a move, as we will see later in the crisis, was dictated by the fact that most of the USN's ASW barrier forces on the east coast were shifted south to conduct the blockade, thus stripping the north east seaboard of protection against enemy submarines.

With RCAF ADC finally at the same level of alert as the rest of NORAD, CinCNORAD, General J.K. Gerhart, was able to inform Miller as to what had been happening and to express some concerns. Gerhart had dispersed most of his interceptors and had run into some problems: "(1) Canadian bases for dispersal were not available because of the restrictions on overflying Canada with nuclear weapons until declaration of DEFCON 1 or

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The 1962 Cuban Missile Crisis, pp. 230-231; DGHIST Naval Board Minutes, 24 Oct 62, Special Meeting.

161. Soward, Hands to Flying Stations Volume Two, p. 280.

higher. (2) Lack of operating facilities and heated storage at many dispersal bases to assure proper handling of nuclear weapons."<sup>162</sup>

The unexpected redeployment of USAF interceptors to cover the southeast of the United States placed a strain on the forces covering the northwest and north east. The strain was so great that CinCNORAD considered asking the JCS to reduce the state of alert for the air defence forces, something he did not want to do given the threat. Gerhardt desperately needed the RCAF squadrons to relieve this pressure.<sup>163</sup>

It was probably at this point that a number of W 40 warheads were flown to the BOMARC base at North Bay, attached to the airframes and dual key system jury rigged. The LaMacaza BOMARC site was not as close to a state of readiness as North Bay, and it appears that the W 40's for it were kept just across the border, probably at Plattsburg AFB in New York. MB-1 rockets were apparently not deployed to Canadian bases, though it appears that USAF security force custodians and technicians were sent to the CF-101B bases in preparation for an emergency deployment of MB-1's to those bases. The USAF already had MB-1's and W 40's identified for such action.<sup>164</sup>

That night, Howard Green was interviewed on television and claimed that NORAD was not involved in the current crisis. He then told the interviewer that the United States had not made any requests of Canada to

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162. ATI, 24 Oct 62, message Gerhardt to Miller.

163. Ibid.

164. Telephone interview with Lieutenant General A. Chester Hull, CF Ret'd 15 June 1997; confidential interview.

support it in the crisis.<sup>165</sup> Both statements were distortions and served to confuse the issue even further in the public mind.

Cabinet met yet again on 25 October. This time they approved a temporary amendment to the DND War Book which required the Minister to get the Prime Minister's approval before implementing the Ready state of alert. This amounted to closing the door after the horse had bolted.<sup>166</sup> Diefenbaker then got up in the House, indicated that the crisis was still in effect, and committed Canada to resolving it in the UN. Paul Hellyer then asked Harkness whether the BOMARCs had been armed with nuclear warheads, and Harkness replied that they had not yet been so armed.<sup>167</sup>

Behind the scenes, the Kennedy administration was examining a proposal with the Soviets to trade off Soviet missiles in Cuba for the NATO-assigned American Jupiter missiles based in Turkey that had just been made operational. There was no consultation with the NATO allies on this effort. On 26 October, CinCLANT was informed that there were problems in activating the Argentia-Azores barrier force because of a shortage of Mk. 43 aerial torpedoes. 500 of these had to be borrowed from the RCAF.<sup>168</sup>

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165. Nash, Kennedy and Diefenbaker pp. 200-201; DGHIST, Hendrick Papers, Daily Diary, 25 October 1962. See also NAC MG 32 B 13 vol. 12 file 45, "Text of a Television Interview with the Secretary of State for External Affairs on the CBC, October 22, 1962." This transcript is mis-dated.

166. NAC RG 2, 25 Oct 62, Cabinet Conclusions.

167. Diefenbaker, One Canada Vol. 3, pp.87-88; Haydon, The 1962 Cuban Missile Crisis, p. 142.

168. DGHIST, file 87/95, Headquarters of the Commander in Chief Atlantic Command,"CinCLANT Historical Account of the Cuban Crisis-1963," p. 122; German, The Sea Is at Our Gates, p. 268.

The crisis nearly spun out of control on 27 October. The CIA informed the President that the SS-4 missiles on the island were operational. At the same time, a U-2 was shot down over Cuba. Another U-2 strayed off course into Soviet airspace and had to be escorted back by USAF ADC interceptors armed with nuclear weapons in the face of Soviet air defence forces alert.<sup>169</sup>

In the Atlantic, the American commander of the ASW Defence Forces, Vice Admiral E. Taylor, asked Canadian maritime forces to assist him in two ways. The reduced number of available USN patrol aircraft (many had been hived off to assist with the blockade, including all of his long-range P3 Orions) prompted CinCLANT to ask CANCOMARLANT to add Argus patrol aircraft to the eastern most portion of the barrier extending south east from Newfoundland. Second, the lack of American ASW resources had left a hole in the defences of the north east seaboard of the United States. Could Canada assist? Taylor in fact wanted to place the barrier up at the GIUK Gap but was not allowed to do so.<sup>170</sup>

The next day the Georges Bank barrier extending south from Nova Scotia was in place. This move essentially corresponded with the BEARTRAP zone and included four surface DDE groups, Argus MPA's, and Tracker aircraft operating inshore and maintaining surveillance on the substantial Soviet 'fishing fleet' in the area. Several RCN frigates backed up the Argentia barrier.<sup>171</sup>

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169. Chang and Kornbluth, The Cuban Missile Crisis 1962, pp. 376-377.

170. DGHIST, file 87/95, Headquarters of the Commander in Chief Atlantic Command, "CinCLANT Historical Account of the Cuban Crisis-1963," p. 122; NAC RG 24 vol. 549 file 096.103 v.3, 25 Oct 62, message AOC PD to CAS.

171. German, The Sea Is at Our Gates, p. 268-270.

While Khrushchev stopped his ships in their tracks on 29 October, his submarines kept bearing down on the eastern cost of North America. A situation report from CANCOMARLANT (Dyer) dated 30 October noted that in his areas of responsibility there were twelve submarine contacts made by either SOSUS, surface ship, or patrol aircraft, with five more unknowns being actively persecuted by ASW forces.<sup>172</sup>

At this point COMASWFORLANT asked CANCOMARLANT to allocate Argus patrol aircraft to the Bravo 2 Sierra patrol. The exact nature of the B2S patrol cannot be confirmed from the available documents. It was not part of the Argentia barrier operation, it did not conduct fishing fleet or replenishment ship surveillance, nor did it participate in RCN/RCAF operations on the Georges Banks.<sup>173</sup> The mission was discussed by VCAS Clare Annis at RCAF HQ, who opposed it, and the actual assignment of Argus aircraft to the patrol was not approved on 31 October.<sup>174</sup> Yet by 2 November one Argus was continuously assigned to the B2S patrol for a twenty-four hour period. This patrol happened again on 6-7 November.<sup>175</sup>

We know that in August 1962 several Argus aircraft were re-wired to handle nuclear depth bombs. There was a shortage of USN MPA's as evidenced by the contingency plan to move the six nuclear-capable Trackers to the United States to cover the northeast approaches and by the requests for Argus aircraft to assist in the Argentia barrier operation. VCAS Clare

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172. DGHIST 80/381, 30 Oct 62, message CANCOMARLANT to COMASWFORLANT.

173. DGHIST 80/381. See message traffic from period 30 October to 15 November 1962.

174. Haydon, The 1962 Cuban Missile Crisis, p. 163.

175. DGHIST 80/381. See message traffic for 2 November and 6 November 1962.

Annis, who was skittish about the MB-1 deployment was also skittish about the B2S patrol. Other RCAF officers thought that positive actions regarding nuclear weapons during the crisis would have a positive effect on establishing the Government-to-Government agreement and formalizing the nuclear relationship. We know there was an emergency standby arrangement established between the USN and the RCAF to provide nuclear depth bombs from the storage site at NAS Brunswick, Maine.

As for the American side of things, SACLANT Admiral Robert Dennison was a dedicated "NATOist" and had the same pre-delegated authority that SACEUR had to make preparations and to use nuclear weapons for defensive purposes in an emergency.<sup>176</sup> Additionally, the USN's Chief of Naval Operations, Admiral George W. Anderson, had a penchant for keeping details of naval nuclear planning out of the hands of the Secretary of Defense and other officials.<sup>177</sup>

It is logical to conclude that the B2S patrol involved some form of ground and/or air alert involving nuclear depth bombs. It is also logical to conclude that the Argus was a goalie of sorts, in place to destroy any Soviet missile launching submarine operating in the Bay of Fundy that eluded the other two barriers. As we have seen, there were certain positions from which

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176. See NAC RG 24 vol. 20710 file 232, 7 May 63, Cabinet Defence Committee, 139th Meeting where the participants disagree with the American argument that SACEUR, SACLANT, and CinCNORAD should retain pre-delegated defensive nuclear weapons use. The Canadian view was that use should take place in any circumstances only after consultation between the President and the Prime Minister "where practical."

177. See USN OA, Oral history of Admiral George William Anderson, Vol. II pp. 174-177, 388-389. When Anderson was Commander, 6th Fleet, he would discuss his actual intentions in a crisis only orally with his staff. Nothing was sent back to Washington. Note also that Anderson had a great deal of respect for Canada and particularly the RCN. Anderson had served on the PJBD and the MCC in the 1940s and 1950s when most of the joint defence planning was done and knew all of the Canadian commanders involved.

such a submarine could attack several SAC bases, let alone New York City and Boston. The nature of Soviet submarine behaviour and locations during this time probably prompted the B2S alert on those days. It is notable that Admiral Taylor went out of his way to thank CANCOMARLANT: "Your assistance in support of the ASW barrier and the Bravo two sierra patrol are of particular value. The cooperation shown in coordinating forces in this key area is another example of the importance of our common plans for readiness."<sup>178</sup>

Douglas Harkness was finally able to get Cabinet to discuss the nuclear issue in a 30 October meeting. The previous day, Pearson asked the Government in the House about what arrangements had been made. The Government was increasingly vulnerable on this point. Harkness revealed, without going into details, that there were standby arrangements for nuclear weapons delivery to Canada in an emergency. It was only a temporary measure and limited to the Cuban emergency. It was important that a permanent Government-to-Government agreement exist, and negotiations for it had to start as soon as possible. In a complete turnaround, Diefenbaker stated that "He thought it would be necessary to proceed with the negotiations but on the understanding that if there was any leak...they would stop forthwith."<sup>179</sup>

According to the Cabinet minutes, there was a "lengthy discussion." The debate moved back and forth between those who thought that the emergency standby arrangements should become the content of the Government-to-

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178. DGHIST 80/381, 2 Nov 62, message COMASWFORLANT to CANCOMARLNAT, "ASW Surveillance Operations."

179. NAC RG 2, 30 Oct 62, Cabinet Conclusions.

Government agreement and those who recognized that this was not a feasible long-term arrangement. In the end, those favouring the formalization of the emergency standby arrangements succeeded in their efforts. Harkness, Green, and Gordon Churchill were authorized to initiate negotiations.<sup>180</sup>

The Cuban Missile Crisis was now in a holding pattern as high-level moves continued over the relationship between the NATO-tasked Jupiters in Turkey and the Soviet MRBM's in Cuba. On 31 October, however, 30th NORAD region alerted its BOMARC's and scrambled its nuclear-armed interceptors when the Mid-Canada Line reported that two unidentified aircraft had penetrated Canadian airspace. Nothing was found and the reasons for the tracks was never discovered.<sup>181</sup>

Negotiations over the MRBM withdrawal got hung up when the Americans insisted that the IL-28 BEAGLE bombers also be withdrawn. Soviet ships were turning around, and the MRBM sites were bulldozed, but the submarines and their support ships remained on station throughout November. By 13 November, however, there was movement on the IL-28 issue and the sub air barrier was terminated. On 17 November, the dispersed USAF ADC nuclear-armed interceptors returned to their home bases and on the 27th, RCAF ADC stood down.<sup>182</sup>

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180. Ibid.

181. Sagan, The Limits of Safety, p. 99.

182. NAC RG 24 vol. 549 file 096.103 v.s, 27 Nov 62, message CANAIRHED to CANAIRDEF.

Nuclear Negotiations, the NATO Ministerial Meeting, and the Nassau  
Agreement, November-December 1962

The events and issues regarding nuclear weapons and NATO strategy discussed in the last two months of 1962 were not decisive things unto themselves. They basically contributed to the makeup of the weapons that would be used and the terrain over which the 1963 Canadian election campaign would be fought.

In early November, Harkness, Green, and Gordon Churchill arranged a meeting with Ivan White from the American Embassy and asked for a formal American negotiating team to resolve the nuclear weapons impasse. A team consisting of White, a USAF general and a State Department representative arrived within days. There was no problem with sorting out the NATO end of things. The Canadians, including Green, had no problem with the by now standard section dealing with Canadian access to the stockpile assigned to SACEUR. The biggest problem was access to nuclear weapons for the continental defence forces.<sup>183</sup>

Prior to the talks dealing with the continental defence forces, Harkness maintained close communication with Air Marshal Larry Dunlap, who replaced Campbell as the Chief of the Air Staff, and Air Vice Marshal Roy Slement at NORAD. Harkness wanted a detailed assessment of the steps and timing necessary to implement a formal emergency standby plan.

Slement sent a detailed analysis, which unfortunately is heavily redacted almost forty years later. Basically, Slement appears to have based his argument against the emergency standby approach on the warning time

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183. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

and reaction time by the air defence forces. We know from other sources that submarine-launched missiles could impact within fifteen minutes of launch, that ICBM's would be detected fifteen minutes after launch and that the total flight time was between 22 and 30 minutes; and that the other radar systems gave NORAD two to three hours warning of a bomber attack.

All three systems would be used against North America in combination. Therefore, to take the two-hour bomber warning time and argue that MB-1's could be picked up, delivered, and attached in time for use was unreasonable under attack. The same went for the BOMARC warheads. In light of the problems encountered during the Cuban Missile Crisis, Dunlap told Harkness and Green that:

At some stage in the period of rising tension, a decision would have to be arrived at by the Canadian Government to request the nuclear warheads-this in turn to be followed by an approach to the United States-this in turn, by the issuance of instructions by the [deleted]....(How much time is required for a decision to invite the United States to send nuclear weapons to Canada? You are far better judges of that than I. Let me merely say that, under certain circumstances of the day or night [deleted] then to that you must add your estimate of the time for a decision.<sup>184</sup>

The whole process just took far too long given the threat. Using this system in a protracted crisis was also out since Cabinet could not make up its mind in time and would not delegate authority to the military commanders.

The Canada-US negotiating group explored several methods all of which revolved around the existing emergency standby approach. One method, discussed earlier in this chapter, involved having transport aircraft on

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184. ATI, 13 Nov 62, memo CAS to VCAS, "Time Factors-Delivery of Nuclear Warheads."

standby, fly down to American bases, pick up warheads, return to bases, attach, and prepare to use. The same arguments used within the RCAF against this approach were used in the Canadian-American discussions. These were the problems associated with weather, the short warning and the long time needed to mate BOMARC warheads to their airframes. The group concluded that:

...any such plan was impractical and far too costly and the only purpose it would serve would be to enable the Canadian Government to say no nuclear weapons were being held on Canadian soil. This, however, appeared to be Howard Green's chief objective and he insisted on going over the times, men involved, and all the other details at great length, evidently with the hope of convincing himself and others that it was a workable scheme.<sup>185</sup>

One member of the negotiating group raised the possibility that, perhaps, certain essential parts for the weapons themselves could be removed and stored in the United States, deployed to Canada in an emergency, and inserted by trained technicians. The Americans went home to explore this avenue.<sup>186</sup>

Later in November the Americans came back to Ottawa with a number of "missing essential part" concepts. Apparently, one of these schemes reduced the delivery and insertion time to one hour.<sup>187</sup> This improvement did not, however, overcome the problems with getting the Government to

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185. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

186. Ibid.

187. Granatstein, A Man of Influence, p. 354.

ask for the delivery promptly in the midst of a crisis or in a situation where the pre-crisis period produced ambiguity.

Another aspect, which does not appear to have been raised in detail, was the physical danger of inserting an essential part of a nuclear weapon under duress. We are assuming here that the essential part referred to is the physics package, the actual core of the weapon. Nuclear weapons, like any other type of explosive, are susceptible to electrical fields and discharges. The delivery casing were rigorously tested to ensure that things like static electricity did not interfere with the arming or detonating systems. The weapons were designed to be sealed in a ready state and attached to their carrier before they were used (in the case of the MB-1 or the Mk. 101) or to be an integral part of the carrier at all times (like the W 40 on the BOMARC). The weapons are unsealed only when they are undergoing maintenance, and then such maintenance is undertaken in a special facility devoid of electrical and other interferences. Having a nuclear weapon maintenance technician, as opposed to a more numerous aircraft armourer, fumble with a multi-kiloton physics package on a dark, cold, and wet runway at 0400 hours in the morning with the pressure of enemy inbound nuclear weapons on his mind, after having been awoken and flown several hundred miles in a propeller-driven transport aircraft, was a prescription for disaster.

Harkness then tried to get Diefenbaker to sign the Government-to-Government agreement late in November so that the NATO forces could sign their respective technical agreements. Diefenbaker refused and said that it would all have to be signed and announced at once. Furthermore, Diefenbaker added, why not sign the agreement and then call for a snap election? This move would theoretically allow the people to decide. Some

Cabinet members thought that, yes, there should be an election but that the nuclear weapons issue should not be the main focus of it.<sup>188</sup>

The genesis for future alterations in the Liberal party's defence platform for the 1963 election and Canadian defence policy initially involved a tour of NATO Parliamentarians. An annual event, each member sent a bi-partisan group of elected officials to Paris for briefings and networking. In late November 1962 Paul Hellyer, accompanied by the portly, impulsive, but astute thirty-eight year-old Judy LaMarsh, the Member of Parliament from Niagara Falls (herself an Army veteran), flew to Europe. Hellyer and LaMarsh had an agenda: to collect "up-to-date information about [Canada's] role in collective security"<sup>189</sup> for use as political ammunition.

LaMarsh and Hellyer quickly learned from Air Vice Marshal Larry Wray that the Air Division was useless without nuclear weapons.<sup>190</sup> None of the 4 Brigade people "would tell us whether their warheads were filled with sand, were empty shams, or were operative warheads."<sup>191</sup> LaMarsh met General Norstad at "one of the interminable receptions":

Over a drink, I opened a discussion of the failure of our Canadian personnel to be armed for their accepted responsibilities. I remember

188. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

189. Judy LaMarsh, Memoirs of a Bird in a Gilded Cage (Toronto: Maclelland and Stewart, 1969) p. 15.

190. When Dunlap replaced Campbell as CAS, he appears to have altered the previous policy over the 'conventionality' of the CF-104 force. He later told Harkness in February 1963 that the aircraft could in fact be equipped with conventional weapons. See NAC MG 32 B19, vol. 17, file 26-117 vol. 3, 1 Feb 63, memo Dunlap to EAMND, "Nuclear Armament and Equipment RCAF/USAF Cost Summary."

191. Judy LaMarsh, Memoirs of a Bird in a Gilded Cage (Toronto: Maclelland and Stewart, 1969) p. 19

his long, green-gray eyes widening with surprise at being so verbally assaulted, and by a women at that. He quietly confirmed that this was true and that it was a matter of considerable concern....Next day, in great secrecy, so that External Affairs would not get wind of it, an appointment was arranged for Paul Hellyer to meet with Norstad for a private interview....Our information proved right: Diefenbaker had led us, and our allies, up the well know creek and left us there without a paddle....<sup>192</sup>

On the flight home, LaMarsh and Hellyer discussed what to do. They both concluded that: "It led to no honourable alternative but a change in our non-nuclear policy to accept the responsibilities." Hellyer then molded the information into a memo for Pearson and both met with Pearson, who "didn't react very well."<sup>193</sup>

Hellyer's memo included the substance of the current NATO strategy debate, namely that conventional forces needed to be built up and that the theatre nuclear forces needed to be improved and under non-American control. Without a flexible force structure, Norstad noted, "We are subjecting ourselves to unnecessary risk." The Air Division and 4 Brigade were critical to SHAPE's plans, since both were manned by extremely competent and dedicated personnel who set an example. In the case of the Air Division, there was no other alternative but to use nuclear weapons, they were a key part of SACEUR's strike force, and there was no replacement for them. In fact, Norstad told Hellyer, Canada's influence in

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192. Ibid., p. 20.

193. Ibid., p. 26.

NATO would dissipate if the Air Division were removed or if it was incapable of fulfilling its role. It was that high profile.<sup>194</sup>

Hellyer concluded by stating that "we must uphold the honour and integrity of the nation," and that "the great majority of the Canadian people would want their country to fulfill its obligations." There was no choice but to establish a platform calling for accession to the Government-to-Government agreement.<sup>195</sup> Pearson took all of this under advisement for the time being.

Part of this advisement process included extensive briefings by Charles Foulkes. Foulkes had run as an MP in the last election, but was defeated. It did not prevent Pearson from relying on Foulkes' advice on NATO and the nuclear issue. After all, Pearson had been in opposition since 1957 and had not had access to the important decisions made from then until 1960.

Foulkes produced several detailed briefings. The most important of these confirmed for Pearson the fact that there was a nuclear commitment implicit in Canada's acceptance of MC 48 and MC 14/2 (revised), an explicit one in signing the NATO stockpile and information sharing agreements and most particularly, in the acceptance of the CF-104 strike role. As for BOMARC, there was "never any intention" on the part of Canada or the United States of arming it with a conventional warhead.<sup>196</sup> Noting in another extensive briefing that nuclear weapons were a "complicated and complex subject, which is discussed in an atmosphere of prejudice,

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194. Peter C. Newman, The Distemper of Our Times (Toronto: McLelland and Stewart Ltd., 1978) p. 475-477.

195. Ibid.

196. DGHIST, Foulkes Papers, file: Nuclear Weapons, undated briefing, "Is there a Nuclear Commitment?"

emotion, and misunderstanding," Foulkes walked through the precepts of deterrent strategy and explained how each Canadian contribution, conventional as well as nuclear, fit into this. He also outlined the custody and control problem and the dual key solution.<sup>197</sup> Pearson now had a clear understanding of the complexities of the relationship between nuclear weapons and conventional forces in the NATO and NORAD structures, and of the desperate need for timely warhead access.

Dean Rusk noted in a telegram that the 13-15 December 1962 NATO Ministerial Meeting was "marked by an almost intolerable serenity."<sup>198</sup> It was readily apparent that NATO members agreed with an American State Department assessment that "the Cuban crisis demonstrated the value of a broad spectrum of power...which permitted the application of a carefully measured response sufficient to deal with imminent danger without triggering a nuclear response."<sup>199</sup> Most of the potential outrage which had been anticipated from the Italians and Turks over the removal of the Jupiter IRBM's had been muted with promises to allocate Polaris submarines to SACEUR and the beefing up of the South East Task Force, a joint NATO nuclear command based in Italy.<sup>200</sup> It was a bit of a lull before another storm which would erupt in 1963 over multilateral NATO nuclear arrangements.

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197. DGHIST, Foulkes Papers, file: Nuclear Weapons, undated briefing, "Should Canada Acquire Nuclear Weapons?"

198. FRUS 1961-1963 Vol. XIII, pp. 458, message Rusk to State, 15 Dec 62.

199. FRUS 1961-1963 Vol. XIII, pp. 455, "Scope Paper Prepared for the NATO Ministerial Meeting," 6 Dec 62.

200. FRUS 1961-1963 Vol. XIII, pp. 461, message State to US Embassy Italy, 18 Dec 62

Green, Harkness, McNamara, and Rusk, however, privately discussed the continental nuclear issue in Paris amongst the NATO meetings. There was little movement on the issue, though the Americans at this point still thought that the "missing essential piece" plan was still workable. A press release was issued stating that everything was in order and Canada was fulfilling her commitments to NATO.<sup>201</sup> This would cause problems later in January 1963.

A key event in the ongoing NATO nuclear weapons saga was the Anglo-American meeting between Kennedy and Macmillan at Nassau in the Bahamas from 18 to 21 December 1962. Though the details of the Skybolt/Polaris affair are beyond the scope of this work,<sup>202</sup> the Nassau Meeting had some later bearing on Diefenbaker's nuclear weapons policy in the 1963 election campaign. According to one observer, the Nassau Agreement was "an achievement in ambiguity."<sup>203</sup> In essence, the Americans were going to give the British Polaris missiles and technical assistance so that the British could eventually replace the V-bomber force with SSBN's. The ambiguity lay in whether or not the British had in fact committed the new Polaris force to NATO or would keep it for national purposes.<sup>204</sup> This compromise was necessary because the British needed

201. Ghent, "Canadian-American Relations and the Nuclear Weapons controversy, 1958-1963", pp. 212-213; Granatstein, A Man of Influence, p. 354.

202. See Andre J. Pierre, Nuclear Politics: The British Experience with an Independent Strategic Force 1939-1970 (Toronto: Oxford University Press, 1972) and especially Ian Clark's Nuclear Diplomacy and the Special Relationship: Britain's Deterrent and America, 1957-1962 (Oxford: Clarendon Press, 1994).

203. Stromseth, The Origins of Flexible Response, p. 77.

204. Ibid.

the appearance of an independent strategic nuclear force, while the Americans did not want the French and more especially the West Germans having independent deterrents.

Canadian analysis distinguished between an Inter-Allied Nuclear Force (IANF) concept and the Multilateral Force (MLF) concept, both of which were discussed at the meeting. Britain advocated the IANF. The IANF would be a composite force consisting of portions of UK Bomber Command, USAF SAC, three USN Polaris-carrying SSBN's, and the existing theatre and tactical nuclear forces already in Europe, including RCAF No. 1 Air Division. The targets would be selected by SHAPE. Release of the IANF would be a higher-level NATO responsibility, not an American one. The MLF, on the other hand, now had evolved into a grouping of American and British Polaris-carrying SSBN's, and a mix-manned surface fleet carrying Polaris missiles. Again, as with the IANF, targeting would be handled by SHAPE and release by NATO. External Affairs and National Defence both consistently favoured the IANF concept.<sup>205</sup>

Diefenbaker had originally invited Macmillan to Ottawa, but the British Prime Minister countered with an offer to have a meeting in Nassau after the other affairs were disposed of. Macmillan was even successful in bribing Kennedy to have lunch with Diefenbaker. Diefenbaker told Kennedy at some point that movement had to be made on formalizing the standby arrangement. Out of courtesy, Macmillan briefed Diefenbaker on the contents of the Nassau Agreement.<sup>206</sup> It would cause problems in 1963.

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205. NAC RG 25 vol. 4486 file 50030-40 pt. 9, 19 Apr 63, "Notes on Defence Topics-Discussions between Mr. Pearson and Mr. Macmillan."

206. Robinson, Diefenbaker's World, p. 300-303; Smith, Rogue Tory, p. 465.

Polls taken in November and December consistently indicated that at least 60% of the Canadian people favoured acquiring nuclear weapons.<sup>207</sup>

### The 1963 Campaign: Diefenbaker Self-Destructs

The starter pistol for the 1963 phase of Canada's nuclear weapons crisis was inadvertently fired by General Lauris Norstad. Norstad was ostensibly retiring as SACEUR (it had been announced in July 1962), which entitled him to undertake a good-bye tour of NATO members. In reality, differences between Norstad and Kennedy's civilian national security advisors over NATO strategy as well as Kennedy's handling of the 1961 Berlin Crisis prompted the retirement. In essence, Norstad was considered by the Kennedy administration to be too pro-European in his outlook on NATO issues.<sup>208</sup> Some of McNamara's younger 'whiz kids' in the Pentagon corridors were particularly upset by SACEUR's views. The proud Norstad could put up with only so much of this after all he had done to preserve the peace. General Lyman M. Lemnitzer was his replacement.

As part of his good-bye tour, Norstad flew to Ottawa and gave a speech on 3 January 1963. The speech itself was short and gave homage to Canada's NATO troops and to the idea of NATO. The question and answer period with

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207. Lyon, Canada in World Affairs p. 89.

208. See Sean M. Maloney, "Notfallplanung fur Berlin: Vorlaufer der Flexible Response 1958-1963", Militargeschichte Heft 1 1 Quartal 1997 7. Jahrgang; see also Deborah Shapley, Promise and Power: The Life and Times of Robert McNamara (Boston: Little, Brown and Co., 1993) p. 145; NAC RG 25, vol. 4533 file: 50030 AB-40 pt. 5, 30 Jul 62, message External to Paris, "Reactions to Norstad's Resignation;" 27 Jul 62, message Paris to External, "French reactions to Norstad's Resignation;" 26 Jul 62, message Paris to External, "Appointment of Lemnitzer as SACEUR and Brit Defence Policy."

the media following the speech proved to be politically explosive to the Diefenbaker Government. A few illustrative examples:

Q: Is Canada's NATO role going to change now with the new stress on conventional defence?

A: I would think not. You have the Brigade and you have the air division. I would feel that the functions of both would remain essentially as now laid down...[conventional forces] are very, very important. but they must be related to those forces with an atomic delivery capability to make them effective and to give full weight to the deterrent and here is a place in which Canada can contribute to both.

Q: General, do you consider that Canada has committed itself to provide its Starfighter squadron in Europe with tactical nuclear weapons?

A: ...my answer to that is yes. This has been a commitment that was made, the continuation of a commitment that existed before....

Q: Does it mean sire that if Canada does not accept nuclear weapons for these aeroplanes that she is not actually fulfilling her NATO commitments?

A: I believe that is right....

Q: Sir, does this mean that before Canada's NATO forces could be equipped with nuclear weapons that we would have to have a bilateral agreement with the United States?

A: That's quite correct. There would have to be a bilateral agreement. This is a technical agreement. This is not a policy agreement.<sup>209</sup>

In many ways it was a replay of the 1960 SCODE hearings.

Fundamentally, the media and the Opposition were confused by the process and relationship between the need for a bi-lateral agreement, and training, and actually having access to the warheads. This information was secret,

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209. NAC MG 32B(9) vol. 82, Norstad conference file, "Transcript of General Norstad's Press Conference, 3 January 1963."

as it should have been. The media treated the answers as black and white issues; that is, in their thinking Canada should not have acquired CF-104's unless Canada had signed the Government-to-Government and then the service-to-service agreements. They could not understand the nature of the gray area in which the RCAF had operated in pushing the limits of the earlier nuclear information agreements. They could not understand the reluctance of the Diefenbaker Government to sign the agreements. They could not accept ambiguity.

Judy LaMarsh noted that "all hell broke loose."<sup>210</sup> With the press in full storm the Norstad visit was automatically perceived by Prime Minister Diefenbaker and a suspicious minority as constituting an American/Kennedy plot to dictate policy to Canada and/or undermine the elected government by providing ammunition to the Opposition.<sup>211</sup> As we have seen in previous chapters, Norstad was a firm supporter of NATO, a level-headed strategist, and a friend of Canada. To assert that Norstad was following the orders of the amorphous evil manipulative Pentagon or the White House flies in the face of the reason he was retiring: the Kennedy people wanted him out.

By early January, Robert McNamara sent word to Harkness that the missing essential piece standby approach was not workable. Some other method had to be found.<sup>212</sup> Diefenbaker then shifted into evasive mode and

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210. LaMarsh, Memoirs of a Bird in a Gilded Cage p. 30.

211. See Robinson, Diefenbaker's World, pp. 303-304. Smith in Rogue Tory sits on the fence on the Norstad press conference and suggests that it was "by accident or design" (p. 467). See Fleming, So Very Near Vol. 2, p. 579.

212. Smith, Rogue Tory p. 462.

would not talk about signing the agreement and calling an election. As Harkness noted: "[Diefenbaker's] intrigue and hypocrisy on the [nuclear arms question] are apparent as is the fact that he looked at it almost from the partisan political point of view rather than from that of the security of the country and of our obligations in defence to NATO and NORAD."<sup>213</sup>

On the other side of the House, Hellyer and LaMarsh considered resigning if the Liberal Party did not adopt a new defence policy. Mike Pearson, meanwhile, carefully considered the Hellyer memorandum.<sup>214</sup> After extensive private discussions with contacts in NATO, the UN and Washington, he relented. LaMarsh noted:

His daughter later told me that she thought this was the single most difficult decision he had had to take and that it caused him much personal anguish. I have no doubt it is true. It was probably the first time he had to wrestle down his own strong views in formulating a policy for the country. No leader can reverse a public stand with any ease, especially when it means a battle against his own deeply held convictions. But he did it....It seems to me too bad he didn't do it more often. And none of us foresaw the events to follow.<sup>215</sup>

There were, of course, pragmatic political reasons for changing the Liberal Party defence platform. One party member reminded Pearson in a 3 January letter that he was:

...almost equally concerned as a practical politician about retaining the support of the armed forces without which we cannot win an

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213. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

214. He also had his staff generate a public record chronology for use in defence debates in the House. See NAC MG 26 N2 vol. 114, file: Nuclear Weapons Storage, 9 Dec 62, "Chronology of Defence."

215. LaMarsh, Memoirs of a Bird in a Gilded Cage, p. 28.

election. For (with dependents) close to a quarter of a million voters are involved and, like other voters, most of them are primarily concerned with their livelihood. And that quarter million voters in places like Chatham N.B, North Bay, etc etc. not to mention larger places like Halifax are highly sensitive....Then there are veterans with pride in the three services....[I]t is because I believe this is the one subject on which a wrong course could sink our prospects without a trace that I have written so emphatically.<sup>216</sup>

It is difficult to believe that purely moral and honour-oriented considerations were the only ones at play in Pearson's mind when he made the decision to flip-flop the Liberal defence policy platform. The polls clearly demonstrated what Canadians believed. In January 1963, 57.8% thought that Canada should have nuclear weapons in Canada (34.3% said no and 7.9% had no opinion). As for nuclear weapons for Canada's NATO forces, 67.2% said yes, 24.7% no and 8.1% undecided. More tellingly, when asked whether Canadian defence policy should be in agreement on major issues with the United States, a whopping 77.8% said yes, 16% no. Pearson was well aware of these figures in January 1963.<sup>217</sup>

On 12 January 1963, Mike Pearson gave a speech at a luncheon of the York-Scarborough Liberal Association. This speech formed the basis of future Canadian defence policy and served as another shot at the Diefenbaker Government's lack of movement on the issues. Most importantly, Pearson tentatively renounced his policy of destabilization: "An Opposition has a duty not to exploit defence for purely partisan reasons. I certainly accept that obligation for myself."<sup>218</sup>

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216. NAC MG 26 N2, vol. 49, file 806.2, 3 Jan 63, memo JWP to Pearson.

217. NAC MG 26 N2, vol. 49, file 806.2, Jan 63, CN telecable to Pearson.

218. NAC MG 26 N2, vol. 50, file 806.2 pt. 3, 12 Jan 63, Scarborough Speech Transcript.

The overall framework of the new platform included the following points:

- 1) The prevention of war cannot mean the sacrifice of freedom. We must have peace and freedom.
- 2) Defence policy must be designed to prevent war by ensuring that the price of aggression will be too high to be borne by the aggressor.
- 3) Deterrent and defensive force is necessary to preserve peace; every country has an obligation to do what it can, even in the nuclear age, to defend its own territory.
- 4) No country can defend itself alone, the only security lies in collective action.
- 5) In dealing with our friends, we must assume that a change of government would not normally mean a sudden and unilateral renunciation of treaty obligations. Our friends have the same right to assume that the commitments of Canada are the commitment of the nation.<sup>219</sup>

Canada, therefore, had a commitment to provide CF-104's and Honest John's to NATO and BOMARC's and nuclear interceptors to NORAD. These commitments could not be changed through non-action and obfuscation. Emergency stand by arrangements were unacceptable. Any changes had to be negotiated and discussed. Notably, Pearson leaned on the authority provided by Norstad's speech.

In addition to the framework, Pearson provided a checklist of actions that he thought the Government should undertake:

- 1) A special committee in the House should be formed to re-examine all aspects of Canadian defence policy.
- 2) Canada should sign the nuclear weapons agreements with the United States and action should be undertaken to equip Canadian forces with nuclear weapons.

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219. Ibid.

- 3) Canada should press NATO for collective control of nuclear weapons within NATO and oppose independent nuclear deterrents.
- 4) Canada should support the strengthening of NATO's conventional forces.
- 5) Canada should continue to support early warning systems.
- 6) Canada's defence policy should be geared to its industrial structure. We should not try to do a little of everything.
- 7) Canada's defence forces, whether stationed in this country or Europe, should be so organized, trained and equipped as to be able to intervene wherever and whenever required for UN, NATO or Canadian territorial operations, especially in UN Peace Preservation operations.<sup>220</sup>

There were some caveats. Canada's new defence policy, after its examination by the house, "must not hinder or minimize Canada's influence for peace at the UN." This contradicted a statement later in the speech which said "[Canada] must do nothing to weaken continental or NATO collective policy and action."<sup>221</sup> One other controversial aspect, thrown in at the end, was: "The three Canadian defence services should be fully integrated for maximum efficiency and economy, both in operation and administration."<sup>222</sup> Though this would not necessarily affect Canadian nuclear policy in a direct sense, it would forever alter the structure and

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220. Ibid.

221. Ibid.

222. Ibid.

ethic of the Canadian armed forces. In a follow-up television interview, Pearson reiterated aspects of the new platform for a national audience.<sup>223</sup>

Pearson's flip-flop was not without cost. He lost the support of the small but growing left-leaning francophone elements within the Liberal Party, as well as many anglophone academics who generally were Liberal Party supporters. The most potentially influential person who responded negatively to the new policy was Pierre Elliot Trudeau, future Prime Minister, who caustically referred to Pearson as the "defrocked priest of peace" after the Scarborough speech. In a rather acerbic editorial, Trudeau concluded (without evidence) that "les hipsters" in the Kennedy administration in Washington had collaborated with Pearson to unseat the Diefenbaker Government.<sup>224</sup> Trudeau's views would have a delayed and negative effect on defence policy later in the decade.

Diefenbaker called together his political organizers and instructed them to oppose the Pearson defence platform at all costs and specifically to "delay any decision on acquiring the warheads,"<sup>225</sup> which ended the ongoing discussions with the Americans.

More internal discussions within the Conservative Party occurred when Harkness attempted to get the party leadership to implement a platform supporting nuclear weapons acquisition. Diefenbaker blocked this, and Harkness told his wife in private that he would resign if this state of affairs continued. Harkness spoke out at a Cabinet meeting on 20 January and

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223. NAC MG 26 N2, vol. 114 file: Nuclear Weapons, 12 Jan 63, "Lester Pearson Interview recorded on January 12, 1963 as used on F.Y.I."

224. English, The Worldly Years, p. 251.

225. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

threatened to resign. Conciliatory moves were made by some Cabinet members who urged Harkness not to take precipitous action. The next day, Diefenbaker acceded to Opposition demands that a defence debate take place in the House.<sup>226</sup>

The Prime Minister also accepted, under duress, that a special Cabinet committee be appointed to examine the nuclear weapons issue. This special committee included Harkness, Green, Fleming, and Churchill. It had ten meetings in two days, during which the four men met in Donald Fleming's office and pulled out every classified Canadian, American, and NATO document and public statement ever produced on the nuclear weapons issue. Even after the assembly of an impressively detailed chronology which clearly demonstrated that there were several nuclear commitments, Green asserted that this was not convincing enough evidence. He held this position until the other three forced him to sign a summary of the special committee's findings.<sup>227</sup>

This summary was massaged for Green's benefit, but not too much. The key to the whole argument was the CF-104 force. It was clear that this commitment, taken in 1959, included nuclear use obligations. Green was able to get the committee to state that the Nassau Agreement and the ongoing MLF debate in NATO placed the commitment under "some doubt." Canada, therefore, should clarify this commitment. If NATO said to arm, then Canada should arm the force with nuclear weapons. The same went for the Honest John battery. Training to work with and employ nuclear

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226. Ibid.; Lyon, Canada In World Affairs, p. 142-144.

227. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963"; Fleming, So Very Near Vol. 2, pp. 581-582.

weapons was already ongoing, and it should continue. As for NORAD, negotiations would continue "with a view to ensuring the highest degree of availability for Canada."<sup>228</sup>

According to Donald Fleming:

Doug and I proceeded to meet Dief in his little office at the house at 7:30 p.m....Before we had even opened our mouths it was plain to me that he was in a truculent and very impatient mood....He said in preemtory tones, 'Come to the point. What have you done?' With satisfaction, I said, 'We have reached agreement,' and handed him a copy still expecting his commendation for it. Instead, after quickly glancing over it he angrily flung it down on the desk and said, 'I won't have it!' He repeated the words. There was nothing else for me and Doug to do than say good night.<sup>229</sup>

The House defence debate occurred on 25 January. Diefenbaker contributed a long, evasive, rambling speech. It is not worth going into the details here; suffice it to say it incorporated elements of the special Cabinet committee conclusions, babble about disarmament and the Nassau agreement, the MLF and Polaris, and incoherent statements about CF-101B's. The speech was all interspersed with judicious quotes and mis-quotes from Hansard and media sources. There was no logic or organization to the speech. As if in pain, the Prime Minister concluded: "We never sold Canada. We have never in any way made undertakings that we have not carried out. Canada has a proud record. The Opposition should not try, for political purposes to besmirch that record."<sup>230</sup>

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228. Ibid.

229. Fleming, So Very Near Vol. 2, pp. 583.

230. Hansard, House of Commons Debates, 25 January 1962.

Pearson then went on to deliver a reasoned argument. A strong Canadian identity did not mean isolationism, Pearson said, and isolationism meant "immaturity." There were real problems with American economic penetration, but these were divorced from the exigencies of legitimate defence measures that had to be taken in the face of a real totalitarian threat. Canada had NATO and NORAD commitments, and she had to live up to them.<sup>231</sup>

After the debate Douglas Harkness realized that the perception generated in the media's mind was that Diefenbaker's speech took an anti-nuclear stance. It forced Harkness' hand. The next day he issued a press statement to "clarify" the Prime Minister's remarks. This press release was fundamentally the same document that the special Cabinet committee had generated.<sup>232</sup>

Diefenbaker called Harkness on the carpet and said: "This is terrible! You've ruined everything! Why did you do it? You had no right to make such a statement!" The Prime Minister stormed out of the room. It was, Harkness noted, "a very unpleasant five minutes."<sup>233</sup>

It was now time for the Americans to interfere. William Tyler from the American Embassy, in a communication with George W. Ball, Undersecretary of State, gave his analysis of the situation. The nuclear issue was "beclouded" by the speech and was "misleading" in its references

231. NAC MG 32 N2 vol. 110 file: National Defence-General (1), 24 Jan 63, "Notes for Mr. Pearson's remarks in the House of Commons during the Foreign Policy and Defence Policy Debate, January 24 and 25, 1963."

232. Lyon, Canada In World Affairs, p. 153.

233. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

to Nassau. "Prompt action" was necessary to "clarify the record and to sweep away the confusion which Diefenbaker's statement can cause in Canadian minds."<sup>234</sup>

That press release was issued the next day and touched off a firestorm in the House and in the media. In it, the State Department stated clearly that the BOMARC B was designed to protect Canadian cities and US SAC bases. It could carry only a nuclear warhead. The two Governments had agreed to the programme in 1958. After the Cuban Missile Crisis the two countries started negotiations for nuclear warheads access which were "exploratory in nature." No acceptable solution had yet been found. Nassau had nothing to do with continental defence and little to do with Canada. Canadian acquisition of these warheads did not in any way constitute Canada's joining the 'nuclear club.'<sup>235</sup>

This release directly contradicted current and past statements by the Prime Minister, Green, and in some cases, even Pearkes back during the SCODE hearings in 1960. Harkness was appalled. It was, in his view, "a very foolish move which was bound to be resented in Canada as an attempt to interfere in a very controversial political question."<sup>236</sup> Cabinet now attempted to respond. Diefenbaker maniacally asserted that: "We now have an election issue!" to his horrified colleagues, who then attempted to dissuade him of this fantasy. Pearson demanded Harkness' resignation in

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234. FRUS 1961-1963 Vol. XIII, pp. 1193, memo Tyler to Ball, "Proposed Press Statement on United States-Canadian Negotiations Regarding Nuclear Weapons," 29 Jan 63.

235. FRUS 1961-1963 Vol. XIII, pp. 1195-1196, State Department Press Release, "United States and Canadian Negotiations Regarding Nuclear Weapons," 30 Jan 63; see also Fleming, So Very Near Vol. 2 pp. 587-588.

236. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

the House and Diefenbaker instructed Harkness not to discuss the issue publicly any more. Dean Rusk recovered and, after being chewed out by a furious John Kennedy, had the State Department issue a public quasi-apology on 1 February.<sup>237</sup>

Diefenbaker then recalled Canada's Ambassador to the United States, Charles Ritchie. He then taunted Pearson and claimed that he was collaborating with the Americans to unseat the Government, a charge which Pearson was forced to deny in the House.<sup>238</sup>

Lieutenant Colonel The Honourable Douglas Harkness, PC, GM, ED, MP was finally at the end of the rope:

I had come to the conclusion that the intransigence of the Prime Minister and his complete preoccupation with maintaining his own position as Prime Minister, together with his disregard for the interests of the country and the party were such that he could no longer be trusted with the welfare of the country and must go. Several ministers to whom I spoke along this line agreed, and I told them I was now absolutely firm in my decision to resign unless he did so.<sup>239</sup>

On 4 February, he did so in a legendary and vicious Cabinet session. On his way out the door, Douglas Harkness was called a traitor by Gordon Churchill and the pious Howard Green.<sup>240</sup>

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237. Fleming, So Very Near Vol. 2, pp. 588-589; Lyon, Canada In World Affairs, p. 171.

238. Lyon, Canada In World Affairs, p. 160-163.

239. NAC MG 32 (B19) vol. 57, 27 Aug 63, Douglas Harkness, "The Nuclear Arms Question and the Political Crisis Which Arose From It In January and February 1963."

240. The best description of this event so far has been in Donald Fleming's memoir, So Very Near Vol. 2, pp. 597-598.

The most blistering but correct analysis came from American Ambassador W. Walton Butterworth, who told Rusk in a cable that:

In view our patient tolerance of unrealistic Canadian view of external world past half dozen years, witness [Government of Canada] foot dragging in vital matter continental defence and pretentious posturing in various international arenas, our sudden dose of cold water naturally produced immediate cry of shock and outrage. Traditional psychopathic accusations of unwarranted US interference in Canadian domestic affairs, while vehement, are subsiding quickly....For past four or five years we have-doubtless correctly- tolerated essentially neurotic Canadian view of world and Canadian role....[Diefenbaker is] determined to carry on in dream world as long as possible....He is [an] undependable, unscrupulous political animal at bay and we are ones who boxed him in....We should be less the accoucher of Canada's illusions.<sup>241</sup>

On 5 February 1963, after a sustained attack by Diefenbaker on the Pentagon and the State Department, the Government lost a vote of non-confidence (142 to 111) in the House of Commons. Parliament was dissolved, and the 1963 election campaign was on. As Canadian Ambassador to the United States Charles Ritchie put it: "I consider ...[Diefenbaker's] disappearance a deliverance; there should be prayers of thanksgiving in the churches. And these sentiments do not come from a Liberal."<sup>242</sup>

Cabinet met once more before the election to discuss the nuclear weapons issue. Gordon Churchill replaced Harkness as the de facto Defence Minister by this time. Green was now in full control and had initiated another round of discussions with the Americans. This time, however, the Americans were sick to death of the situation and "indicated that the U.S.

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241. FRUS 1961-1963 Vol. XIII, pp. 1196-1198, 3 Feb 63, message Butterworth to State.

242. Charles Ritchie, Storm Signals: More Undiplomatic Diaries, 1962-1971 (Toronto: Macmillan of Canada, 1983) p. 47.

government would not be prepared to enter into an arrangement including the storage in the U.S. of the nuclear warheads for possible use by Canada."<sup>243</sup> Nevertheless, Diefenbaker "expressed the hope that the negotiations would continue and would achieve success."<sup>244</sup>

Then Harkness went to the media and declared that the missing essential piece scheme was not feasible. If only to spite Harkness, the Prime Minister attempted to get the Americans to sign an agreement to this effect, but they were not playing ball. He then went to the House of Commons and gave a rousing speech claiming that Canada had been deceived, that the BOMARC was in fact capable of using conventional as well as nuclear warheads. The NORAD public affairs section then sent out a press release noting the differences between the BOMARC "A" and "B" models and the fact that Canada had agreed to get the "B", which could in fact only use nuclear warheads. When confronted with this, Diefenbaker "smiled mysteriously and answered, 'Ah, but I have the press release,' which turned out to be a fact sheet dated 1958. Diefenbaker's behaviour grew more and more bizarre. He then told the House that only 600 of the 1200 USAF ADC interceptors carried nuclear weapons. The State Department then complained that he was releasing classified information, to which Diefenbaker responded that the United States was trying to treat Canada like Guatemala. The media had a field day.<sup>245</sup>

The situation was aggravated further by US Secretary of Defense Robert McNamara's testimony to the House Military Appropriations

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243. NAC RG 2, 8 Feb 63, Cabinet Conclusions.

244. Ibid.

245. Lyon, Canada In World Affairs, pp. 196-200.

Subcommittee. In a discussion as to the relative merits of the BOMARC system and how much money should be spent on it, McNamara included in his testimony his belief that:

McNamara: At the very least [the BOMARCs] would cause the Soviets to target missiles against them and thereby increase their missile requirements or draw missiles onto these BOMARC targets than would be otherwise available for other targets....

[Richard] Flood: All I can say is they turned out to be expensive targets

McNamara: They did, I agree with you fully.<sup>246</sup>

This was surely an insensitive statement to make, given the politically charged atmosphere in Ottawa, a gaffe of the highest order. Diefenbaker then used the McNamara statements to pummel Pearson in the House, which lead to conspiracy theories emanating from the Prime Minister about American influence and manipulation. The American State and Defense departments were extremely perturbed, noting that "It would be most unwise to exacerbate the matter further by release of more testimony....", and that it "could have adverse repercussions on United States interests."<sup>247</sup>

The BOMARC issue dominated the entire last week of the election campaign and anybody who remotely had anything to do with BOMARC's was slammed unrelentingly by the media.<sup>248</sup>

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246. McLin, Canada's Changing Defense Policy, pp. 164-165.

247. USNARA RG 59 3060 AII 250/63/11/03 box 1, file: Defense Affairs Canada, Nuclear Weapons, memo Johnson to Gilpatrick, 10 Apr 63.

248. Lyon, Canada In World Affairs, p. 204-210.

It all came to an end, mercifully, on 8 April 1963, when John G. Diefenbaker's government was barely defeated at the polls by the Liberal Party led by Lester B. "Mike" Pearson. The rein of Dief the Chief was over, and Canada could now make good on her international commitments.

## CHAPTER 12

CLOSE TO THE APEX: THE PEARSON GOVERNMENT, NUCLEAR WEAPONS  
AND NATIONAL SECURITY POLICY, 1963-1964

## Introduction

The accession of Mike Pearson's Liberal Government to power in April 1963 produced revolutionary changes in the strategic policymaking structure and eventually how that policy was implemented by Canada's armed forces. The most important objective was that Canada was now able to formally access the nuclear stockpile, complete all the modifications to most of the delivery systems, and effectively contribute to the defence of North America and Western Europe. Yet most of the attention given to strategic policy matters focused on the process of change. Canadian roles and missions were not dramatically altered during the course of this process. This affected not only Canada's ability to influence her allies; it also produced a question which no one in the Pearson Government would or could answer: What exactly is the nature of the relationship between the armed forces and national aims?

The lack of a defined answer and a dynamic means of implementing it produced, by the advent of the successor Trudeau Government in 1968, questioning over the fundamental existence of the armed forces, while at the same time the forces became a truly effective instrument if the Government chose to use it (either in peacetime in an alliance context or in wartime in a conflict context). Put another way, Canada now had a force structure designed to implement her strategic policy. That strategic policy,

however, was gradually moving away from the use of armed forces (in peacetime as well as wartime) as a key instrument in the conduct of policy.

In effect, the Pearson Government deliberately laid the foundations for denuclearization while at the same time accepting nuclear weapons into Canada's force structure. This chapter will examine the Pearson national security policymaking apparatus and process, the signing of the nuclear weapons agreements with the United States, and the background behind the 1964 Defence White Paper. The actual implementation of the nuclear weapons agreements by the armed forces will be dealt with in Chapters 13 and 14.

### Strategic Policy Process and Personalities in the Pearson Regime

Pearson's Cabinet established its immediate objectives after being sworn in on 22 April 1963. Domestically, these included radical changes to the social security structure in Canada and a re-examination of Quebec's standing within Confederation. The priority over everything was to improve relations with the United States and United Kingdom and "restore Canada's responsibilities in international political and economic circles as a leader in search of peace, security, prosperity, and the elimination of poverty in the Third World."<sup>1</sup>

The team which would carry this out, Cabinet, consisted of 26 people. Unlike the Diefenbaker or St Laurent Cabinets, no less than eight of

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<sup>1</sup>. Mitchell Sharp, Which Reminds Me...A Memoir (Toronto: University of Toronto Press, 1994) p. 106; See also Paul Martin, A Very Public Life: So Many Worlds (2 vols) (Ottawa: Deneau Publishers, 1985), II, p. 384.

Pearson's Cabinet were ex-civil servants, which Mitchell Sharp, the Minister of Trade and Commerce (and later Secretary of State for External Affairs under Trudeau in 1968), pointed out "was not particularly healthy [for] the political process in Canada...."<sup>2</sup> This arrangement sometimes set non-ex-civil service Cabinet members at odds with what they saw as an inner circle. The latter group included Bud Drury, former Deputy Minister of National Defence, who was now in charge of Industry, Jack Pickersgill (Secretary of State), and others. Pearson would have to be cautious, since his Government was a minority government, and key parliamentarians had to be kept on a short leash in Ottawa in case of snap votes in the House.

Cabinet business under Pearson was much more informal than the Diefenbaker Government's. Paul Martin, Secretary of State for External Affairs thought that Pearson was "a pleasant man who ran a relaxed regime."<sup>3</sup> The Prime Minister decided what the consensus was and used his "sense of humour and boyishness [which] served him well in Cabinet. He could dissipate tensions by a witty off hand comment or an anecdote,"<sup>4</sup> which usually related to Pearson's baseball obsession. Mitchell Sharp thought that: "Pearson's pragmatism and diplomacy were reflected in his handling of the Cabinet and the Caucus; he was reluctant to take a clear position when there was dissent...."<sup>5</sup> Pearson did not dominate, he mediated.

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2. Sharp, Which Reminds Me...A Memoir, p. 105.

3. Martin, A Very Public Life, II, p. 374.

4. Sharp, Which Reminds Me...A Memoir, p. 107.

5. Ibid., p. 109.

There were caveats. Martin wanted more Cabinet attention paid to foreign affairs, but Pearson told him: "Don't encourage that or we'll never get through our agenda."<sup>6</sup> Sharp noted that "Foreign policy, for example, was seldom discussed in Pearson's Cabinet. Pearson and the Secretary of State of External Affairs, Paul Martin, made the decisions."<sup>7</sup> In fact, Pearson established inter-Cabinet committees for several domestic policy functions. Normally, bills would be discussed by the committees, then taken to Cabinet and then to the House. There was a Cabinet committee for External Affairs and Defence but it rarely met, probably because Pearson revived the Cabinet Defence Committee concept.<sup>8</sup> The Panel on the Economic Aspects of Defence Questions was not resuscitated under Pearson.

Strategic policy, in its largest sense, was affected by the personalities of four men. The first was Pearson. Paul Martin was second. A lawyer representing Windsor in the House of Commons, Martin had served under St Laurent when he was Secretary of State for External Affairs in the Mackenzie King Government. He was one of the original five Canadian delegates to the United Nations in 1945, but then served Health and Welfare minister. A foreign affairs enthusiast, Martin believed that NATO was the cornerstone of Canadian foreign policy, since "for a country like Canada, the danger of great power domination was to some extent lessened by our

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6. Martin, A Very Public Life, II, p. 375.

7. Sharp, Which Reminds Me...A Memoir, p. 167.

8. Martin, A Very Public Life, II, p. 376.

continuous participation in a common forum."<sup>9</sup> In his view, "Canada's soldiers in Europe gave us leverage in the [North Atlantic] Council, so NATO's collective military strength gave the West a formidable stake at the bargaining table."<sup>10</sup> His chief antagonist in the Cabinet thought that Martin was an indecisive man who "seemed to seek a mild and non-controversial solution which, in the long run, weakened his position." Apparently Martin's "circumlocutory style could be very amusing."<sup>11</sup>

That antagonist was Walter Gordon, Minister of Finance. A chartered accountant from Toronto, he first met Pearson in 1934, when Gordon was a witness on a Royal Commission studying Canadian economic policy. He served in a wide variety of capacities dealing with economics during the Second World War in the King Government and later on in the St Laurent Government. He was a senior Liberal Party strategist and wielded immense political influence. An economic nationalist, the only difference between Diefenbaker's approach and Gordon's approach to Canadian-American relations was a slightly lesser degree of suspicion on Gordon's part. As for defence matters, his view was that: "The whole idea of spending a great deal more money on defence was nonsensical, both because I failed to see what Canada could gain or accomplish by having a larger or better-equipped military establishment and because I felt the money could be spent in better ways."<sup>12</sup> Canada, in his view, had completed its mission in

9. Martin, A Very Public Life, II, p. 458.

10. Ibid., p. 479.

11. Walter L. Gordon, Walter L. Gordon: A Political Memoir (Toronto: McClelland and Stewart Ltd., 1977) p. 177.

12. Ibid., p. 277.

Europe and should withdraw now that the Europeans were back on their economic feet 20 years after the war. He thought that Paul Hellyer, Minister of National Defence, was as "strange, serious, enigmatic" as his ideas on national defence.<sup>13</sup>

Part of the problem with regard to Gordon's convoluted economic policymaking revolved around the advice he took from two "investment executives from Toronto [who] continued to be paid by their firms, and a tax specialist studying for his Master's degree at Harvard." This "gradually estranged Walter Gordon from his permanent officials."<sup>14</sup>

Paul Hellyer, whom we have already met in Chapters 10 and 11, was now unleashed onto the scene with his carefully constructed agenda. As one observer noted in retrospect:

There appeared to be no doubt in the mind of Mr. Hellyer, that his mandate from the government on being appointed Minister, was the eventual unification of the Armed Services. He set about it with determination and personal energy, so much so, that to many in the department it seemed to be prompted more by political ambition and to eventually achieve a higher cabinet appointment and perhaps ultimately Prime Minister.<sup>15</sup>

Hellyer, wary of being captured by the staff in another 1957 NORAD-like situation, refused to sign anything or make any decisions during the first 30 days of his tenure as Minister of National Defence.<sup>16</sup>

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13. Ibid., p. 177.

14. DGHIST, The Raymont Study Vol. II, p. 276.

15. DGHIST, The Raymont Study Vol. II, pp. 167-168.

16. Paul Hellyer, Damn The Torpedoes: My Fight To Unify Canada's Armed Forces (Toronto: McClelland and Stewart Publishers, 1990) p. 33.

The uniformed defence team did not change at this point: Air Chief Marshal Frank Miller, Admiral Herbert Rayner, General Geoffrey Walsh, and Air Marshal Larry Dunlap remained at their posts until mid-1964. As for External Affairs, the chain-smoking Norman Robertson, who had known Paul Martin for 30 years, continued as the Under Secretary until early 1964, when he had a cancerous lung removed. Marcel Cadieux replaced him, but after Pearson and Robertson had a falling out of sorts.<sup>17</sup> Cadieux was "a staunch opponent of Communism" and a firm supporter of NATO.<sup>18</sup> Robert Bryce moved from Cabinet Secretary to Deputy Minister of Finance. The Clerk of the Privy Council now was Maurice Lamontagne, who would exert influence on Pearson's domestic agenda toward Quebec which affected strategic policy.

It should be noted here that domestic considerations regarding Quebec formed a large portion of the backdrop to policymaking at this time. The long-standing and corrupt French Canadian political establishment in Quebec collapsed under its own weight in the early 1960s. This power vacuum was filled by an increased ethnic consciousness and a moderate left provincial government. There were those who thought that this government was too moderate and, in the wake of the Front de Liberation Nationale (FLN) success in Algeria and Castro in Cuba, thought that world revolution was imminent and that Quebec was destined to be an independent socialist state. The Government understood that Quebec separatism threatened Canada's continued existence and set about to ensure

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17. Granatstein, A Man of Influence, p. 357.

18. John Hilliker and Donald Barry, Canada's Department of External Affairs (2 vols) (Kingston: McGill-Queen's University Press, 1995), II, pp. 258-260.

that it did not happen. Then bombs started to go off in Montreal, and military armouries were raided by the shadowy Front de Liberation du Quebec (FLQ). One FLQ action unit even planned to seize the LaMacaza BOMARC base in April 1965 but was thwarted.<sup>19</sup> Canada had a nascent violent revolutionary movement to deal with, in addition to the other problems she faced.

The overall Pearson plan in the wake of the 1963 election, dubbed "Sixty Days of Decision," was nearly stillborn when a major crisis over the federal budget broke out in May 1963. Walter Gordon's budget, which was not reviewed by Cabinet or the Prime Minister, announced that Canada would implement massive trade protectionism. The main target was the United States with its preponderance of economic and cultural power. There were some heated scenes between Gordon and American Ambassador Walton Butterworth, who Gordon thought was "a prototype for the 'Ugly American' type of [US] diplomat."<sup>20</sup> Though this spat was by no means as serious as the nuclear weapons crisis, the undertones affected the Canadian-American relationship throughout the period. Gordon's economic plans, as we will see, seriously hindered Canadian strategic policy.

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19. See Gustave Morf, Terror in Quebec: Case Studies of the FLQ (Toronto: Clarke, Irwin, and Co. Ltd., 1970) as well as the National Film Board of Canada's documentary film, "Action: The October Crisis." See also Louis Fournier, FLQ: Anatomy of an Underground Movement (Toronto: NC Press Ltd., 1984) pp. 82-83.

20. Gordon, Walter L. Gordon: A Political Memoir, p. 157.

Out of the Starting Blocks: Preliminaries to the Canada-US Nuclear Weapons Agreements, May 1963

Pearson dived headlong into the nuclear question on 1 May 1963, when he convened the 138th meeting of the Cabinet Defence Committee. The last time the CDC had met was in October 1962, and then only briefly, and before that in January 1961. In the 1 May meeting, Hellyer reviewed the status of the nuclear arrangements. The premise that the BOMARC's, CF-101B's, Honest John's and CF-104's were ineffective without nuclear weapons was immediately agreed to, and that RCN and RCAF ASW aircraft should continue to be "adapted to use nuclear depth charges in order to meet a prospective requirement."<sup>21</sup>

Paul Martin reiterated the history of the nuclear issue, taking the story back to 1957. Martin also explained the relationship among the Government-to-Government agreement, the service-to-service agreements, and the nuclear information agreements. He confirmed that emergency stand by arrangements existed to supply Canadian continental defence systems with warheads. Accordingly, Martin stated that: "The initiative rested with the Canadian Government. The question of nuclear weapons for the CF-104's must be decided if Canada is to be able to participate fully in NATO."<sup>22</sup>

The big question involved obsolescence of the systems and whether NATO strategic concepts would militate against acquisition. Miller and Hellyer

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21. NAC, RG 24 vol. 20710 file 2-3-2, 1 May 63, Cabinet Defence Committee, 138th Meeting.

22. Ibid.

noted that BOMARC would be in service in the United States until at least 1966, and it was too late to get Nike Hercules. There was still a substantial bomber threat, and this threat would exist into the late 1960s. As for the CF-104 force, these aircraft were programmed into SHAPE's force planning, and the next review would not take place until 1969. No good purpose could be served by delaying their arming with nuclear weapons. Pearson queried Miller as to whether the CF-101B force needed nuclear weapons to fulfill its role. Miller explained the need to increase the probability of kill using the MB-1 over the Falcon.<sup>23</sup>

The CDC met yet again on 7 May to discuss the issue further. Martin continued with his chronology of nuclear weapons agreements. The only weapons not discussed publicly, he noted, were the nuclear ASW weapons. The Government might take some Opposition heat on the other systems, but discussion of nuclear ASW weapons could be kept to a minimum. The biggest problem, Martin noted, was a growing dispute with the Americans which arose in some preliminary discussions. The American position on weapons release involved the pre-delegation issue. They thought that SACEUR, SACLANT, and CinCNORAD should continue to have pre-delegated use authority in certain restrictive circumstances. The emerging Canadian position, championed by External Affairs, was that the American President should have release authority, but only after intergovernmental consultation, where practical. Miller thought that a dual-key system for defensive weapons was "ridiculous", since those systems had to be able to react quickly. Dual-key, in his view, was acceptable for offensive systems. The CDC concluded that:

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23. Ibid.

For political reasons...it was important that the principle of dual control be embodied in the agreement. the Government would almost certainly be asked in parliament about the control of the weapons and must be able to give assurances that the right of the Canadian Government to authorize use had been protected in the agreement...."<sup>24</sup>

Pearson asked whether the Government-to-Government agreement would have to modified if Canada joined the NATO MLF. Miller told him no, that the MLF was a whole separate issue. What about the MB-1 storage agreement? Did the USAF ADC squadrons stationed in Canada have MB-1's yet? Despite the request during the Cuban Missile Crisis, Miller told him, such permission was not given, though a plan to disperse USAF ADC fighters equipped with MB-1's to nine Canadian airfields in an emergency was currently under consideration. As for the status of SAC overflights, Miller assured the Prime Minister that there were 12 such flights per day over Canada carrying nuclear weapons on airborne alert.<sup>25</sup> (The SAC airborne alert flights were eventually stopped after a 1968 B-52 crash near Thule, Greenland).

The matters then went to Cabinet for lengthy discussion. The CDC report recommended that negotiations be undertaken immediately with the United States to acquire nuclear warheads, and that perhaps the Prime Minister should raise the issue in his upcoming meeting with the President at Hyannisport. The main condition was that the Canadian negotiating team was to ensure that "no action is being contemplated by the

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24. NAC, RG 24 vol. 20710 file 2-3-2, 7 May 63, Cabinet Defence Committee, 139th Meeting.

25. Ibid.

United States, in respect to its own air defence forces, which might be construed as seriously discrediting any action taken by the Canadian Government to meet the requirements of its own air defence forces...particularly in regard to the BOMARC B missiles."<sup>26</sup>

Pearson was concerned about public and Opposition reaction. In this case, he proposed initiating negotiations with the Americans and give a public explanation for the policy (though the Government-to-Government and service-to-service agreements would remain classified) and allow for debate in the House. If there were serious problems in the House, the service-to-service agreements would not be immediately signed. In his view, "The matter had been the subject of too much public debate to permit the governments simply to arrange for the stockpiling of the warheads and then present it as a *fait accompli*."<sup>27</sup> Pearson was now worried, as John Diefenbaker had been between 1957 and 1961, about the domestic political ramifications of a situation which was created before the Government came to power.

The Prime Minister was also concerned about coordinating the agreements with the election-promised open committee on defence policy, which was scheduled to start in June 1963. It might be desirable to delay a Parliamentary debate until after the first round of committee hearings, or even artificially slow down the negotiating process with the Americans.<sup>28</sup> Pearson was already starting to have second thoughts and to follow John Diefenbaker's path of indecision and political ramifications.

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26. NAC RG 2, 9 May 63, Cabinet Conclusions.

27. Ibid.

28. Ibid.

Hellyer righted this rapidly by reminding the Prime Minister that:

...the important argument in favour of honouring Canadian nuclear commitments was political: to re-establish confidence in Canada among the Allies and reopen lines of communication. The consequence of a failure to do this could be far-reaching; it might, for example, jeopardize extensive sales to the United States of the Caribou II [tactical transport aircraft designed and built in Canada], or lead to the withdrawal of U.S. concessions on the importation of Canadian oil.<sup>29</sup>

As for the rest of Cabinet, they were primarily concerned with the custody and control arrangements. They agreed that the standard agreement was acceptable; that is, custody and ownership was an American affair, while the external security of the sites in Canada was a Canadian affair; that US forces would not use warheads designated for Canadian forces; and finally, that "the warheads would be released from U.S. custody by the President and the proposed agreement would require, here practical, prior intergovernmental consultation."<sup>30</sup>

Cabinet was briefed in detail on the annexes for each delivery system (Honest John, BOMARC, CF-104, nuclear ASW weapons, and CF-101B/MB-1's). There was some questioning about the inclusion of the nuclear ASW weapons, since there was no formal commitment made by Canada to accept these weapons. The Government, some believed, had pledged to the Canadian public that the existing commitments would be met. This was not an existing commitment; therefore inclusion of it "would be at variance

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29. Ibid.

30. Ibid.

with that pledge",<sup>31</sup> and by inference, cause problems with the Opposition if and when it became publicly known.

Hellyer countered, stating that "a number of Canadian anti-submarine aircraft had already been modified to permit the use of these weapons and he had had military advice that it would be soon impossible to carry out Canada's anti-submarine role without nuclear weapons."<sup>32</sup>

Inclusion of nuclear ASW weapons in the Government-to-Government agreement did not imply that the service-to-service agreement regarding nuclear ASW weapons would in fact be signed. As Hellyer noted:

...continued expenditures on the adaptation of aircraft to permit them to use these weapons without taking even the preliminary steps towards making the weapons available would expose the government to the criticism that had been leveled at its predecessor. Several Ministers said that it was not so much a question of honouring commitments but of defending Canada by whatever means was necessary.<sup>33</sup>

Nuclear ASW weapons remained in limbo for the time being.

Pearson was ready to discuss the matter with Kennedy, and he wanted Cabinet's concurrence. He was concerned about the effects of the Skybolt affair in the UK and did not want a similar thing happening to Canada's nuclear systems. The Prime Minister put off any discussion on MB-1

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31. Ibid.

32. Ibid.

33. Ibid.

storage for the USAF ADC squadrons until after the Hyannisport meeting.<sup>34</sup>

Pearson flew down to Hyannisport on 10 May 1963 for discussions with President Kennedy. The Prime Minister followed what had been concluded in Cabinet. He told Kennedy that a diplomatic note would be sent outlining the interest in Canada's continuing the nuclear negotiations for the Honest John, CF-104, CF-101B, and BOMARC warheads. There would be minor modifications to the language for domestic consumption. Pearson wanted Kennedy's assurance that neither he nor McNamara would "pull a Skybolt" on Canada. He also noted that "He wished commitments had not been made in [the] first place but this was water over the dam."<sup>35</sup> Nevertheless, Kennedy had to realize that close consultation was critical, since "the importance of the Canadian air contribution in Europe...was second in importance only to that of the United States."<sup>36</sup>

Kennedy was delighted and proceeded to brief Pearson on the status of the Nassau Agreement and the NATO MLF. What was Canada's position? Could Canada come aboard? The President emphasized that the MLF was politically significant regarding European unity and Germany's place within Europe. Pearson did not think that Canada would participate directly and did not support the idea of the MLF, since it was militarily dubious. He was more interested in the IANF and the role Canada could

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34. Ibid.

35. FRUS 1961-1963 Vol. XXIII, pp. 1201-1206, telegram from Hyannis Port to State, 11 May 63.

36. Ibid.

play in that with its existing forces in Europe.<sup>37</sup> As the State Department noted, the:

...general atmosphere [of the] talks was excellent with Pearson giving repeated evidence of his determination [to] create and sustain cordial and frank relationship between two countries whose destiny [was] closely linked by history as well as geography, while maintaining Canadian identity and defending Canadian interests.<sup>38</sup>

Cabinet met in a follow-up session after the Hyannisport meeting. The debate over a nuclear ASW annex continued. Hellyer was of the opinion that it should be included, but Martin made a strong case for the potential political fallout that could occur in Parliament if an "additional" nuclear system were introduced at this supposedly late date. Hellyer again pointed out that the RCAF and RCN maritime forces were useless without these weapons and strenuously pressed for non-inclusive language to be included in the agreement so that obsolescence of specific systems would not prohibit their replacement in the future. Pearson refused to accept this perspective and Cabinet agreed only to the BOMARC, Honest John, CF-104 and CF-101B systems.<sup>39</sup> Pearson's stance is consistent with his belief that Canada should not have nuclear weapons and would eventually divest itself of them, perhaps after the special parliamentary defence committee concluded later in 1963. He essentially opted for rust out and did not leave any opening for replacement.

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37. Ibid; Lyndon B. Johnson Library [hereafter LBJL] VP Security Collection, container 12, "Briefing Book: Visit of PM Pearson, May 10-11, 1963."

38. FRUS 1961-1963 Vol. XXIII, pp. 1201-1206, telegram from Hyannis Port to State, 11 May 63.

39. NAC RG 2, 14 May 63, Cabinet Conclusions.

Pearson also told Cabinet that Kennedy had placed the issue of USAF ADC nuclear weapons storage at a lower priority in his discussions. Thus it did not have to be addressed at this time. According to minutes of that meeting, neither leader actually brought up this issue, so Pearson's motive for this statement in Cabinet is unknown.<sup>40</sup> Perhaps it was used to facilitate acceptance of the four warhead types.

The matter of SAC operations in Canada became increasingly irrelevant in 1963, including the SAC storage site at Goose Bay as well as the tanker operations. Robert McNamara decided that the increase in deployed USAF ICBM's justified an accelerated reduction in the B-47/KC-97 force. The PJBD was informed about this decision, which would end Northern Tanker Force operations at Fort Churchill, Frobisher Bay in 1963 and possibly at Namao and Cold Lake in 1964. No movement was taken on this on Kennedy's order during the 1963 election campaign. After consultation with the Canadian Government, the USAF announced the withdrawal in August 1963.<sup>41</sup>

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40. FRUS 1961-1963 Vol. XXIII, pp. 1201-1206, telegram from Hyannis Port to State, 11 May 63.

41. DGHIST, Raymont Collection, file 1086, Feb 63, "Joint Statement by the Department of National Defence of Canada and the Department of National Defense, United States;" 6 Mar 63, message Washington D.C. to External, "SAC: Phase Out of Refuelling Facilities;" USNARA RG 59 vol. 3060 box 1, AII/250/63/11/03 file: Defense Affairs: Canada, memo Newman to Johnson, "U.S. Military Activities Affecting Canada," 9 Apr 63.

## NATO Ministerial Meeting in Ottawa and the MLF: May 1963

As we have seen, the Diefenbaker Government's flawed nuclear weapons policy prevented it from participating in the NATO MLF debate. The prevailing External Affairs view was that the MLF or something like it should exist, with the express purpose of reining in perceived West German desires for nuclear weapons. This was an unfounded concern given West Germany's acceptance of MC 70 and the arming of its forces with nuclear weapons in 1959-1960. At the same time, however, External's leadership (Robertson and Green) eschewed participation in an MLF and even had ensured that any potential Canadian contribution to the Nassau-proposed Inter Allied NATO nuclear force with the CF-104 units was muted by the lack of access to the nuclear weapons stockpile. At the same time, NATO was undergoing a profound schism, as de Gaulle continued with his non-cooperation doctrine.<sup>42</sup> Canada's contradictory nuclear policy excluded any hope of influencing the process in NATO with regard to the MLF and the French split. It was left to Pearson's Government to pick up the pieces.

External Affairs provided Pearson with its earlier analysis of the IANF versus the MLF and their relationship to the Nassau Agreement.<sup>43</sup> In addition, External Affairs (Ross Campbell and Basil Robinson representing), Defence, and the COSC had received a briefing by an American MLF team back in November 1962 (the Diefenbaker Government had expressed no interest in it at the time). This briefing basically laid out

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42. NAC RG 25 vol. 4486 file: 50030-40 pt. 9, 24 Jan 63, message Paris to External, "The Future of NATO."

43. NAC RG 25 vol. 4486, file: 50030-40 pt. 9, 19 Apr 63, "Notes on Defence Topics--Discussions Between Mr. Pearson and Mr. Macmillan."

what the MLF was and what planners were hoping Canada could contribute to.

The MLF concept had by this point stabilized into 25 special ships with each ship carrying eight MRBM's. The entire force would consist of mixed-manned crews totaling 7500 men drawn from NATO countries. It was a military as well as political force in that the purposes were to counter the Soviet MRBM's in Western Russia, to forestall independent nuclear proliferation within NATO, and to provide smaller NATO nations with a say in nuclear weapons use free of bi-lateral relationships with the United States. Targeting and control would reside in SACEUR, perhaps with a special Deputy to handle the MLF.<sup>44</sup>

Miller convened the COSC twice in May 1963 to discuss the MLF so they it could provide advice to Cabinet for the upcoming NATO Ministerial Meeting, which was being held in Ottawa. After a reiteration of the IANF-MLF situation, Miller determined that the IANF was really "conceived as a pilot scheme to lead to the MLF." Admiral Rayner was opposed to MLF, since he thought that Canadian participation would be drawn from the RCN. There was not enough manpower, and it would detract from other commitments.<sup>45</sup>

On the other hand, if Canada contributed to the MLF, more influence within NATO would accrue:

It is quite probable that Canada must be prepared to declare 'in' or 'out' in the comparatively near future. in this regard, it is incumbent

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44. DGHIST, file 79/34, 26 Nov 62, "Multilateral Seabased MRBM Force-Summary of US Briefing."

45. DGHIST, Raymont Collection, file 1311A, 2 May 63, COSC 738th Meeting; 16 May 63, COSC, 740th Meeting.

upon the Canadian military authorities to do everything within their means to ensure that our future NATO undertakings are not cast into the limbo of uncertainty which until recently surrounded our nuclear capable forces under NATO command. Canadian participation in the Multilateral Force in more than nominal terms is important in preserving the NATO nature of the undertaking and thus in avoiding any connotation that American scraps are being thrown to placate European dogs.<sup>46</sup>

The matter went to Cabinet. After discussion, Pearson explained that, although he had expressed sympathy for the American position on the MLF, he believed that "Canada had no role to play in such a force."<sup>47</sup> Hellyer agreed, as he believed that the MLF's purpose was to constrain West Germany, not provide NATO with MRBM's. Martin, though a believer in the MLF, thought that the CF-104 force could provide enough Canadian influence through the IANF instead. Besides, France would probably veto the MLF anyway. Canadian participation in the MLF would be valuable later when the CF-104's became obsolete. Pearson sought to move the discussion away from any consideration of a future Canadian nuclear role in NATO.<sup>48</sup> Cabinet agreed that the Canadian position for the NATO Ministerial Meeting would be drafted by the Prime Minister and that he would "make certain that the wording did not bind the Government to an indefinite extension of a nuclear role."<sup>49</sup> Martin remained unconvinced. He

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46. DGHIST, file 79/34, 3 May 63, "Multilateral Seabased MRBM Force-The Canadian Position."

47. NAC RG 2, 15 May 63, Cabinet Conclusions.

48. Ibid.

49. NAC RG 2, 16 May 63, Cabinet Conclusions.

thought that a lack of Canadian support to the MLF would jeopardize nuclear weapons acquisition agreements with the Americans.<sup>50</sup>

A point of comparison: In previous chapters, we saw how frightened Diefenbaker was of Opposition and media criticism, particularly with regard to NORAD, air defence, and sovereignty. This fear emanated from the Opposition's extremely effective campaign in the House. In dealing with the nuclear weapons agreements (particularly the elimination of nuclear ASW annexes) and in the MLF issue, we see Pearson exhibiting the same fears and having them affect policy decisions.

By 20 May, Cabinet was still debating the MLF issue. Apparently, a media report criticizing the Government on the acceptance of a nuclear role for the CF-104 force and its relationship to the MLF had generated doubts in Pearson's mind. After going over NATO documents, he was now firmly convinced that Canada indeed had a commitment to arm the CF-104's with nuclear weapons. If an IANF were established, the CF-104 force would be placed under its command. As for the MLF, the Canadian delegation would "confine itself to noting any progress report that might be tabled at this meeting, while saying nothing that would prejudice U.S. attempts to gain support for this proposal."<sup>51</sup>

Briefly, business considered at the Ottawa NATO Ministerial Meeting on 22-24 May 1963 ranged from out of area problems, to French-UK-EEC problems, to cries for a conventional force build up. On the nuclear front,

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50. Martin, A Very Public Life, II, p. 460.

51. NAC RG 2, 20 May 63, Cabinet Conclusions.

NATO ratified plans for an expanded nuclear information agreement which would build on the 1954 and 1958 agreements.<sup>52</sup>

The MLF discussion did not go well and reached a point where Dirk Stikker and Kennedy had a private chat. The negative French position on MLF was based on what Stikker referred to as the "de Gaulle syllogism:" "a great country must have nuclear weapons. France is a great country, therefore France must have nuclear weapons" in an unfettered way.<sup>53</sup> If this were not done, France would continue to foment distrust in NATO by declaring that North America had given up on Europe. Kennedy "remarked it was unfortunate that with people like Pearson, [Ludwig] Erhard, [Joseph] Luns, [Amintore] Fanfani and [Aldo] Moro as national leaders, all committed to cooperate within the Atlantic Alliance, one man could block the flow of history."<sup>54</sup>

In the end, the NAC generated a compromise. There would be no separate IANF for SACEUR, though the British committed their V-bomber force and the Americans committed several SSBN's to SACEUR. SACEUR would create a special nuclear deputy. Most importantly, there would be "arrangements for broader participation by non-Americans in nuclear

52. This was proposed back in November 1962. See USNARA, RG 200, box 82, "NATO Defense Data Program," 30 Nov 62; and FRUS 1961-1963 Vol. XXIII, pp. 575-578, "NATO Ministerial Meeting, Ottawa, May 22-24 1963," 17 May 63; pp. 579-582, "United States Delegation to the Thirty-First Ministerial Meeting of the North Atlantic Council," 23 May 63.

53. FRUS 1961-1963 Vol. XXIII, pp. 582-587, memcon, Kennedy and Stikker, "European Situation," 28 May 63.

54. Ibid.

activities at SHAPE and in Omaha.<sup>55</sup> This referred to the Joint Strategic Target Planning Staff (JSTPS) which will be discussed in detail in Chapter 14 as it relates to the RCAF's CF-104 force in Europe. Eventually the MLF project was dropped by the Lyndon B. Johnson Administration as being politically unworkable both in an Alliance sense and in a domestic sense.<sup>56</sup>

The decision to limit Canadian participation in the MLF, though positive in the long run, should not be seen as insightful on Pearson's part. He was primarily concerned with things other than NATO influence, specifically, domestic politics. What it did produce, again by accident, was an increase in the bargaining power of the CF-104 force in NATO circles, assuming anyone chose to use it.

#### Nuclear Delivery Capability to July 1963

In almost every sense, the force structure was in a holding pattern throughout the first eight months of 1963. The RCN was in the process of acquiring its first CHSS-2 Sea King ASW helicopters in May 1963 and modifying several St Laurent-class DDE's to DDH standard to carry them. Although the first four of the former machines were built at the Sikorsky plant at Bridgeport, Connecticut, they do not appear to have been wired for special weapons delivery.<sup>57</sup>

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55. FRUS 1961-1963 Vol. XXIII, pp. 587-589, message State to Certain Missions, "NATO Ministerial Meeting, Ottawa," 29 May 63.

56. Schwartz, NATO's Nuclear Dilemmas, p. 122.

57. Soward, Hands To Flying Stations, II, pp. 318-319.

As for 1 Air Division, four of the Germany-based strike squadrons and two of the four squadrons based in France had arrived by May 1963 and were conducting intense training.<sup>58</sup> The entire effort was hampered by the lack of the Government-to-Government and service-to-service agreements. The pilots and intelligence staffs could not develop their strike packages, since SHAPE and 4 ATAF would not assign targets to the squadrons until Canada signed the agreements. 1 Air Division Headquarters and the Canadian staff members at the NATO headquarters were in the process of challenging this and were making little headway.<sup>59</sup>

On a more positive note, the Air Division squadrons received copious amounts of informal information. The RCAF-Luftwaffe link that had been forged in the 1950s bore fruit in 1963. The delayed RCAF-USAFE service-to-service agreement, still hung up because of the lack of a Government-to-Government agreement, was circumvented in a number of ways by the Luftwaffe F-84G unit at Buchel air base. This unit was standing nuclear alert, had an American custodial detachment, and knew the security and release procedures. These were passed on to RCAF officers. In some cases Luftwaffe officers gave lectures on nuclear safety matters. The American custodians slated to man the SAS sites Canadian bases were on site in 1963.<sup>60</sup>

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58. Bashow, Starfighter, pp. 17-19.

59. ATI, 23 Feb 63, message CANAIRHED to CANAIRDIV.

60. Schultz interview.

## Special Committee on Defence I: June-August 1963

Operational planning notwithstanding, the Pearson Government fulfilled its election promise of holding a public inquiry into Canadian strategic policy matters. The 1963 Special Committee on Defence (SCOD) was tasked to produce a recommendations paper that was to become part of the Government's deliberations over nuclear weapons, strategic policy, and future force structure. As Chairman Maurice Sauve put it: "We are not interested in attributing blame or diagnosing responsibility. We are interested in the future. We want to find out if it is possible to develop for the future a defence policy that will serve the interests of the Canadian people and merit the support of the broadest possible range of political opinion," a statement that Gordon Churchill immediately disagreed with because he was not convinced that the final recommendations would actually be used by the Government.<sup>61</sup>

The 1963 SCOD differed from the 1960 SCODE in that SCODE was an examination of defence expenditures that had been turned into a media circus by the Opposition, while SCOD was a genuine informative process. In addition, uniformed experts would be allowed to testify. This, of course, did not mean that SCOD was completely free of partisan politics. Some SCOD committee members included Gordon Churchill, Winch, and Andrew Brewin, the sometimes incisive NDP defence critic and author.<sup>62</sup>

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61. House of Commons, Special Committee on Defence: Minutes of Proceedings and Evidence (hereafter SCOD), 27 June 1963, pp. 5-25.

62. SCOD, 18 June 1963, pp. 5-25; see Stand On Guard: The Search for a Canadian Defence Policy (Toronto: McClelland and Stewart, 1965).

Minister of National Defence Paul Hellyer was a key witness in the SCOD proceedings. It is clear that Hellyer had matured in his behavior significantly since the 1960 SCODE hearings. For example, in his discussion of NORAD in the 1963 hearings, he publicly noted that statements made by him in the 1960 hearings were based on ignorance. Notably, Hellyer would generally not respond to committee questions that were based on media speculation.<sup>63</sup> Hellyer presented a more polished, better researched position than before. He would not allow the same mistakes which plagued the well-meaning but ineffectual George Pearkes' presentation. Hellyer would be present every time a uniformed member gave a presentation and their answers to committee questions were coordinated.

Hellyer led off with an exposition explaining how defence policy was an extension of foreign policy and that Canada's foreign policy consisted of three directions: Europe (NATO); North America (NORAD); and the United Nations, in that order of priority, and noted the types of forces associated with each. In doing so he reaffirmed that Canada's strategic policy revolved around providing military forces for coalition forces in regional organizations aimed at the maintenance of peace.<sup>64</sup>

Once again issues bogged down because the SCOD members believed that they should be entitled access to compartmentalized NATO and

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63. SCOD, 27 June 1963, pp. 5-25. Hellyer, to his credit, repeatedly distanced himself in a gracious manner from his previous 1960 public statements on air defence.

64. Ibid.

NORAD intelligence information, and complained when Hellyer would not permit this access.<sup>65</sup>

The SCOD members also called upon Paul Martin for a detailed briefing on foreign policy, a discussion which was revealing and enlightening. Martin declared that "Gone are the days when there was truth to the maxim that armed forces take over when diplomacy fails. This once hallowed dogma has ceased to have validity today...."<sup>66</sup> In his view, permanent Cold War confrontation dictated ready and forward-based forces and total war was no longer a rational policy for political ends. Canada's objective was to "promote trade, to protect national interests abroad, to project a favourable image abroad and the like-but it is self evident that such objectives can be pursued only in a world free of war."<sup>67</sup>

This dictated a perspective that:

...foreign and defence policies--and indeed, foreign economic policy as well- all as inseparable elements in the conduct of Canada's external relations. indeed, NATO itself offers a striking example of the extent to which the foreign and defence policies of the entire Western world are indissolubly linked, for it is in the NATO council in permanent session...that the defence policies which guide the vase apparatus of the alliance are continuously harmonized with the foreign policy objectives of the alliance itself.<sup>68</sup>

Canada was not a great power and did not have the same responsibilities and baggage. Canada did not have to be involved in areas which did not

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65. SCOD, 16 July 1963, pp. 159-199; 18 July 1963 pp. 201-227.

66. SCOD, 25 July 1963, pp. 231-279.

67. Ibid.

68. Ibid.

affect it, like South east Asia and South America, or even Africa. Canada had no territorial ambitions. Geography:

...has probably condemned us in perpetuity to a comparatively small population in relation to territory and perhaps in relation to our neighbor. It has at the same time deprived us of all neighbours but one, and that one the most powerful nation on earth....Friendly co-operation with our closest neighbor and largest trading partner is a basic requirement of Canadian foreign policy.<sup>69</sup>

In the final measure, Canadian strategic policy was the result of

...a massive threat from militant communism in circumstances of cold war which robbed the United Nations of its ability to perform its main peace-keeping operations under article 43 of the charter. Clearly our first duty has been to maintain the peace through collective security arrangements, and this we have done through playing our full part in NATO and NORAD consistent with our resources. It represents our contribution to the deterrent which has successfully kept a precarious peace while time and internal developments in the communist world could work towards a more stable basis for international relations.<sup>70</sup>

Note that, unlike Howard Green, Martin did not place disarmament high on his list foreign policy priorities. As for peacekeeping, Martin thought that the policy of "ad hoc improvisation" to deploy conventional forces under the UN in out of area operations should continue, but not at the expense of the deterrent forces.<sup>71</sup>

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69. Ibid.

70. Ibid.

71. Ibid.

## End Game: The Government-to-Government Agreement is Signed, August 1963

The situation regarding control over the release of nuclear warheads was placed before the COSC in July 1963. In the COSC view, SACEUR and CinCNORAD "should have the authority to use nuclear warheads without further specific authority from the governments concerned in response to an unexpected and unmistakable large scale enemy attack."<sup>72</sup>

There would be time for consultation in other situations, however. The COSC members thought this was acceptable given the provisions of the Athens Agreement. In the NORAD situation, high-level consultation was desirable before NORAD was placed on DEFCON 1, "which would then constitute approval for CinCNORAD to use nuclear weapons as he subsequently required."<sup>73</sup> There were still concerns about the omission of nuclear ASW weapons from the agreement, but action on these would not be taken until the other agreements were finalized. The BOMARC, CF-101B, CF-104 and Honest John agreements were all approved by the Americans and were about to go to Cabinet.<sup>74</sup>

Paul Martin presented Cabinet with the final agreement package on 18 July. It dealt with the four systems and did not address USAF ADC nuclear weapons storage at Goose Bay and Harmon. The Americans agreed at this

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72. DGHIST, Raymont Collection, file 1311, 12 Jul 63, COSC 744th Meeting.

73. Ibid.

74. Ibid.

point to remove the long-standing linkage between the two matters. Another draft agreement for these and the Argentia site would be submitted later.<sup>75</sup>

Political considerations still affected the timing of the signing. Secretary of State Jack Pickersgill, thought that introduction of the agreement into the House for debate in July would seriously interfere with other important debates, like the budget debate, which would be divisive. Then there was the vital federal-provincial conference, which involved elements of the Quebec question. Attempting to sneak in the nuclear agreement was not conceivable given its volatility with the Opposition. Additionally, some Cabinet members did not believe that they had enough time to examine the agreements. Pearson therefore put it off for another week.<sup>76</sup>

President Kennedy had by this point delegated signing authority to Walton Butterworth, the American Ambassador. He was leaving town, and this delayed the signing again. Then atmospheric test ban negotiations appeared to be on the verge of a breakthrough. This was not considered in congruence with announcing Canada was about to obtain nuclear warheads, which resulted in yet another delay.<sup>77</sup>

The Cabinet Defence Committee met on 2 August to assess the situation. The only sticking point was a piece of wording. Both countries now had to authorize weapons use, not just the United States. This meant that the Prime Minister consulted with the President, and each separately informed his national units. The Canadian units would then await the Prime Minister's release order after the American custodial detachment had

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75. NAC RG 2, 18 Jul 63, Cabinet Conclusions.

76. Ibid.

77. NAC RG 2, 25 Jul 63, Cabinet Conclusions.

received word via national means. This was all incorporated at the last minute.<sup>78</sup>

After some procedural delays involving the wording of the joint public announcement and more minor debate over storage in Canada for non-Canadian units, Cabinet finally met on 16 August to finalize things prior to a noon press conference. Pearson was emphatic that every effort be made to ensure that the signing was portrayed as the culmination of three years of work and not some new scheme. He was still afraid of Opposition and Soviet criticism, given the proximity in time to the atmospheric test ban treaty. After some more minor debate, Cabinet gave the go ahead and the announcement was made.<sup>79</sup> On 29 August 1963, Air Marshal Dunlap ordered his subordinate commanders to carry it out, pointedly punctuating the time lag:

In line with the Cabinet decision of 6 Dec 1960 and the government-to-government agreement concerning the acquisition of nuclear weapons which was announced by the Prime Minister on 16 August 1963, you are to proceed to implement all necessary actions to provide a full operational capability for the BOMARC, CF-101B and CF-104 weapons systems at the earliest possible date.<sup>80</sup>

There was relief and euphoria, particularly within RCAF headquarters. There was a possibility, however, that the ongoing strategic policy reassessment might still wipe out what had been achieved. Consequently,

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78. NAC, RG 24 vol. 20710 file 2-3-2, 2 Aug 63, Cabinet Defence Committee, 140th Meeting.

79. NAC RG 2, 16 Aug 63, Cabinet Conclusions, 16 August 1963; ATI, "Copy of Press Release Issues 16 Aug 63 By the Office of The Prime Minister."

80. DGHIST, file 73/276 vol. 2, 29 Aug 63, memo CAS to distribution list, "Implementation of Nuclear Weapon Programs."

many waited with bated breath for the next eight months while that drama played itself out. The rest hurried to complete the final arrangements necessary, and that story is the subject of Chapters 13 and 14.

Cabinet still had some cleaning up to do, particularly with regard to the Goose Bay, Harmon, and Argentia storage issues which were still pending. Pearson argued that there was no logical grounds on which the air-to-air weapons storage could be refused now that the RCAF had the same weapons. The SAC storage issue was another matter. As for the nuclear ASW weapons, the Argentia storage arrangement could wait until Canadian naval policy was reviewed along with the other aspects of defence policy in the fall. Paul Martin was then authorized to sign the USAF ADC air-to-air storage agreement. The release of the weapons from American sites to the USAF interceptors was governed by the same regulations governing the RCAF CF-101B squadrons.<sup>81</sup>

#### Hellyer's Ad Hoc Committee on Defence Policy: September 1963

Paul Hellyer formed a special ad hoc committee to run concurrent with the SCOD process. This group consisted of Dr. R.J. Sutherland from the DRB and several lower-level defence personnel like A.C. Grant from the Deputy Minister's staff; Captain V.J. Wilgress, RCN; Brigadier D.A.G. Walcock, Canadian Army; and Group Captains J.K.F. MacDonald and C.H. Mussells from the RCAF. It was instructed to examine all aspects of

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81. NAC MG 26 N3 vol. 285 file 856.21 (conf), (n/d) "Statement to be made by the Prime Minister in the House of Commons;" 1 Oct 63, memo Robertson to Prime Minister, "Nuclear Agreement Concerning U.S. Forces at Goose Bay and Harmon Air Force Base."

Canadian strategic policy and lay out all options. Committee members were not to discuss their proceedings with their bosses at the COSC, NDHQ, or the DRB, nor ask for their recommendations or advice. The final committee report was Secret and went directly to Hellyer.<sup>82</sup>

This was a remarkable document, not only in its insight and clear exposition of the problems in present and future Canadian strategic policy, but also for the fact that Hellyer derived portions of his 1964 White Paper from the committee's analysis. The importance of the ad hoc committee report is, unfortunately, submerged to some degree in Hellyer's memoirs: he thought it was "pretty bland stuff and not really controversial."<sup>83</sup>

The committee established that Canada was in a unique position. The primary reasons for this included geography; Canada's guarantee of security for the proximity of the United States; her lack of pretensions to great power status; her lack of vital interests not shared by more powerful allies; and the lack of a reason to "contemplate the conduct of military operations upon her own account and without the assistance of major allies."<sup>84</sup> The entire Canadian strategic policy effort was directed solely in "support of an alliance policy." As for national interests, "the rationale of Canadian defence *is to maintain influence with our allies*. The immediate purpose is to serve as an effective support of Canada's intra-alliance

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82. Hellyer, Damn The Torpedoes, p. 34; DGHIST file 72/153, September 1963, "Report of the Ad Hoc Committee on Defence Policy."

83. Hellyer, Damn The Torpedoes, p. 34.

84. DGHIST file 72/153, September 1963, "Report of the Ad Hoc Committee on Defence Policy."

diplomacy."<sup>85</sup>[italics mine] No other NATO ally was in this position and "the distinctive feature of Canada's position is that we can have no illusions on the subject."<sup>86</sup> Given these facts:

This is not a matter of pure altruism in so far as Canada is concerned. As a middle power Canada is in a position neither to pursue an independent policy nor to avoid responsibilities. It is inconsistent with the essential purposes of Canadian defence to proceed by wholly unilateral action....Canada's effective participation in intra-alliance policy formulation has been close to minimal. The resumption by Canada of her place at the table is itself a consequential act.<sup>87</sup>

Canada therefore had obligations as part of NATO, NORAD, and the UN. What exactly produced this state of affairs and could it be changed? The committee provided several negative decisions which contributed to the situation as it existed. First, Canada chose not to produce her own nuclear weapons which created an acceptance by Canada "of strategic subordination to the United States." Second, Canada did not join other regional security organizations, and did not participate in plans to make the Commonwealth a collective security system. This reduced her influence in these regions but at the same time limited her military commitments and reduced the defence budget. The most "tangible result is that Canada has renounced any real claim to the status of a Great Power," though the committee recognized that such a claim could never be sustained over the long term. The members even noted that "in the year 1963 Canada is a

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85. Ibid.

86. Ibid.

87. Ibid.

relatively less important nation than she was in 1945.<sup>88</sup> This was due to a combination of the economic revival of Europe and Japan, the changing economic balance in North America, the development of the Afro-Asian bloc in the UN, and the détente that was developing in Europe.<sup>89</sup>

On the other hand, Canada could influence NATO strategic policy. For example, "if Canada had failed to maintain firm and consistent support, the North Atlantic Treaty would have failed to pass the US Senate."<sup>90</sup> Canada's special relationship with the United States was something most American allies aspired to and could not achieve. This was not easily maintained. However, "the channels are available, but in order to use them Canadians must do their homework extremely well." Canada had an opportunity to influence NATO strategic policy in 1963 since it was in flux and malleable. Problems Canadian strategic policymakers had to confront in Canada included the erroneous perceptions that war was no longer a usable instrument of national policy; that conventional forces were useless in the face of potential all-out nuclear warfare (as well as the reverse argument: that conventional forces were all that was required); and finally the misperception that "The aim of Western policy is peace subject to conditions....it is one thing to say that we desire peace, it is another to say that the policy of NATO is based solely on peace. This is either hypocritical

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88. Ibid.

89. Ibid.

90. Ibid.

or it involves fundamental misunderstanding of the contemporary international situation."<sup>91</sup>

Canada, therefore, could leave NATO/NORAD and join other regional alliances; she could stay in NATO and NORAD and accept other commitments; she could become neutral, or maintain the status quo. This presented Canada with a further choice. If Canada chose to maintain the status quo, she was free to choose how she would contribute to that status quo.

These conditions were dictated by the fact that the NATO commitments consisted of "specialization of service missions within the general framework of an alliance strategy." Canada's force structure was not specifically designed to handle operations in support of policy outside of the NATO-North American framework. UN operations were by their nature ad hoc and were drawn from forces trained within the context of the NATO strategic concepts. If Canada were to pursue a new course in foreign policy and back that new policy up with force, the force structure would have to be changed.

The problem was, if Canada changed her force structure solely to accommodate independent military operations, she would not derive the benefit of alliance support in areas in which Canadian forces were deficient, like strategic lift and nuclear support. This would require the expenditure of more money on a force structure which would serve independent Canadian needs but without providing the influence within an alliance system that Canada relied upon.

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91. Ibid.

Canadian war planning was based on NORAD, SACLANT, and SACEUR plans. Canada influenced these plans through participation in the multi-national NATO headquarters and by participation on the NATO Military Committee and the North Atlantic Council. Canada was only able to participate based on the types of forces, nuclear-armed as well as conventional forces, that it committed to NATO. As the committee noted: "We are the good ally par excellence. Most other nations, unfortunately, are too obviously engaged in the frying of national fish."<sup>92</sup> The military commitments appeared unrelated to each other operationally and the committee believed that:

This problem is accentuated by the apparent divergence in the operational roles of the Canadian armed forces. It is obvious that Canada would be in a better position to withstand the vagaries of alliance policies if the operational missions of the Canadian armed forces possessed at least a symbolic unity and if these missions were more clearly related to Canadian national interests....A great power can perhaps afford two strategies: a national strategy and an alliance strategy. In our case this is not possible: it must be an alliance strategy or none at all.<sup>93</sup>

#### Canadian military commitments:

...owe rather more to Alice in Wonderland than Clausewitz....If Canada is to continue to participate in alliances, we must approach the formulation of alliance polices with less innocence and a greater regard for Canadian national interests....If we are to be heard, we must speak with a very clear voice....We cannot reasonably complain that our allies have failed to consider Canadian national interests when we ourselves have failed to consider them.<sup>94</sup>

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92. Ibid.

93. Ibid.

94. Ibid.

In the overall scheme of things, the nuclear weapons issue was not really an issue at all, unless Canada chose to construct her own nuclear deterrent. As for nuclear weapons, NATO, and Canada: "One cannot be a member of a military alliance and at the same time avoid responsibility for the strategic policies which give it reality."<sup>95</sup>

The committee did examine acquiring an independent strategic nuclear deterrent. They concluded that it was well within Canada's technical capabilities to produce a deterrent that was the equivalent in size to the French and British deterrents. There was no need to possess this force since the Americans already tacitly sheltered Canada under the nuclear umbrella.<sup>96</sup>

Could Canada cut back on any of her existing commitments or alter them in order to acquire greater freedom of choice? The defence of Canada could not be eliminated:

No nation, including Canada, can entrust its defence wholly to another country if it possesses an alternative. This is, in part, a matter of national pride. However, *it is also true that a nation which abandons responsibility for its own defence need not expect excessive deference to be paid to its sensitivities in the matter of sovereignty.*[italics mine]<sup>97</sup>

Similarly, in terms of maritime defence:

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95. Ibid.

96. Ibid.

97. Ibid.

Canada's interest is that the United States should not be able to assert a valid claim to bases, and that the people of these [coastal] regions should not look to the United States to provide them with local defence. If the people of the Maritime provinces or British Columbia were to believe that they had been left undefended against a threat not shared by the remainder of Canada *the strain upon national unity could be severe.*[Italics mine]<sup>98</sup>

Finally, there was Canada's commitment to the Central Region. The committee concluded that "the object of Canada's participation in the defence of Europe is essentially political, to support Canada's membership in NATO, and to maintain an independent position within an evolving North Atlantic Community." Canada had four options with regards to the brigade group and 1 Air Division:

- 1) Maintain the original commitment and evolve it in place as technological and strategic changes dictate.
- 2) Withdraw the forces permanently.
- 3) Base European-committed forces in Canada and transport them by air and sea to Europe in an emergency.
- 4) Move the forces in Germany away from a front line role and place them in strategic reserve somewhere in Europe and augment with flyover troops and aircraft.<sup>99</sup>

Note that the committee did not at any point advocate the removal of nuclear-armed forces and replacement with more conventional forces. Nuclear forces were integral to Canada's ability to retain influence in Europe in all of these options.

Course number 1 was a demonstrable course of action, since "Canada's credentials within NATO can never be seriously challenged." On the down

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98. Ibid.

99. Ibid.

side, there remained the perceived problem of having the air division and brigade group operating in different areas and having no common logistics infrastructure. Costs were higher. There was still the problem of moving the other two brigades to Europe in an emergency, which required more ships.

Course 2 would present several dollar savings but: "The military loss would be greater than would be suggested by a purely numerical comparison. The primary reason is the very high quality of the Canadian forces which is much above the NATO average."<sup>100</sup>

The withdrawn forces would have to be replaced with another commitment so as to retain some visible Canadian contribution. The committee did not think that increased emphasis on North American and maritime defence would "likely be recognized by our allies as an effective military contribution to NATO and therefore a true alternative to the provision of [forces in Europe]." An increased UN contribution was another option. But "the majority of European nations are not especially enamored of the UN. They regard Canada's contributions to UN as an attempt to maintain a Canadian position independent of NATO and not always very consistent with the policies of NATO."<sup>101</sup>

The third course was rife with possibilities as well as problems. Canada could base its equipment in Europe and fly over the troops in an emergency. This required expenditures in transport aircraft and shipping. This proposal also ran the risk of influence loss in Europe, but not as great as total withdrawal.

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100. Ibid.

101. Ibid.

A second proposal involved the creation of a Canadian Marine Corps or Triphibious Force to be deployed from Canada to either North Norway or to the Eastern Mediterranean. It could also be used for UN operations or, if Canadian policy changed to commitments in South East Asia, West Africa, or the Caribbean, for employment in these regions. This did not buy as much influence in NATO as the Central Region commitment.

The fourth course risked Canada's diplomatic position in NATO, particularly with the Germans and the British. If Canadian forces withdrew from the nuclear strike role and heavy mechanized role and reverted to a strategic mobile reserve, the deterrent forces would have to be made up by somebody else, and the forward defence planning would be negated by the hole left by the brigade group, which was in a critical sector.<sup>102</sup>

If Canada sought to remove herself from its specialized and critical commitments in Europe, it either had to replace those specialized commitments with something equal in influence value or risk being isolated in NATO or North America, which had implications beyond the primary security ones. The committee explored the MLF and concluded that it would not be enough. Canada had to have a unique, visible, and militarily effective role in NATO to maintain its position. It had this in the Air Division with its nuclear strike and reconnaissance aircraft, which amounted to 20-23% of SACEUR's nuclear strike capability, and in the brigade group which held a critical sector with high quality conventional forces and also amounted to 25% of I (British) Corps's nuclear strike capability in NORTHAG. Canada bought influence and protection with the

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102. Ibid. See also Maloney, War Without Battles, pp. 200-210.

United States through NORAD and used her maritime forces in the direct defence of Canada. These could not be used as influence capital in Europe, nor could they be reduced or withdrawn. Therefore, the European commitments were the primary targets of change, if the Government so chose. The only alternative was to relinquish Canada's position in NATO and North America and look to the Third World and the UN as a new 'influence market'.

#### Special Committee on Defence II: October-November 1963

The public defence forum chugged along in the fall of 1963. After much verbal fencing between the Government's representatives and the Committee, Paul Hellyer arranged to have SCOD visit NATO where SCOD members were treated to several confidential briefings. Secretary General Dirk Stikker informed the committee that any withdrawal of Canadian forces from Europe "would have a disastrous effect" on NATO's forward strategy, as "NATO feels that the Soviet Union should be faced with a strong cohesion of allied forces and any withdrawal of the Canadian forces would certainly seriously affect this cohesion."<sup>103</sup> What about removal of forces to Canada and return in an emergency? Stikker would "consider any such move to be disastrous. If Canada were to withdraw [her] forces, it might

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103. NAC MG 32 B9 vol. 87, file: Report to the House, Defence, Canada, "Confidential Supplement to the Records of the Special Committee on Defence: Supplement A."

help those people who have the idea [to do so]. Please don't help them."<sup>104</sup>

The diplomatic Stikker was, of course, referring to the British.

What about converting Europe-based forces to a mobile reserve? This was not feasible either, since "any withdrawal of forces [from the Central Region] is going to harm our military posture", that is, forward defence. This was different, of course, from the concept of the AMF(L). Canada could make an important contribution to this multi-national force, but not from her forces already stationed in Europe. Stikker continually reiterated his point: "My feeling is that the need for the presence of Canadian forces in the centre of Europe is absolutely essential and that it would be disastrous to withdraw now."<sup>105</sup>

As a follow-up to Stikker's comments, George Ignatieff fielded questions on the NATO force development process. In doing so, he cleared away many misconceptions, most particularly the one that force requirements were imposed on Canada. He clearly explained the process by which the CF-104 force was requested. Ignatieff also touched on the conventional-nuclear force balance and emphasized that both types of forces were critical to the success of the operation. NATO had always been and would in the foreseeable future be based on a nuclear strategy. Nothing could be done to alter this as long as the Soviets retained their current posture in Europe.<sup>106</sup>

As for the CF-104 force, some committee members wanted to know if it could be changed to a conventional force. Ignatieff explained yet again that the CF-104 force was an integral part of the deterrent that had been

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104. Ibid.

105. Ibid.

106. Ibid.

programmed into the force structure many years ago. If Canada withdrew from the role, there was no immediate way to fill the hole, that is, cover all the targets assigned to the force. Removing a large chunk of the NATO deterrent would not positively affect Soviet behavior in the slightest, Ignatieff added.<sup>107</sup>

Some suggested that Denmark, Norway, and Iceland, had refused nuclear weapons without affecting their defence posture. Why could Canada not accept a similar posture? Why was Canada under pressure to accept nuclear weapons and these NATO members were not? It was simple, remarked Ignatieff. Iceland had no armed forces, and the other two nations were peripheral ones. The region requiring the main defensive effort was the Central Region, the one to which Canada was committed with stationed forces.<sup>108</sup> Canada, of course, was not Iceland, Norway, or Denmark. She was a middle power with immense resources and disproportionate influence. This was lost on some of the more small-minded members of the committee.

The SCOD members were then treated to an amazingly frank SHAPE briefing on the threat and SHAPE strategy, as well as a Q and A session with SACEUR, General Lyman Lemnitzer. The relationship between local aggression and full-scale attack was laid out, as was the concept of forward defence. Local aggression would be dealt with by the conventional forces right on the Iron Curtain and by the mobile forces on the northern and southern flanks. Nuclear weapons were available for all contingencies. If there were a large scale attack on ACE, SACEUR would launch "a nuclear

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107. Ibid.

108. Ibid.

counter offensive against Russia with external nuclear forces...and engage in an air land and sea battle in the [ACE area] to prevent the enemy surface forces from taking possession of allied territories."<sup>109</sup>

In the event of general nuclear war:

SACEUR's nuclear means would be used in the following manner: on one hand, at the SACEUR's level and started directly by him, a large-scale offensive comprising an immediate attack on all enemy military objectives from which the nuclear offensive against Europe started. This counter offensive at the SACEUR's level, would be carried out by all the fighter bombers, the bombers, and the devices on alert which constitute the quick reaction alert force. In addition to this a priori nuclear plan of the SACEUR which would take care of the automatic launching of an attack against the previously established objectives, each regional command would carry out nuclear plans, which we refer to as regional priority nuclear plans, against the objective directly threatening the operations of the regional command, together with various regional plans which are anti-nuclear plans for the nuclear vectors aimed at that region.

On the other hand, a nuclear prohibition plan or plans aimed at slowing down the enemy land and air forces or destroying his communications and logistics. A nuclear plan of land fighting for the purpose of supporting the land forces with the help of nuclear fires applied on the enemy land forces and finally a naval battle plan to keep communication zones free....<sup>110</sup>

It did not get much clearer than this without reference to the actual plans and targets. Any more questions about the efficacy of limited nuclear war were moot ones at this point. SACEUR clearly believed that weapons could be used selectively and at sea without risk of escalation.

What did SACEUR think about Canadian withdrawal in whole or in part? Lemnitzer thought that the "Canadian contribution is very

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109. Ibid.

110. Ibid.

important....I would like to see it maintained."<sup>111</sup> As for the CF-104 force and its possible conversion to conventional means, SACEUR was not in favour of this. It was too important in conduct of the nuclear strike programme.

He was able to shed light on the release of nuclear weapons, however. In an unambiguous attack situation, Lemnitzer hinted, he could use whatever force he thought necessary to deal with it. For anything less than that, he had to consult the NAC, which he optimistically thought would rapidly grant him whatever he believed was needed for the given situation. If that failed, he hinted, he would put on his American hat and ask the President. In general, however, the problem remained "unresolved" for the time being and required further study.<sup>112</sup>

The most important briefing the committee received, next to SACEUR's, was from the West Germans. The German briefing team, led by Franz Kraph from the German foreign ministry and Colonels Jahne, Hopfgarten, and Neubert from the defence ministry, presented an exposition of the crushing threat the Soviets produced, the critical West Germany domestic political need for forward defence and NATO's critical military need for the same. More importantly, they briefed the Canadian SCOD on MC 14/2(revised) and the MC 48 series. This had never been done before. For the first time, the committee could see the framework of Canadian strategic policy. Their reaction was, however, unrecorded.<sup>113</sup>

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111. Ibid.

112. Ibid.

113. NAC MG 32 B9 vol. 87, file: Report to the House, Defence, Canada, "Confidential Supplement to the Records of the Special Committee on Defence: Supplement B."

In response to questions about escalation (conventional-tactical nuclear-strategic nuclear), Colonel Jahne explained that the nuclear use concept in forward defence was based on the selective use of nuclear weapons in the border regions. This was a nuclear firebreak designed to "move the enemy to break off its offensive action or make plain to him that there is a chance of escalation and therefore all out war." The German view was that selective nuclear release could be decided upon quickly and was in McNamara's hands at the moment for discussion. Jahne was referring to MC 100/1, the strategic concept which was designed to replace MC 14/2(revised) (this will be discussed in detail later in this chapter).<sup>114</sup>

As for the Canadian forces, Colonel Hopfgarten stated:

It is our view that the forces of our nations which are stationed along the Iron Curtain should be equipped with organic nuclear devices as laid down [in MC 70]. I would not think that it would be useful if, let's say, the Canadian Brigade were divested of such weapons and would have to fight shoulder to shoulder with units that are equipped with nuclear devices.<sup>115</sup>

The same held true for the CF-104 forces.

It is clear from the transcripts that the SCOD members behaved in a less childish fashion than their predecessors on their European junket both in terms of the questions they asked and their personal behavior while at NATO's headquarters. The fact that the media were not present probably contributed to this. The entire series of briefings served the same function as a bucket of ice cold water dashed in their faces. This was reflected in their final report.

<sup>114.</sup> Ibid.

<sup>115.</sup> Ibid.

The SCOD final report was released in December 1963. It was based on all of the meetings and briefings, was broken down functionally and then there was series of recommendations on defence policy generally:

NATO:

- 1) The Brigade Group and the Air Division should remain in Europe.
- 2) The possibility of CF-104 dual capability should be examined.
- 3) The Brigade Group needs armoured personnel carriers and helicopters.
- 4) The Honest Johns should be allocated to a higher level of command.
- 5) ASW forces were still necessary.

NORAD:

- 1) Canada should remain part of NORAD.
- 2) The bomber threat was diminishing but Canada still has a requirement to defend against them using BOMARC's and Voo Doos.

United Nations:

- 1) Canada should continue to support peacekeeping operations.
- 2) The best contribution Canada could make is to continue to use the standby battalion group concept, not turn over the entire armed forces to the UN or create special airportable or amphibious formations.<sup>116</sup>

As for recommendations regarding defence policy, the SCOD members were unanimous in stating that: "Canadian defence policy should not slavishly follow the policy of any other country." The best course of action

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<sup>116</sup>. NAC MG 32 B9 vol. 87, file: Report to the House, Defence, Canada,(n/d) "Draft Report: Special Committee On Defence." This section is a concise summation of the committee's conclusions and not a verbatim summation.

was the one that had been taken all along: hybrid conventional-nuclear forces in Europe, ASW forces in the Atlantic, air defence forces in North America, and UN forces to stamp out brushfire wars before they got out of control.<sup>117</sup>

### Canadian Budgetary Considerations and Strategic Policy

One of the glaring errors made during the entire strategic policy reassessment was the relative inattention given by most of the players to how much money would be spent on the armed forces and more importantly who controlled that money. During the Diefenbaker years the defence budget fluctuated from CAN\$1.69 Billion in 1957-58 to CAN\$1.51 Billion in 1960-61 to CAN\$1.75 Billion in 1963.<sup>118</sup> Sutherland and the ad hoc committee noted that operating costs had risen to 77% of the defence budget from 45% in 1952-53 and that money available for procurement had dropped dramatically, to the point where Canada would become "a South American-style military establishment: a substantial number of uniformed personnel, no modern equipment and no significant capability."<sup>119</sup> In the September 1963 ad hoc committee analysis, the military needed a CAN\$ 2 billion budget if Canada were to be able to carry out her existing commitments and modernize her equipment in the 1960s. Canada would need a new main

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117. Ibid.

118. Kronenberg, All Together Now, p. 23.

119. DGHIST file 72/153, September 1963, "Report of the Ad Hoc Committee on Defence Policy."

battle tank, CF-104 and CF-101 replacements, not to mention a new naval programme to replace the St Laurent and Mackenzie-class DDE's. These facts were confirmed by another committee which produced a report on the defence budget.<sup>120</sup>

Minister of Finance Walter Gordon's views on defence expenditures were well-known: he thought it was all a waste of money and nobody could convince him otherwise. Gordon was hell-bent on implementing the vast array of social service programmes which had been promised in the 1963 election. Given the Prime Minister's mediating style in Cabinet, there was no way that DND was going to receive a CAN\$ .25 billion increase in its budget. In fact, Gordon slashed it from CAN\$ 1.75 billion to CAN\$ 1.55 billion, the second-lowest amount of money spent on defence since 1954-55.<sup>121</sup>

In addition to operations and maintenance, there were several programmes in the planning stages. Twenty more CF-101's were scheduled for purchase, and the RCAF wanted 30 or so more CF-104's to make up for unexpected attrition in the CF-104 force. The Army was looking at revitalizing the reserve forces by removing them from the National Survival role and re-equipping them so that they could participate in conventional warfare. The RCN's acquisition of eight multi-purpose ships suitable for ASW operations or operations in support of brushfire wars, had already been canceled by Hellyer. He mistakenly suspected that the existence of the

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120. DGHIST, Raymont Collection Vol. 2, p. 15.

121. Kronenberg, All Together Now, p. 23.

programme was political in origin, not due to an actual military requirement.<sup>122</sup>

Many of the equipment programmes cut were those needed to maintain, let alone increase the effectiveness of the armed forces. The additional CF-104's and CF-101's were not a critical loss, nor was the cancellation of the Bobcat armoured fighting vehicle (the American M-113 was procured instead at a far cheaper price). The RCN would not suffer in the short term, but the fleet would eventually rust-out in the 1970s if plans were not in place soon for escort replacement. The same applied to the maritime patrol aircraft. Fortunately for the armed forces, the nuclear delivery systems were all new and were all paid for.

If Canada, however, were to alter her strategic policy dramatically, her force structure would have to be altered to correspond with it. The existing force structure was designed, as we have seen, to fight an MC 14/2 (revised) pattern of war and to participate in limited peripheral operations with limited conventional forces. If the new strategic policy was to shift focus to new areas (NATO flanks and UN operations in the Middle East, Africa, South East Asia, South America) and to place greater emphasis on conventional operations in those areas, a new force structure would be needed. All of the elaborate thinking conducted in the SCOD sessions relating to triphibious forces, a Canadian Marine Corps, and UN intervention operations, required amphibious transports, strategic long range transport aircraft, close support aircraft and other expensive capital procurements to implement. Such plans could be implemented only if all

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122. Hellyer, Damn The Torpedoes, p. 33; Peter Haydon, "When Military Plans and Policies Conflict: The Case of Canada's General Purpose Frigate Problems", The McNaughton Papers (Toronto: Canadian Institute of Strategic Studies, 1991) pp. 48-55.

other commitments were scrapped overnight. If Canada was going to fight in conventional wars, she needed a proper reserve force and the means to transport it to the site of hostilities. The existing force structure was not designed to do this.

#### NATO Strategy: Canada and the Crisis Over MC 100/1

The NATO debate over MC 100/1 was another thread which wove into the 1963-1964 Canadian strategic policy reassessment. As we have seen, MC 14/2 (revised) was the accepted strategic concept. However, events like the Berlin Crisis and the Cuban Missile Crisis propelled a NATO policy revision process. The need for a new strategy was noted in the 1961-1963 period, but the need to present a unified NATO front in the midst of crisis postponed it. Now, as tensions lessened and Charles de Gaulle incited more division in NATO's ranks, the strategic reassessment could continue. There was some confusion. When Norstad was SACEUR, he had altered the SACEUR EDP and created new organizations which gave more leeway to pre-nuclear war operations. Though accepted by most NATO members, these changes had to be formally accepted in the new concept, and herein lay the problem.

Broadly stated, ongoing French (and to a lesser extent British) opposition to NATO conventional operations prior to nuclear weapons use in the Central Region interfered with Norstad and Lemnitzer's attempt to achieve an accepted flexible response to Soviet aggression. This opposition stemmed from de Gaulle's strategy of intransigence, an unwillingness to build up conventional forces because of cost, and the problems with sovereignty,

nuclear weapons custody, control, and release.<sup>123</sup> As with other NATO disputes affecting Canadian strategic policy, this one was related to determining the proper balance between conventional and nuclear forces.

As with other NATO strategic concepts, the aim was to develop and accept MC 100/1 while concurrently conducting a force planning exercise to implement the strategy after acceptance by the NATO Military Committee. The first draft of MC 100/1 was circulated in May 1963 but the French blocked the force planning exercise well into December. The COSC received and distributed MC 100/1 to the service heads and the JPC for discussion in the summer of 1963.<sup>124</sup>

MC 100/1's main points were these. The Soviet and American strategic nuclear arsenals would eventually cancel each other out and pave the way for regional conflict in Europe, be it nuclear, conventional, or both. The best response was to base planning on "graduated response" if deterrence failed at what ever level of conflict. Forward defence was to be fully implemented; that is, the ground defence planning of the Central Region was to start at the Iron Curtain, not at the Weser-Lech Line as it had since 1957. The so-called trip wire or plate glass theory, which had been discussed publicly and championed by France but never implemented by NATO in an operational sense (see Chapter 6), was completely rejected.<sup>125</sup>

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123. Galen Roger Perras, ORAE Project Report No. PR504, "NATO and the Defence of Europe, 1961-1967: Flexible Response is Adopted," Department of National Defence December 1989.

124. DGHIST, Raymont Collection, file 1311, 10 Oct 63, COSC, 749th Meeting; FRUS 1961-1963 Vol. XIII, pp. 619-624, memcon Kennedy and Stikker, "Problems of the Atlantic Alliance," 16 Oct 63.

125. Maloney, War Without Battles, pp. 198-199; Maloney, "Notfallplanung fur Berlin: Vorlaufer der Flexible Response 1958-1963."; NAC RG 24 acc 83-84/215 vol. 26 file 1200-Pt. 4.2 vol. 23, 1963, APCC, "Statement of Canadian Army Objectives 1964."

BERCON/LIVE OAK planning was to handle Berlin problems without in any way weakening the defence of the Central Region. A series of responses to other Warsaw Pact provocations, along the lines of the BERCONS, was to be created for NATO. These responses were to include various levels of conventional responses and limited selective nuclear weapons use in a spectrum of responses up to and including general nuclear war. One of these levels was a "firebreak" level which could incorporate a concept similar to Norstad's pause idea. This "firebreak" level could consist of a conventional action, a selective nuclear weapons use action (the so-called shot across the bow) or a combination of the two. It was designed as a diplomatic warning action to the aggressor that if he did not stop, more nuclear weapons would follow.<sup>126</sup> Similar activities were probably included for SACLANT's guidance.<sup>127</sup>

The debate over MC 100/1 in NATO circles was extensive. How exactly did Canadian policymakers view it and what impact did it have on Canadian strategic policy?

The Army conducted an extensive analysis of MC 100/1. They concluded that the reason for the French block rested in her refusal "to subordinate national aims," and that Gaullism is the product of "one old man" which few NATO members supported. Operationally (as opposed to politically) the French actually did go along with the concept of graduated response, but thought that the nuclear shot across the bow after the firebreak should be automatic in certain circumstances and delegated to the operational

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126. Ibid.

127. There were a LIVE OAK equivalent organization called SEA SPRAY which generated a series of flexible responses for naval forces.

commanders with clear guidelines. The Germans agreed, even asserting that the shot across the bow should be directed over the Iron Curtain into enemy territory.<sup>128</sup> Note that MC 100/1 applied to the whole ACE area, including Norway and Turkey, which also highlighted the importance of the ACE Mobile Force in identifying and containing aggression at a low level. This would later become significant to Canada as she joined the AMF(L) in 1964.

However, MC 100/1 would only work if the Soviets aims in the NATO area were limited since: "a stage will then be reached, perhaps without invoking nuclear weapons at all, but otherwise prior to a strategic nuclear exchange, at which political negotiation will result in the cessation of military operations. The USSR withdrawal when faced with nuclear retaliation in Cuba give credence to this theory."<sup>129</sup>

For example, if the Warsaw Pact launched a two-division probe 30 kilometers into West Germany from Czechoslovakia in response to a NATO BERCON operation into East Germany, NATO would attempt to contain the probe. NATO could use CENTAG's conventional forces to drive the probe out, they could stop it as far east as possible, and then fire several small nuclear weapons (say the size of the Davy Crockett) into Czechoslovakia against military targets. The French view was that CENTAG and his corps commanders should be able to fire the nuclear weapons automatically in this instance. The prevailing view was that such use should be up to SACEUR or even the NAC. If the Soviets initiated large-scale conventional

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128. Ibid.

129. NAC RG 24 acc 83-84/215 vol. 26 file 1200-Pt. 4.2 vol. 23, 1963, APCC, "Statement of Canadian Army Objectives 1964."

and/or nuclear operations, all bets were off and MC 14/2 (revised)'s two-phase war concept would prevail. Note that this is different from having a mass Soviet conventional attack automatically trip a strategic nuclear response (ie: plate glass/trip wire/massive retaliation).

The Army had no real problem with MC 100/1: All it meant was that the Brigade Group would have to move its EDP plans closer to the Iron Curtain. The flexibility to implement MC 100/1 was inherent to the Brigade Group's force structure, a fact recognized by all concerned, including SACEUR.

The RCAF, on the other hand, did not like MC 100/1's implications. At first glance, the RCAF Air Staff Policy Committee (ASPC) thought that an evaluation of conventional armament was warranted. Staff members determined that the CF-104 could be modified to deliver conventional cluster bombs, napalm canisters, and Shrike anti-radar missiles. The cost, however, would be high.<sup>130</sup>

There was even greater disagreement on philosophical grounds. The ASPC thought that there was too much division within NATO on MC 100/1, and they were correct. There was no certainty that MC 100/1 would be approved. The problem then "was which camp to support. There seemed to be no intermediate course."<sup>131</sup> The RCAF's interim view fell on the side of the French but with a twist. The argument against partially arming the CF-104 force with conventional weapons to support the MC 100/1 strategic concept was that conventional air support used against, say, an East German probe into West Germany inevitably meant that air power would be

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130. DGHIST file 76/263, 6 Jan 64, Air Staff Policy Committee, 174th Meeting; 16 Jan 64, Air Staff Policy Committee, 175th Meeting.

131. DGHIST file 76/263, 6 Feb 64, Air Staff Policy Committee, 176th Meeting.

directed against targets on the East German side of the border, which would escalate to nuclear use of some kind, somewhere.<sup>132</sup>

Thus, "insofar as air forces were concerned the greatest single deterrent to any war occurring in Europe would seem to be achieved by arming [the CF-104's] exclusively, or almost exclusively, with tactical nuclear weapons."<sup>133</sup> This was, as we have seen, a long standing RCAF position dating back to 1959-1960 (there were legitimate technical reasons for not making the force dual capable.) Canada's most significant NATO card was a nuclear-armed air division because of its saliency and uniqueness. If it became just another conventional air force, its identity would be submerged.

On the political front, Cabinet had to formulate a position for the December 1963 Ministerial Meeting. The French were still stalling on MC 100/1's acceptance and this in turn was blocking the force structure study, which affected the Canadian defence policy review. COSC considered the issue and briefed Cabinet.<sup>134</sup> Cabinet's position on the matter: "provided for a continuation of a flexible approach in an endeavour to try and find an area of agreement which would permit the progression of the force planning review in some form and thus avoid an open clash in council."<sup>135</sup>

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132. Ibid.

133. Ibid.

134. DGHIST, Raymont Collection, file 1311, 19 Dec 63, COSC, 753rd Meeting.

135. DGHIST, Raymont Collection, file 1311, 5 Dec 63, COSC, 752nd Meeting.

The impasse in NATO over MC 100/1 continued indefinitely until France fully withdrew her armed forces from integrated NATO command in 1966.<sup>136</sup>

### The 1964 Defence White Paper

All of the forgoing inputs (SCOD, the ad hoc committee, the budget, and the MC 100/1 debate) contributed to the formulation of the 1964 Defence White Paper. A great deal of effort has been spent over the past 30 years analyzing the White Paper's long-term effects on the structure of the armed forces and the defence policy process. Limited space precludes a reiteration of this extensive and vitriolic debate in this study. Consequently, discussion here will be limited to the actual policy pronouncements in the 1964 White Paper on roles and missions and their relationship to external policy, as well as a short description of the armed forces structure as implemented in 1964-1965 since this had an effect on nuclear weapons policy. The debate over integration and unification, though important in the long term, did not

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136. Stromseth, The Origins of Flexible Response, pp. 52-54.

directly affect nuclear weapons policy in the 1960s, though the effects of the new policy process eventually did during the Trudeau period (1968-1972).<sup>137</sup>

Several White Paper drafts, all differing, were circulated to the Prime Minister and the service chiefs on December 1963. Hellyer demanded instantaneous replies. Notably, the drafts circulated to the Chiefs omitted any mention of the creation of a integrated service headquarters and a unified armed forces. One observer argues persuasively that Hellyer was pulling a "fast one" on the Chiefs, as he later inserted a brief discussion of this into the final draft without extensive discussion of the matter with the Chiefs, or with the Prime Minister. Hellyer also told his staff to ensure that the final version conformed to Pearson's Scarborough defence policy statement made in January 1963, a speech in which Pearson mentioned unification.<sup>138</sup>

In his memoirs, Hellyer justifies his end run for a number of reasons. First, Hellyer states that this was done because, in his view, the services were planning for three different wars. He claims that the RCAF was preparing for a 3 to 5 day nuclear war, while the Army was planning a protracted conventional conflict with an "ill equipped brigade". The RCN,

137. The main works dealing with integration and unification are: Douglas L. Bland, Chiefs of Defence: Government and the Unified Command of the Canadian Armed Forces (Toronto: The Canadian Institute of Strategic Studies, 1995); Douglas Bland, The Administration of Defence Policy in Canada 1947 to 1985 (Kingston: Ronald P. Frye and Co. Publishers, 1987); Vermom J. Kronenberg, All Together Now: The Organization of the Department of National Defence in Canada 1964-1972 (Toronto: Canadian Institute of International Affairs, 1973); Paul Hellyer, Damn The Torpedoes: My Fight To Unify Canada's Armed Forces (Toronto: McClelland and Stewart, 1990). See also the very important Raymont Study referred to in previous chapters for a unique insider's view of the policy process.

138. DGHIST, The Raymont Study, Vol. II pp. 26-38.

he claims, was planning for both.<sup>139</sup> As we have seen so far, this was not the case since all three services had accepted MC 48, then MC 14/2 (revised) and had implemented force structures and plans appropriate to these concepts.

Hellyer then blames the COSC, which in his opinion was a "back scratching club."<sup>140</sup> Again, as we have seen, the Chiefs were handcuffed by Diefenbaker's intransigence, and the system established under St Laurent for strategic policy making was moribund under the Conservative government. It took some time to recover. Hellyer also claims, in retrospect, that the RCAF was "off the track" with its emphasis on 1 Air Division and nuclear strike. Hellyer read the ad hoc committee report, which demonstrated the exact opposite. Hellyer states in his memoirs that his aim was to break the Chiefs, replace them with one man (a Chief of the Defence Staff or CDS) and eliminate what he saw as a waste of money in maintaining three services.<sup>141</sup> Other observers believe that Hellyer was trying to make a name for himself and eventually replace Pearson as Prime Minister.<sup>142</sup>

The Chiefs were oblivious to all of this. Ideas about integrating and unifying the armed forces had floated around Ottawa since Brooke

139. Hellyer, Damn The Torpedoes, p. 33.

140. Ibid., p. 34.

141. Ibid., p. 42-43.

142. Desmond Morton, "He did what had to be done," The Toronto Star Saturday Magazine 23 June 1990, p. 16.

Claxton's time.<sup>143</sup> They diligently focused on the wording of the White Paper. The original draft was a 55 page document which in many ways plagiarized the ad hoc committee report and the SCOD recommendations, particularly with regard to the rationale for Canadian forces in NATO and their relationship to NATO strategy. The explanatory sections on flexible response and the spectrum of conflict, however, were handled well. The 'trip wire' theory was given short shrift as it lacked credibility, as was the 'pause' strategy, as in Hellyer's view, it encouraged Soviet aggressive conventional and peripheral action. Flexible response was the answer and this required maintaining a broad spectrum of forces.<sup>144</sup>

The draft section dealing with naval forces was at some variance with SCOD testimony and ad hoc committee discussion: "There is at this time virtually no direct threat to Canadian territory from the sea and consequently no compulsion to maintain naval forces or maritime air forces...."<sup>145</sup> The draft was ambiguous on ASW matters. Turning to the UN, the White Paper favoured improvements to the UN's crisis management machinery but concluded that the standby force maintained by Canada was adequate.<sup>146</sup>

What should Canada's force structure look like? NATO would remain the keystone of Canadian security and that is where the emphasis would

143. DGHIST, Raymont Study, Vol. II pp. 26-38.

144. DGHIST, Raymont Collection, file 759, 30 Dec 63, memo Hellyer to Miller and attached draft "A White Paper on Defence Policy." See also NAC MG 26 N6 file: Defence: Memoranda 1962-65, (n/d) "The Shape of Canadian Forces, 1964-1974."

145. Ibid.

146. Ibid.

continue to be. The Brigade Group would remain in place in NORTHAG and it would retain its Honest Johns. One of the Canada-based brigade groups and the RCAF's Air Transport Command would provide forces for NATO's ACE Mobile Force (Land) on both the northern and southern flanks. The third battalion in this brigade would be the UN standby battalion.<sup>147</sup>

As for the Air Division, six squadrons would be based in Germany and two in France. All would be modified to become dual-capable aircraft. Over the next eight years, the commitment would be reduced to two squadrons. the CF-104 would eventually be replaced with a conventional attack aircraft, with a total of eight squadrons, two each associated with each brigade group.<sup>148</sup>

The maritime forces would remain in a specialized ASW role for the time being. Nuclear submarines remained a possibility. The air defence forces would be operated to the end of the life of the aircraft, though the surveillance systems would be continuously manned. There was no mention of BOMARCs.<sup>149</sup>

The 1964 White Paper draft established future force priorities. These were:

- 1) Forces in being as a stabilizing factor in the European theatre.
- 2) Forces in being for UN intervention and peacekeeping operations.
- 3) Maritime forces in being as a contribution to the deterrent.

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147. Ibid.

148. Ibid.

149. Ibid.

4) Reserve forces and mobilization potential.

Major equipment acquisitions would include transport aircraft and sealift capability, tactical aircraft, and modest improvements to ASW capability.<sup>150</sup>

In February 1964, the Prime Minister established a committee to examine the White Paper. It consisted Pearson, Air Chief Marshal Frank Miller, Bob Bryce, Marcel Cadieux, Ross Campbell, and a number of functionaries. The External representatives thought that more emphasis should be placed on national security relating to North America: they thought the wording was overly NATO-centric. Miller, on the other hand, was extremely concerned about the move to emphasize a dual-capable role for the air division and the eventual complete elimination of its nuclear capability. Pearson noted these remarks.<sup>151</sup>

At the same time, Hellyer held informal meetings with each of the Chiefs. He finally told them that he was going to add a section on integration and unification. Integration of the headquarters would be a first step followed by unification of the three services later down the road. It was apparent that: "There was no doubt that while the Chiefs of Staff had no serious objection regarding integration in the context of a single management and staff to direct and control the three services, they were most concerned about the ultimate goal of a single unified defence force."<sup>152</sup>

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150. Ibid.

151. DGHIST, Raymont Study, Vol. II pp. 26-38.

152. Ibid.

Miller, Walsh, Rayner, and Dunlap met to exchange views and compile a memo to Hellyer. Miller was indecisive. He favoured integration and was more concerned about the impact of the two concepts on the forces' morale. Consequently, Walsh believed, "there was a lack of direction" from Miller.<sup>153</sup> Rayner "was an enthusiastic supporter of integration" but he drew the line on unification "unless the roles and tasks of the forces were to be redefined from those set out in the White Paper."<sup>154</sup> Walsh and Dunlap held similar views. These perspectives were apparently all conveyed to the Minister. SHAPE NMR Major General Kitching, who was present at several meetings, however:

...began to have doubts about Miller's and Walsh's ability to do anything. They were pawns in the game....following this meeting I was told by [Admiral] Bill Landymore about the way Admiral Jeffry Brock had been fired by Hellyer in August. Frank Miller had been present on that occasion and must have realized he was serving a very unstable minister. Yet here he was telling us he would not let things get out of hand. I was losing confidence in the new look.<sup>155</sup>

The White Paper went to Cabinet. Paul Martin wanted more study (Hellyer thought Martin was being unduly influenced by the "External gang") and a planned Cabinet Defence Committee meeting was thwarted by possible External Affairs staff tactics. When the meeting was finally held, Pearson surprised all by inexplicably stating that he did not support the concept of "an effective contribution to NATO." He did not elaborate on this

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153. Ibid.

154. Ibid.

155. Kitching, Mud and Green Fields, p. 278.

remark. No major changes were made to the draft White Paper, and according to Hellyer, no one was interested in unification.<sup>156</sup>

The White Paper was approved by Cabinet on 25 March 1964 and went to Parliament for debate. It was approved on 16 July 1964. The details of the sophisticated public relations campaign orchestrated by Bill Lee, who now worked for Paul Hellyer, and the House debate are not relevant to this study, but the effects of the new reorganization policy are.

The COSC, Naval Board, Air Staff, and General Staff were all eliminated (see Figure 13). The uniformed head of the Canadian Armed Forces became the Chief of the Defence Staff (CDS) with a Vice Chief of the Defence Staff (VCDS). The Deputy Minister was retained, as was the Chairman of the DRB, who no longer sat on the COSC since it did not exist.<sup>157</sup> A nebulous Defence Council was formed consisting of the Chairman DRB, the CDS, the Deputy Minister, an Associate Minister of National Defence (appointed by the Minister to assist him), and the Minister of National Defence. Its purpose was to provide "military, scientific, and bureaucratic advice to the minister."<sup>158</sup> This is an ideal description of that organization, since Hellyer used it infrequently and issued edicts to the CDS more or less directly until Hellyer was no longer Minister in 1967.

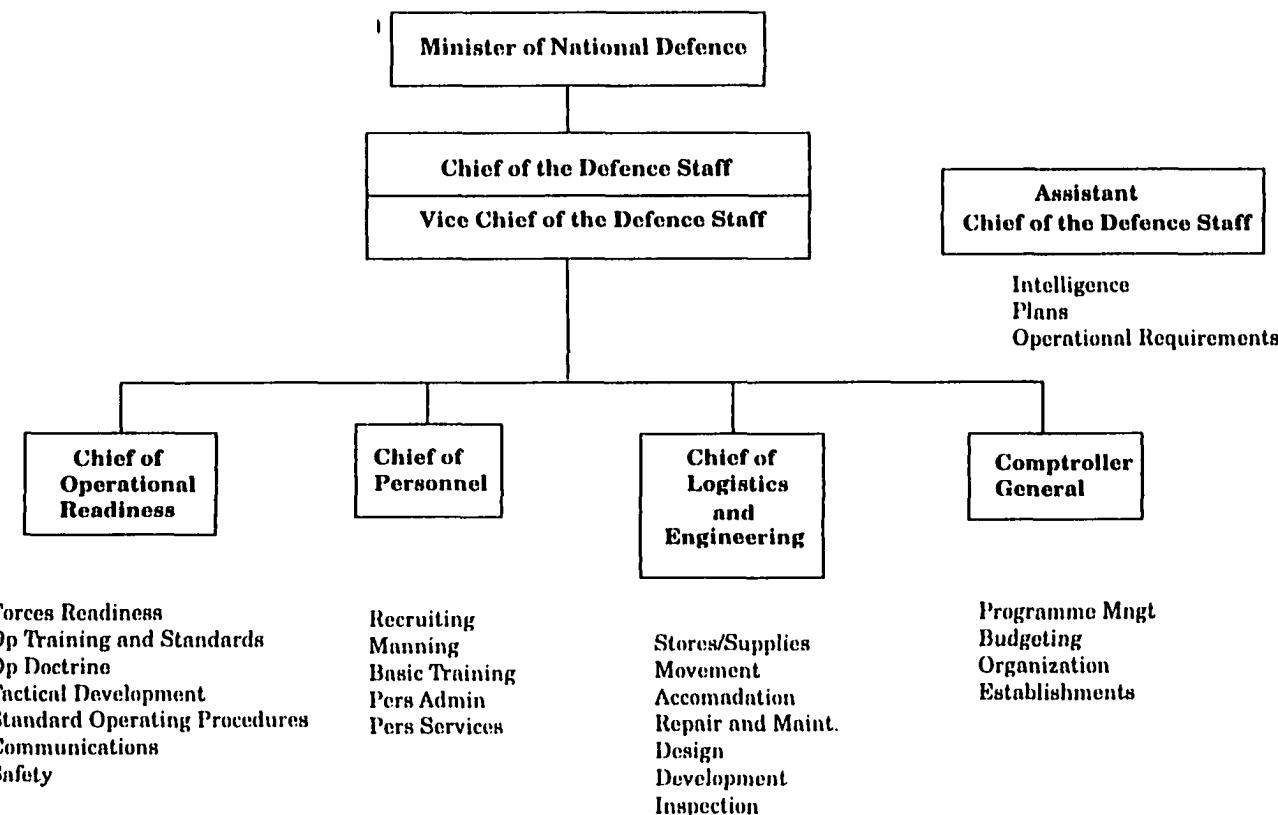
The changes established a Canadian Forces Headquarters (CFHQ). Under the VCDS came the Chief of Operational Readiness (training, doctrine, communications and safety); a Chief of Personnel; a Chief of

156. Hellyer, Damn The Torpedoes, p. 46.

157. Kronenberg, All Together Now, pp. 35-40; Bland, Administration of Defence Policy, pp. 37-53.

158. Bland, Chiefs of Defence, p. 74.

Figure 13: Canadian Forces Headquarters Organization, 1964



Source: Bland, *Chiefs of Defence*

Logistics and Engineering; and a Comptroller General (programme management). The Deputy Minister, who was now the equivalent of the CDS on the organizational chart, ran National Defence Headquarters and had several Assistant Deputy Ministers (ADM's) for Finance, Personnel, Requirements (procurement), and Works (facilities). He was also responsible for public 'information management'.<sup>159</sup>

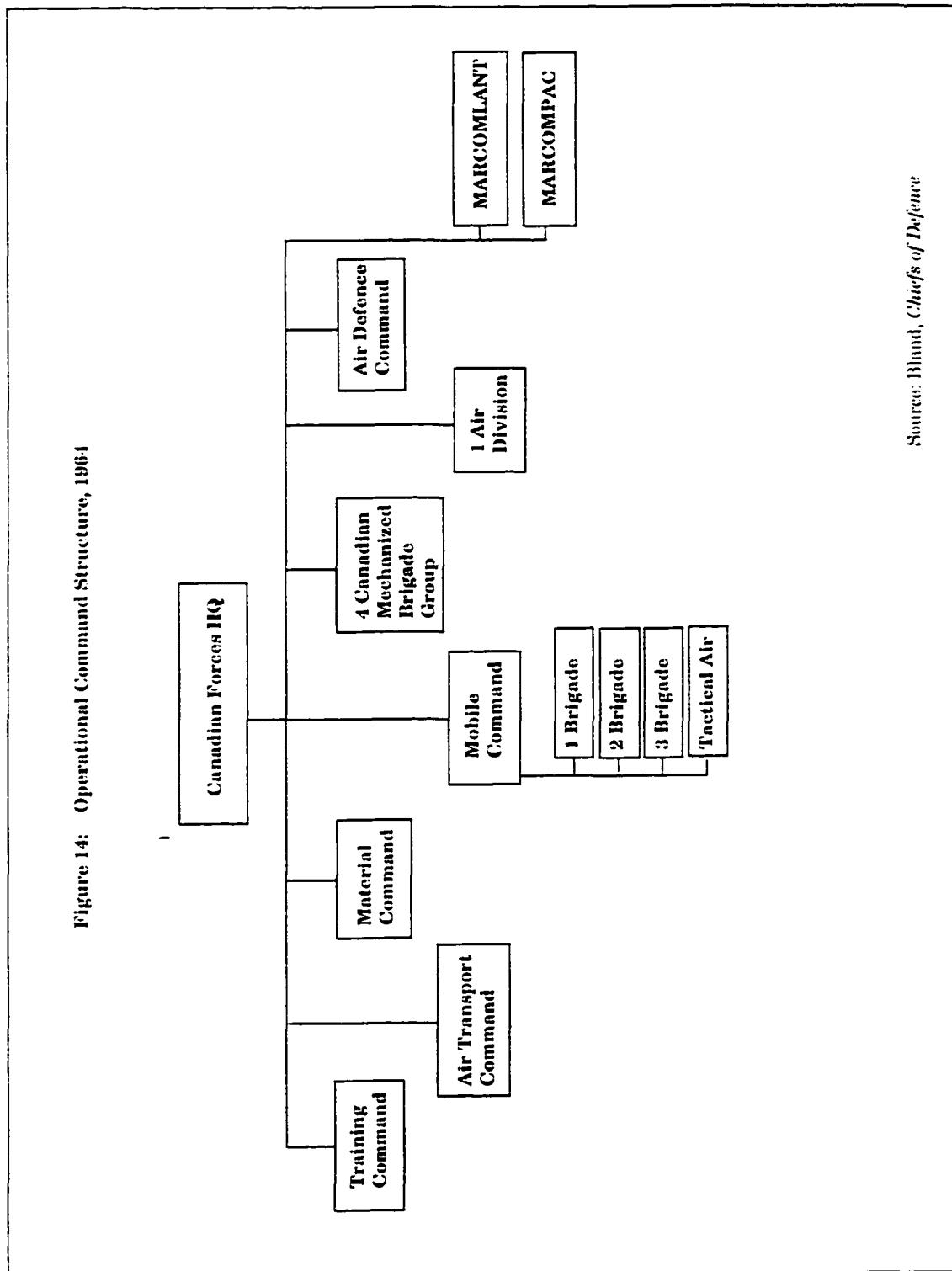
The most immediate implication of this integration revolution was that the Canadian Armed Forces leadership and control mechanisms would exist in a state of bureaucratic disarray for the next four years. This dissarray would eventually be exploited by the Trudeau Government in its attempts to radically alter Canadian national security policy.

The effects of unification, however, were less drastic in the short term on the operating forces: They were regrouped and renamed over the course of the next 18 months (see Figure 14). The forces based in Europe, the Brigade Group and the Air Division, reported directly to CFHQ but were still tasked to NORTHAG and 4 ATAF respectively. The three Canada-based brigade groups and their associated tactical air support (helicopters and the planned fighter-bombers) were grouped together to form Mobile Command. The RCAF's maritime patrol aircraft were grouped with the RCN to form Maritime Command. The RCAF's Air Defence Command and Air Transport Command were retained, but at the same level as Mobile Command and Maritime Command, which not incidentally increased the proportion of former RCAF officers to former Army and Navy officers within the CFHQ (three to four of the seven Commands were run by ex-RCAF officers). This naturally had a significant effect on the bureaucratic

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<sup>159.</sup> Kronenberg, All Together Now, pp. 35-40.

Figure 14: Operational Command Structure, 1964



Source: Bland, *Chiefs of Defence*

culture within CFHQ over the long term. Finally, Training Command and Material Command rounded out the new organization.<sup>160</sup>

This organization was not established without a fight and any senior officer who opposed integration and unification was summarily dismissed in a humiliating fashion by Paul Hellyer. This included most of the RCN's second tier leadership.<sup>161</sup> Nevertheless, the defence reorganizations had little immediate effect on Canada's nuclear forces. Frank Miller reluctantly became the Chief of the Defence Staff, Walsh was considered too old by Hellyer and retired, Rayner retired, and Dunlap replaced Roy Slemon at NORAD HQ. Air Marshal F.R. Sharp became the VCDS under Miller. Two other air force men, Reyno and Carpenter, were placed in charge of personnel and operational requirements. Major General George Kitching told Hellyer that: "Neither Reyno nor Carpenter have any knowledge of how the army operated or of its requirements....I said I hoped that they would never be in any position of authority over soldiers. He did not reply. It was obvious that Hellyer was buying loyalty with promotions and I was sorry to see friends of mine climb on the bandwagon and joint the circus in Ottawa."<sup>162</sup>

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160. F.R. Sharp, "Reorganization of the Canadian Armed Forces," Air University Review Vol. XVIII, No. 5, July-August 1967, pp. 17-28.

161. For more details on these disgusting episodes, see DGHIST, The Raymont Study, vol. II; Hellyer, Damn The Torpedoes; Desmond Morton, "He did what had to be done," The Toronto Star Saturday Magazine 23 June 1990, p. 16; German, The Sea is At Our Gates.

162. Kitching, Mud and Green Fields, p. 279.

## Conclusion

In 1964 Canada's force structure was now fully capable of fulfilling Canada's strategic tradition within the context of Canada's NATO and NORAD commitments. The process by which the Pearson Government achieved this, however, was riddled with compromises which had long term effects on the force structure and its relationship to national security policy. First, Pearson signed the Canada-US nuclear weapons agreements only to make good on his domestic political promises and to repair the Canada-US relationship, not to provide Canada with effective defence forces. Pearson's lack of interest in the relationship between force structure and alliance influence was displayed further in his unwillingness to reconcile Hellyer's request for a more flexible force structure on one hand and Gordon's intransigence on increasing the defence budget on the other.

The process by which the 1964 White Paper was generated was open and fair (with the exception of the unification issue, which Hellyer ramrodded through at the military's expense), and its assessment of Canada's strategic priorities was logical and far-sighted. Public participation, through the Special Committee on Defence and through elected officials exploring the issues, as well as private participation (particularly by the far-sighted Ad Hoc Committee chaired by Sutherland) gave Canadians an honest new look at where Canada was in terms of national security policy and where she should go. It cannot be said that Canadian policymakers were taken by surprise, particularly with regard to the evolving NATO strategy, and where Canada's forces fit within it.

The discrepancy between having Cabinet accept the White Paper and then not attaching an appropriate amount of money to support it ranks as

one of the greatest blunders in the history of Canadian national security policy, second or third behind over-demobilization after the Second World War, and the nuclear fiasco during Diefenbaker's reign. This guaranteed that Canadian defence forces would eventually become obsolete and unable to participate effectively to fulfill Canada's commitments later on. By building denuclearization into Canada's national security policy and then not replacing it with another salient capability because of lack of money, Pearson and his Cabinet set the stage for long-term and serious damage to Canada's ability to exert influence, particularly when the Trudeau Government went even further with the programme in 1968-69.

On the policymaking front, the ability of the Government to receive objective professional military advice was severely constrained by the re-organization of the Canadian Forces, which weakened both the people who provided objective advice (they were fired if they disagreed with Hellyer's views on national security policy) and the ability of the structure to move the information to the policymakers (there was no more Cabinet Defence Committee which prevented the CDS from providing military advice in a forum at that level). Meanwhile, Canada's defence forces would enjoy a short-lived Golden Age as they took their rightful place in the deterrent system.

## CHAPTER 13

### THOSE FAR DISTANT SHIPS, AIRCRAFT, AND RADAR STATIONS: CANADIAN CONTINENTAL DEFENCE FORCES AND NUCLEAR WEAPONS, 1963-1970

#### Introduction

During the course of this study, we have determined that the purpose of Canadian and American continental defence forces (both maritime and air defence) was to deter and limit attacks against the main deterrent (SAC), which in turn helped preserve the efficacy of that deterrent. This fundamental fact was lost during Canada's three-and-a-half-year nuclear weapons crisis, for two reasons. First, many civilian policy makers did not understand the strategic concept, and second, domestic politics took precedence over the defence of the nation. There were also potential political ramifications if the Government continually reminded the Canadian people that it cost too much money to protect every population centre in the country. Now that Canada's continental defence forces had access to nuclear weapons, they could participate fully and increase the effectiveness of the deterrent, however late Canada was in joining that effort. This contributed to maintaining Canadian sovereignty and operational influence.

The inextricable link between SAC's bomber bases, Air Defence Command and Maritime Command, would remain for the rest of the decade. As the SAC bomber force declined and the Soviets strove for ICBM and SSBN/SLBM parity with the United States, the need for the vast air

defence apparatus declined. This does not mean that the air defence and ASW forces were wasted for the 1963-1970 period, as the American strategic force decline would not take effect until the 1970s. There was still a significant threat, and world tensions remained relatively high. Of secondary importance and to be examined in Chapter 15, the Canadian contribution to continental defence had a critical role to play in the re-forging of the Canadian-American relationship. This chapter will examine the evolution of Canada's continental defence forces and the role that nuclear weapons played in maintaining an effective deterrent and Canadian operational influence in the defence of North America.

### Continental Defence: The Threat in the 1960s

In the wake of the Diefenbaker Government's immolation, Air Marshal Larry Dunlap told his senior commanders in 1963 that RCAF ADC was now going to get its nuclear weapons. The problem, Dunlap noted, was that there was too much stock taken in the belief that the advent of ICBMs negated air defence. This, he asserted, "was nonsense", since "we have been faced with a mixed-bag threat since the first Russian ICBM became operational at the end of 1959." The only change would be, as predicted in 1958, the ratio of bombers to missiles. Dunlap pointedly noted that: "No intelligence agency has yet predicted a complete phase-out of the Soviet Long Range bomber force....the minute we disband our defence against the manned bomber, that bomber becomes a much more effective delivery

system than the ICBM."<sup>1</sup> In closing, Dunlap emphasized that accepting nuclear weapons was a critical part of this effort and nothing should be done to cause problems, since "public attention and possibly the attention of extremists will be focused on this aspect of our activities. It will be up to you to see that these weapons are assimilated as rapidly and efficiently as possible and with maximum security."<sup>2</sup>

There was no equivalent joy in the RCN nor in the RCAF's Maritime Air Command. Pearson's unwillingness to consolidate the Government-to-Government agreement annex dealing with nuclear ASW weapons and the Argentia agreement left Canada's maritime forces dangling for the time being.

Canadian intelligence discussions regarding the threat in the mid to late 1960s are not yet available. We have, however, seen in previous chapters how the COSC and External Affairs continually had access to American National Intelligence Estimates (NIE's), particularly those relating to Soviet capabilities against North America. These NIE's are available for the 1960s (see Table 10). It is likely, given past behaviour, that the Canadian intelligence people agreed with the lower CIA assessment of the bomber threat rather than the USAF assessments, which were incorporated as a dissenting view in each NIE.<sup>3</sup>

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1. DGHIST, file: Air Marshal Dunlap: Speeches 1963, 28 May 63, Air Defence Command Commanding Officers Conference.

2. Ibid.

3. The information in the figures is drawn from Donald T. Steury, (ed) Intentions and Capabilities: Estimates on Soviet Strategic Forces, 1950-1983 (Washington D.C.: CIA History Staff, 1996) pp. 139-221.

**Table 10: U.S National Intelligence Estimates: Strategic Threat to North America, 1962-1966**

<b>Estimate Year:</b>	<b>1962</b>	<b>1964</b>	<b>1965</b>	<b>1966</b>	<b>Comments:</b>
ICBM:	50	200	224	335	
Bomber: Heavy: Medium:	165 - -	100 150 -	200 -	200-210 -	*drop in hvy bomber strength reflects new in flight refuelling capability of BADGERs.
Total:	165	250*	200	200-210	
Submarines:  SSB/SSBN: SSG/SSGN:	32 10	40-50 30	43-48 39-43	45 45	
Total tubes:	120	155-190	186-270	250	
Total number of warheads deployable:	335	605-640	600-694	785-795	

Source: Steury, Intentions and Capabilities: Estimates on Soviet Strategic Forces, 1950-1983.

How exactly this affected Canadian continental defence programmes cannot be determined. The air defence system was already structured to deal with 200 or so bombers, so the threat did not change dramatically from the original JPC estimate in 1958. The American NIE's made no mention of stand-off cruise missiles launched from bomber aircraft. These weapons were deployed by the Soviets in the 1960s, but it is probable that the RCAF treated unmanned cruise missiles as just another form of bomber threat. Air launched cruise missiles were relatively slow and did not possess the radical manouevring capability that today's cruise missiles are endowed with.

The RCN and RCAF did take serious notice of the upward shift in the Soviet missile submarine threat. There were at least five classes of these submarines in Soviet service, which amounted to two generations of weaponry. The first, consisted of ZULU IV's carrying two ballistic missiles, and three variants of the WHISKY-class carrying one or two cruise missiles. The second generation consisted of the GOLF- and HOTEL-classes. The GOLFs were conventionally-powered, while the HOTELs were nuclear powered (see Tables 11 and 12). Both carried ballistic missiles, and the HOTEL could launch them from underwater, unlike the previous generation boats. In addition, the Soviets had deployed several NOVEMBER-class nuclear powered attack submarines in addition to their vast diesel submarine attack force. As for a long-range estimate of Soviet capabilities, the RCN forecast that a new class of nuclear-powered missile launching submarines would be in service by 1967. These craft would carry missiles that could be launched from underwater and would have a range of 2000

**Table 11: CANUS 63 Submarine Threat Analysis, 1963-1967**

Submarine Type:	1963	1964	1965	1966	1967	Remarks:
SSK (Z,F,R,W)	46	51	55	55	55	
SSN (November)	11	13	16	18	20	nuclear torpedos
SSB: GOLF and ZULU	40	43	45	45	45	surface launch
SSG: WHISKY	13	13	13	13	13	surface launch
SSBN: HOTEL	12	15	18	22	25	underwater launch, eventual 2000-mile range
SSGN: ECHO	8	10	12	15	18	underwater launch, 650+mile range

Source: NAC MG 30E522 vol. 3 file: Information Book 1958-63: CANUS 63 Estimate.

**Table 12: Actual Soviet Missile Submarine Strength as Constructed, 1956-1982**

Type:	Construction Years:	Number Built:	Weapons:
ZULU V SSB	1956-1959	6	2 X SSN-4 SLBM 500 kt-2MT, 300-350 mile range
Golf SSB	1958-1962	23	3 X SSN-4 SLBM
Hotel SSBN	1960-1963	8	3 X SSN-4 SLBM
Whisky Twin Cylinder SSG	1958-1960	5	2X SSN-3C SLCM 800-kt, 220 mile range
Whisky Long Bin SSG	1960-1962	6	4 X SSN3C SLCM
Echo I SSGN	1960-1962	5	6 X SSN-3C SLCM
Echo II SSGN	1962-1967	29	8 X SSN-3C SLCM
Juliet SSG	1961-1969	16	4 X SSN-3A SLCM
		<b>Total to 1967: 98</b>	<b>Total Tubes to 1967: 465</b>

<b>Yankee I SSBN</b>	<b>1967-1974</b>	<b>34</b>	<b>16 X SSN-6 SLBM 1 MT, 1500 mile range</b>
Charlie I SSGN	1967-1973	12	8 X SSN-7 SLCM 200 kt, 56 mile range

Sources: Jordan, Soviet Submarines; Breemer, Soviet Submarines; Cochrane, Soviet Nuclear Weapons, Zaloga, Target America.

miles.<sup>4</sup> Note that the US NIE's underestimated the actual number of available submarine launchers by 50%. Keep in mind, however, that only one -third to one-half of the enemy submarines would be operational and/or at sea at any given time, and some missiles were probably dedicated long range anti-ship weapons.

The implications of this development for Canadian maritime forces was more dramatic than for the air defence forces. The entire system for the 1958-1965 period was originally predicated on a 500-mile-range cruise missile launched from a surfaced submarine. If the new threat was a 2000-mile ballistic missile, and the targets were the SAC bases in Canada and New England, the hunt for the SSBN's would have to take place in the Norwegian Sea and the GIUK Gap, not off the North American coasts. This posed profound questions for the RCN and RCAF maritime force structure in addition to the constraints placed on the services by the 1964 White Paper and the budget.

There is of course the question of intentions. What did Canadian planners believe to be the probable disposition of the Soviet strategic forces and under what conditions would a war be fought using them? The strategic concept was in flux. Either the Soviets would strike with a bolt from the blue, or, as in the Berlin and Cuban Crises, a period of tension would occur first. Any sudden attack would most probably be directed against SAC bomber and missile and USN submarine bases. In a period of gradual tension, limited strikes might be employed both against SAC and

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4. NAC MG 30 E522 vol.3, file: Information Book 1958-63, "The Threat: Short Range Estimate (1963-1967)." See also DGHIST file 79/34, "Meeting of Canadian/US Ministerial Committee on Joint Defence-25 June 1964: Brief on Measures to Meet the Maritime Threat to North America."

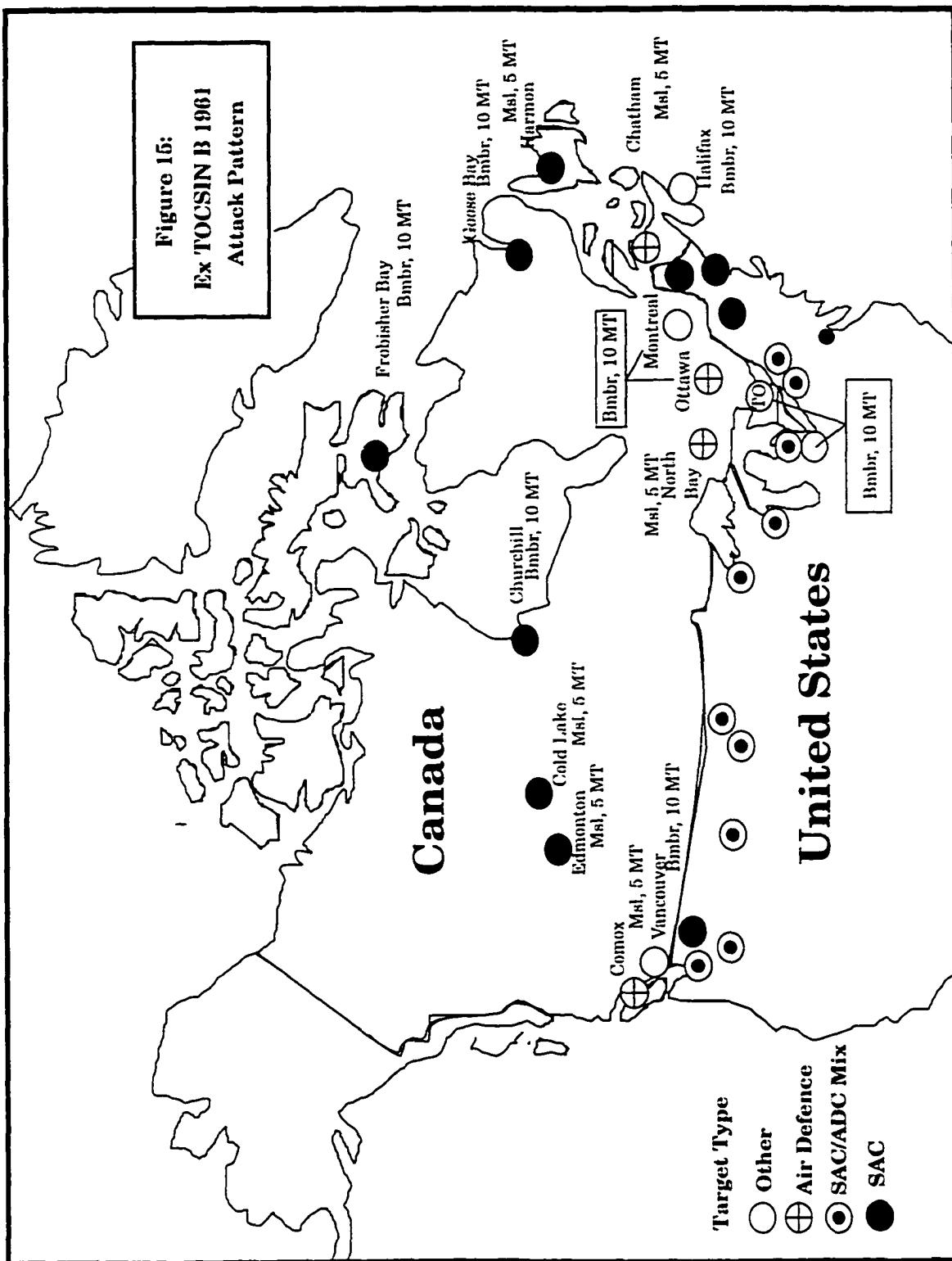
against east coast ports to prevent the rapid reinforcement of NATO forces in Europe. These would be followed up with a massive strike over the Pole.

The best description of Canadian thinking on possible Soviet attack patterns for the 1960s can be derived from a series of continuity of government (COG) exercises and a RCAF-wide war exercise, Ex BOOK CHECK, all of which used classified NORAD air defence planning information. A 1960 COG planning guide (which used MC 14/2 (revised) as a basis for planning) argued that SAC would be the primary target until such time that SAC was entirely an ICBM force, and then the targets would be command and control centres and government facilities. The shift from a bomber-based deterrent to a missile-based one was assumed to take place around 1964.<sup>5</sup>

The attack pattern for Exercise TOCSIN B 1961 was based on NORAD Ex DESK TOP IV, the agreed Canadian-American intelligence estimate, CANUS 61, and the Canadian Army's basic assumptions guide for survival operations planning (see Figure 15). It assumed a bolt from the blue attack, ten minutes missile warning (A-Hour +10) with the first submarine-launched missiles detonating in the United States at A+25 minutes, followed by the first ICBM strikes at A+35 minutes. Bombers would then arrive much later to mop up. The attack assumed a combination of air defence system 'roll back' and SAC destruction. Weapons were assumed to be between 5 and 10 MT in yield with a two mile CEP; that is, not overly

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5. NAC RG 24 vol. 11147 file 1400-1 Vol. 1, 19 Sep 60, EMO, "Planning Guide on the Continuity of Government Programme and Related Emergency Preparations."



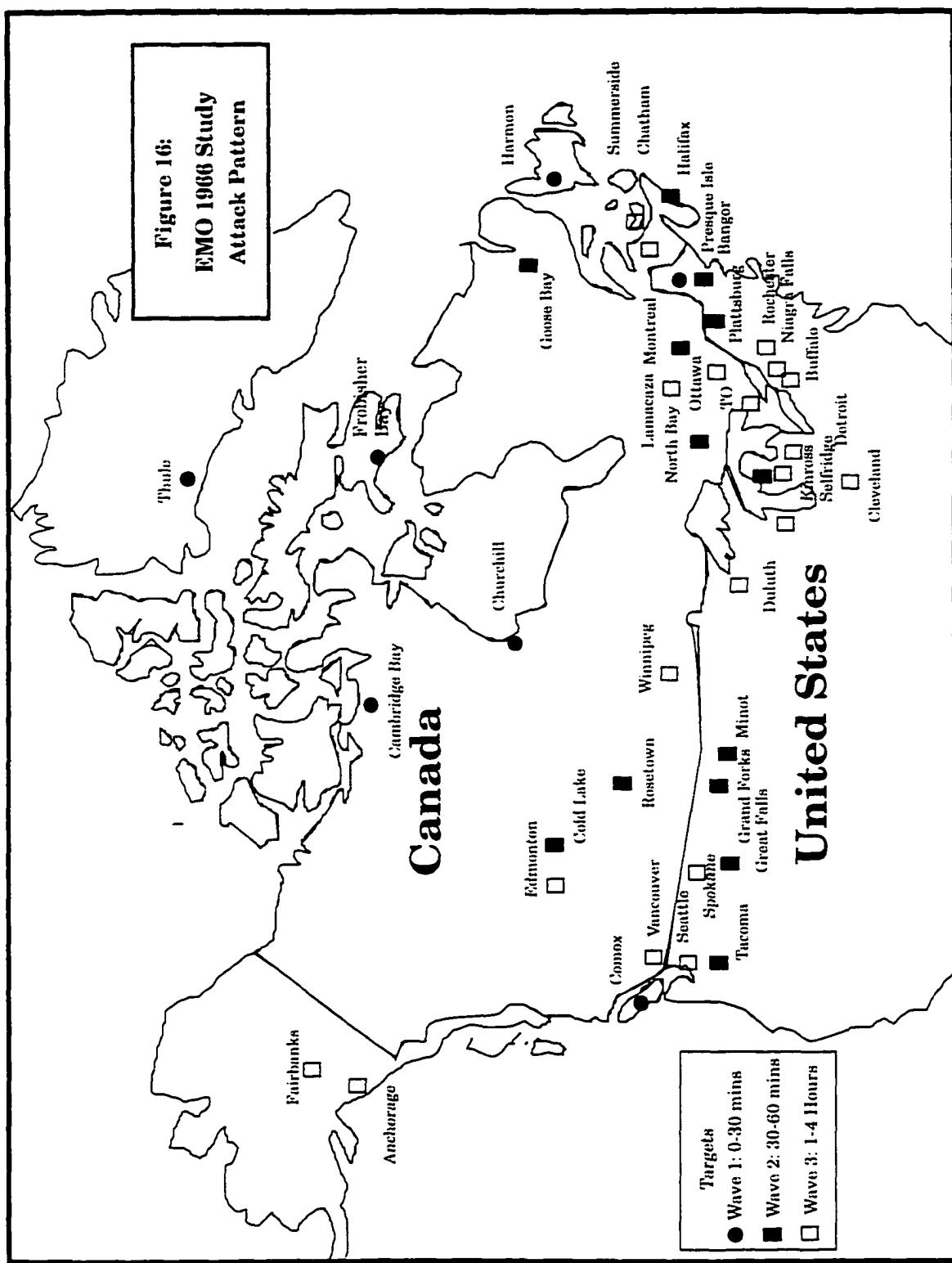
accurate but with a huge blast area.<sup>6</sup> Note that for comparison purposes, actual warhead yields for the Soviet SS-6 SAPWOOD ICBM was 5 MT, with 3 MT for the SS-7 SADDLER ICBM.<sup>7</sup> TOCSIN B 1961, it should be noted, was clearly a worst case scenario designed to test the COG programme and as such virtually assumed no active defence of Canada. That said, it provides insight into the likely Soviet targets for a first strike.

A restricted Emergency Measures Organization (EMO) study entitled "Resources in Canada 48 Hours After a Hypothetical Nuclear Attack" issued in January 1966 presented a more detailed and slightly more moderate but still worst case estimate of an attack, including specific timings to targets (see Figure 16). The attack warning was thirty minutes and the duration was four hours. Twenty nuclear weapons were used against Canada, seven of these against targets in the North West Territories. Fourteen attacks against American targets, in addition to the attacks against Canadian targets, produced 1 105 000 dead and 803 000 injured, with another 2 773 000 people caught in heavy fallout areas. The pre-attack population was assumed to be 18 238 000 Canadians. Twenty percent of the health care system, 8% of the road net, 13 out of 43 petroleum refineries, 27% of the coal stocks, and 40% of the hydroelectric generating

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6. NAC RG 24 acc 83-84/215 vol. 26 file 1200 pt. 6 vol. 15, 28 Feb 61, DSO&P, "Canadian Army Basic Assumptions for Survival Planning and Operations;" RG 24 vol. 251, file 2002/91/T18 vol. 4, 27 Sep 61, AHQ to EMO, "Proposed Attack Pattern: Ex TOCSIN B 1961."

7. Zaloga, *Target America*, pp. 255-259.



potential was assumed destroyed.<sup>8</sup> Again, this attack pattern assumed no warning and was deliberately worst case for planning purposes.

Unlike the other exercises, Ex BOOK CHECK provided a more gradual phase in of tension over a two-day period. CinCNORAD declared DEFCON 1 (for unspecified reasons) at 1645 hours on day two. 45 minutes later, the first missiles hit and two hours after that, the bombers came in.<sup>9</sup> BOOK CHECK vaguely assumed that the enemy attack was in response to some other action (either by SAC or some incident in Europe) and not a bolt from the blue. It did not include an attack pattern nor a detailed run-down on effects on RCAF forces engaged: it was primarily a Command Post Exercise to exercise the reporting system. These exercises do not conclusively demonstrate the exact attack pattern NORAD or any other command was anticipating. Taken together, however, they do illustrate the type of thinking that was going on the 1960s with regard to the effects of nuclear war on Canada.

In retrospect it is difficult to ignore the conclusion that SAC's missiles and bombers, the USN's Polaris missile force, and NATO theatre nuclear forces in Europe would have to have struck first and hard in order to prevent the bulk of the Soviet arsenal from reaching North America.

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8. DGHIST file 81/24, January 1966, EMO, "Resources in Canada 48 Hours After a Hypothetical Nuclear Attack November 1963."

9. DGHIST, file 71/493 "Exercise BOOK CHECK: Directing Staff Instructions."

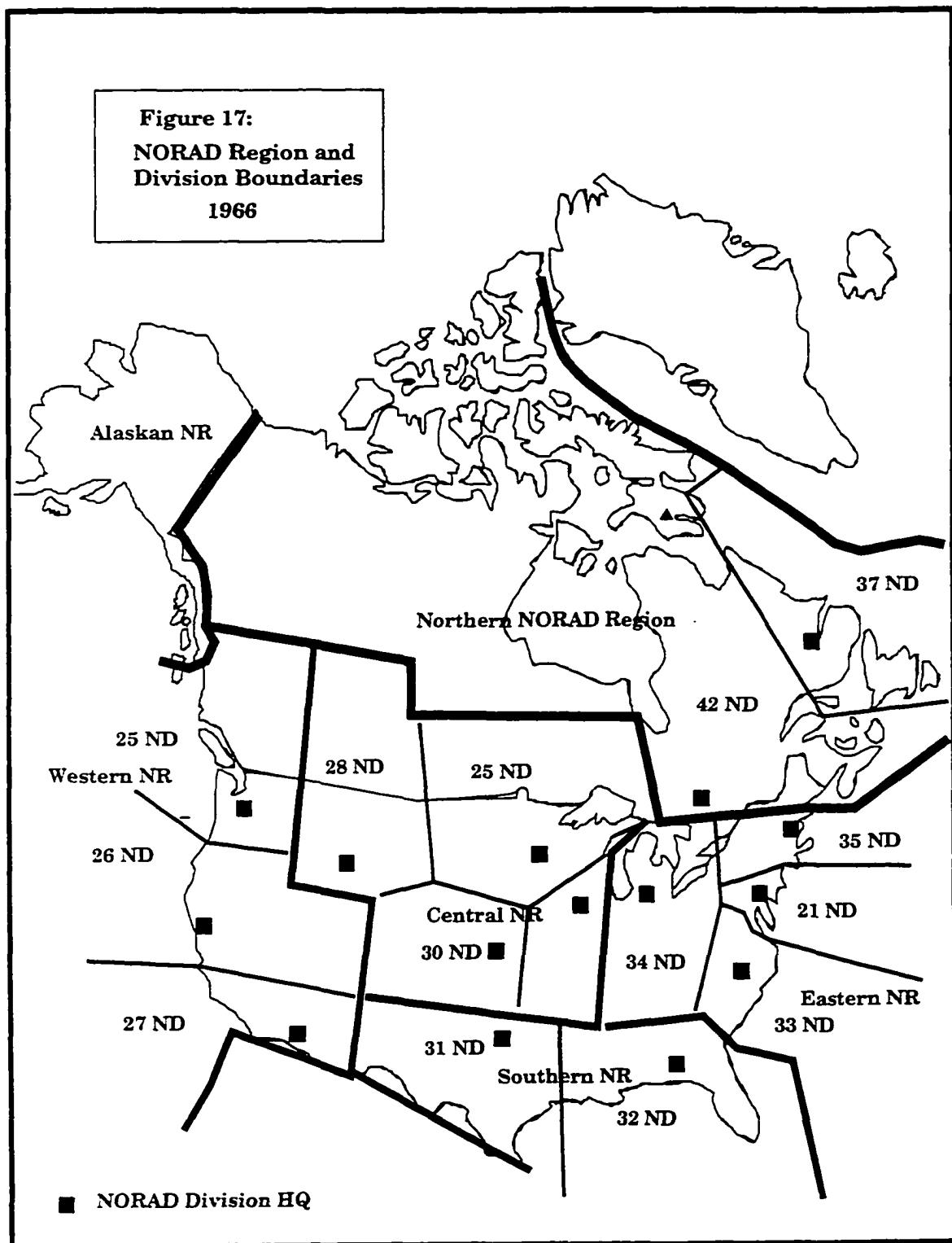
## The Air Defence System: NORAD, Command and Control, and Forces

In order to understand the relationship between nuclear weapons, command and control, and operational influence, it is necessary to explain NORAD's organization and order of battle for the 1960s. There were six NORAD regions in 1966 (see Figure 17), each divided into several divisions, and each division had several sectors. The sectors roughly corresponded to the airspace controlled by the SAGE computer installations (called Direction Centers or DCs) or manual control centers. Northern NORAD Region (NNR), with its headquarters at North Bay, Ontario and associated SAGE DC, was commanded by a Canadian officer, while other five were commanded by Americans. The Air Officer Commanding RCAF ADC (Canadian Forces ADC after 1964) was 'double hatted' as the NNR Commander. Note that three NORAD regions commanded by Americans covered portions of Canadian airspace, while NNR covered part of Maine. As we have seen, the nuclear weapons overflight arrangements made in 1958 allowed for the use of USAF ADC interceptors over Canadian airspace. This entitled RCAF/CF ADC to participate in mix-manning those American DCs, Control Centers, and Sector headquarters dealing with Canadian airspace which amounted to 500 RCAF officers and men. Conversely, some USAF ADC personnel were stationed at North Bay.<sup>10</sup>

NORAD's CONAD component commanders at the Division and even Sector level retained pre-delegated defensive nuclear weapons release along

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10. House of Commons, Standing Committee on National Defence [hereafter SCOND] 28 and 29 June 1966; DGHIST file 73/430, "RCAF Programme of Activities 1961-66"; FOIA, NORAD Historical Office, 31 Dec 82, "NORAD Resource Statistics Book."



the lines discussed in Chapter 7.<sup>11</sup> This, for example, included the Bangor BOMARC site and the Maine-based F-101 squadrons which came under NNR command in wartime. The Goose Bay and Harmon-based F-102 squadrons, though equipped with nuclear weapons, required Canadian governmental permission to allow withdrawal of their weapons from storage before use.

The proportion of RCAF ADC fighting forces to USAF ADC fighting forces had changed since the 1950s and actually worked to Canada's advantage as the 1960s progressed and obsolete portions of the American system were deactivated. For example, all Nike-Ajax missiles were deactivated by 1965 and not replaced. USAF BOMARC "A"s were all gone by 1965 as well.<sup>12</sup> In 1966, Canada operated four CF-101B combat squadrons (and a training squadron which could be pressed into combat use in an emergency), while the USAF ADC had 15 F-101B squadrons and 33 other squadrons equipped with F-102 and F-106 interceptors. As for BOMARCs, there were 235 NORAD-dedicated missiles, 56 Canadian and 179 American. There were also 121 American Nike Hercules.<sup>13</sup>

All BOMARC and Nike Hercules missiles and more than half of the USAF ADC manned interceptor force were equipped with air-to-air nuclear weapons. All Canadian units had nuclear weapons. In 1966 NORAD had a total of 982 fighters and 356 surface-to-air missiles. Assuming that there

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11. NAC RG 24 acc 86-82/165 box 17 file 3313-20 vol. 2, 21 Oct 69, DNW-2, "Nuclear Weapons Field Activities: CIM-10B/BUIC III Operational Review History."

12. FOIA, NORAD Historical Office, 31 Dec 82, "NORAD Resource Statistics Book."

13. Ibid.; Drendel and Stevens, Voo Doo, p. 26, 48; Keaveney, McDonnell F-101B/F pp. 1-6; SCOND 28 and 29 June 1966.

were 3150 MB-1's, 2000 AIM-26A's,<sup>14</sup> and 235 BOMARC W 40s, this gave NORAD a possible 5000 nuclear air defence weapons and 1250 delivery platforms for use against the bomber and cruise missile threat, which amounted to 150 to 200 bombers and 150 cruise missiles (sub-launched), a four to one ratio.<sup>15</sup> There was no defence against the ICBM or SLBM except pre-emption since the Anti-Ballistic Missile programme in the United States bedeviled economists, politicians, and scientists alike throughout the 1960s. Fortunately, Soviet missiles were not accurate or overly reliable in this time frame.

#### Canadian CF-101B VooDoo/AIR-2A Weapon System

The most straight forward component of the air defence force relating to nuclear weapons was the CF-101B force. The concept of operations for the interceptors revolved around peacetime stationing at Comox, North Bay, Bagotville with wartime dispersal to Val d' Or (a rather austere operating location in northern Quebec) and Chatham on DEFCON 3.<sup>16</sup> Special Ammunition Storage sites were now required for all of these bases save North Bay. North Bay had the NNR HQ, the 446 SAM BOMARC Squadron,

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14. Hansen, U.S. Nuclear Weapons pp. 177-179.

15. It is not my intent to provide a detailed assessment of the entire air defence system for this period. This would require construction of an extensive computer model to simulate the wide variety of factors involved in the air defence war planning. The lack of space precludes this in this study.

16. DGHIST, Hendrick Papers, Daily Diary, 4 October 1963.

and the SAGE centre. Keeping a CF-101B squadron there created an unacceptable target.

The CF-101B technical agreements were signed in October 1963. The Air Staff projected that the squadrons would have nuclear weapons on alert by 1 January 1965.<sup>17</sup> Until all the proper arrangements were made and the weapons delivered, Air Vice Marshal Max Hendrick ensured that the emergency availability procedures were maintained. These procedures were refined and included a plan to disperse eighteen USAF ADC F-101's each carrying two MB-1's to Chatham, Bagotville and North Bay on DEFCON 1 either to transfer the weapons to RCAF aircraft or to operate from those bases if the CF-101B's had not received their weapons (the airlift relied on Air National Guard resources which were not as reliable as they could have been in an emergency). Hendrick noted that:

...it was agreed between General [Arthur C.]Aghan and Air Marshal [T.S.W.]Harvey that in the event of a real flap, aircraft would deploy north loaded and south unloaded and if time permitted there could be a ferry service using fighters to lift the weapons, dependent solely on the ground handling equipment available on the Canadian bases. this plan would be a hip pocket plan and not in writing.<sup>18</sup>

The service-to-service agreements for the CF-101B/AIR-2 weapons system were signed in October 1963. The MB-1 designation was dropped and AIR-2A for Air Intercept Rocket became the new terminology.<sup>19</sup>

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17. ATI, 16 Oct 63, memo DCE to COR, "Programme of Acquisituon of Nuclear Weapons."

18. DGHIST, Hendrick Papers, Daily Diary, 18 February 1964.

19. NAC RG 24 vol. 8 file 3315-22 vol. 2, 27 Oct 66, memo CDS to Comd ADC, "Changes to Supplementary Arrangements for CIM-10B and CF101/AIR-2A Weapons Systems;" 24 Sep 63, memo DAFT to DOE, "Trip Report-Lowry Technical Training Centre USAF."

By August 1964, the SAS and QRA facilities for the CF-101B squadrons were almost finished. In October 1964, four 50-man detachments from the USAF 425 Munitions Maintenance Squadron based at Ent Air Force Base in Colorado arrived in Canada at Comox, Val d'Or, Bagotville, and Chatham. Once they had settled in, several huge USAF C-124 Globemaster transport aircraft arrived and off-loaded the first AIR-2A rockets for the Canadian squadrons.<sup>20</sup>

Each squadron maintained four aircraft on peacetime QRA: two armed with conventional Falcons on five-minute alert, which would be scrambled first to identify, and two armed with AIR-2A's, which followed on order if the targets were hostile. In the event of a mass raid, the procedure was different, and the interceptors lined up at the SAS site to receive their weapons and take off. The weapons would be released only on concurrence of the Prime Minister and the President, but in practice CinCNORAD had release in the event of a surprise attack. If an AIR-2A equipped aircraft intercepted a target and it was in the process of a hostile act, that is, dropping bombs, the aircraft commander could destroy the aircraft. The USAF custodial detachment maintained its own communications and off-line crypto verification system to NORAD HQ, probably to the CONAD component.<sup>21</sup>

The outer bays of the AIR-2A-armed aircraft in alert barns were double locked. The aircraft captain and the American custodian retained the keys. These areas were "no-lone zones," which meant that the two-man rule

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20. A.M. Lee, Chatham: An Airfield History (Fredericton, NB: Unipress Ltd., 1989) pp. 45-46.

21. Letter D.A. Nicks to Maloney, 16 February 1994.

applied at all times, including maintenance and pre-flight checks (apparently it was difficult to climb into the cockpit while at the same time keeping both hands in the air and visible at all times). All armament switches were sealed with lead seals and wire, the trigger itself had a sealed trigger pin and there were two circuit breakers in the rear cockpit.<sup>22</sup>

The custodial detachments from the 425th MMS did all the maintenance on the W 25 warheads as well as the internal security to the SAS site compound. The RCAF armourers then mated the warhead to the rocket assembly, the two groups tested it and then jointly moved the weapon to the QRA aircraft after the aircraft had been inspected and a check made of the armament release switches. In a load situation, one American custodian was assigned to each weapon, while the RCAF provided the load crews and the bulk of the security for the operation.<sup>23</sup>

#### The Canadian BOMARC CIM-10B Weapon System

The BOMARC CIM-10B (the designation was changed from IM-99B to CIM-10B by 1965) situation was far more complex both from technological and procedural standpoints than the AIR-2A-equipped CF-101Bs. The service-to-service agreements were signed in October 1963 at the same time as the CF-101B agreements. There were two Canadian and seven American BOMARC squadrons in 1965. Of the original nine USAF BOMARC

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22. Ibid.

23. Ibid; ATI, 11 Sep 63, memo to CAE, "Organization and Establishment For Safety and Inspection of Special Weapon in the RCAF."

squadrons, two were deactivated in December 1964. One of these was the 30th Air Defense Missile Squadron at Dow AFB, Maine assigned to the NNR.<sup>24</sup>

The two Canadian squadrons, without warheads, were assigned to the Commander of the Ottawa NORAD Sector for operational control on 1 October. Prior to that, from March 1963, 446 Squadron sent status data to the Sault Ste Marie Sector, while 447 sent to the Bangor Sector. This corresponded with the temporary installation of data cables between the sites and the two control centres that month. Before the W 40 warheads could be delivered however, 446 and 447 SAM Squadrons had to pass another Initial Capability Inspection which were completed in November and December 1963 respectively. The planned arrival dates for the warheads were 10 November 1963 for 446 Squadron at North Bay and 20 December for 447 Squadron at LaMacaza.<sup>25</sup>

On 3 January 1964, the initial delivery of warheads took place late at night. USAF C-124 transports declaring that they carried 'hot cargo' to the control towers thundered into RCAF Station North Bay and the runway adjacent to 447 Squadron at LaMacaza. The W 40 warheads were secured by 425th MMS detachment 1 at North Bay and detachment 2 at LaMacaza and then transported by trucks out to the BOMARC sites.<sup>26</sup> This amounted to 30 warheads at each site: 28 operational and two spares.

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24. FOIA, NORAD Historical Office, 31 Dec 82, "NORAD Resource Statistics Book."

25. NAC RG 24 acc 86-82/165 box 17 file 3313-20 vol. 2, (n/d) "BOMARC Operational Review: Briefing by ADCHQ"; ATI, 7-8 Nov 63, DADSI to DOE, "Visit Report to HQ USAF."

26. NAC RG 24 vol. 8 file 3315-22 vol. 2, 3 Jan 64, message CinCNORAD to Air Marshal Dunlap.

External Affairs was caught unawares. Frank Miller called Ross Campbell to inform him of the situation. External Affairs had been foot dragging on the exact release procedures and none had been approved by the Government as yet. Interim release procedures were critical now that Canada had the weapons and was expected to use them to participate in the defence of the nation. Miller sent the interim procedures to Pearson, and they were subsequently approved.<sup>27</sup>

These interim arrangements were based on American procedures and worked out by Air Vice Marshal Hendricks (Air Defence Command), General Gerhardt (USAF), Minister of National Defence Hellyer, and Chairman of the Chiefs of Staff Committee Miller. Once release was received by CinCNORAD from the President (in whatever form including predelegated authority), CinCNORAD "would consult, to the limit commensurate with the tactical situation, with COSC and JCS prior to employing nuclear weapons."<sup>28</sup> CinCCONAD (who was also CinCNORAD) sent a release message to the US Warhead Release Officer on duty at the Ottawa NORAD Sector Headquarters who had "exclusive access to the single US BOMARC interlock key." This key was not to be turned until the release message had been authenticated by the American officer. Canadian release authorization "will be by CinCNORAD only." An authorization message would be passed from NORAD HQ through NNR HQ to the Canadian release officer on duty at the Ottawa NORAD Sector, who had exclusive access to his safety interlock key. This message was then authenticated. Both officers turned their keys and the process would be

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27. ATI, 8 Jan 64, memo Campbell to Miller; memo Martin to Pearson.

28. NAC RG 24 vol. 8 file 3315-22 vol. 2, 1 Jan 64, message Hendricks from Austin.

repeated at the Interceptor Missile Squadron Operations Centers (IMSOC) located at each squadron by the custodians and the operations officers.<sup>29</sup>

It appears that there was some agreement amongst Canadian policymakers to allow for a form of Canadian predelegation. In a briefing paper Hellyer stated that: "CinCNORAD must also have received authorization from the Prime Minister or his authorized representative to release the weapons-carriers for use by Canadian forces assigned to NORAD."<sup>30</sup>

This authorized representative was probably the Commander of the NNR (whose Canadian 'hat' was Air Officer Commanding Air Defence Command) in this case Air Vice Marshal Hendricks. The NNR was by this time conveniently co-located with NNR's SAGE computer in a deep underground site outside of North Bay (this site was considered to be safer than NORAD's Cheyenne Mountain Complex due to the nature of the local geology).

#### The Maritime Forces in Crisis 1964-1967

The matter of nuclear weapons for Canadian maritime forces was more complex than attaching W 40s and W 25's to existing air defence aircraft or even loading Mk. 101 Lulu's onto Argus and Tracker aircraft. The main problem was the undecided nature of NATO strategy and the relationship of

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29. Ibid.

30. ATI, 6 Dec 63, memo Hellyer to Martin.

naval forces to it, as much as Mike Pearson's opposition to adding another annex to the nuclear agreement in fear of domestic political repercussions.

The effects of the White Paper process in and the continuous evolution of NATO strategy in 1963 posed serious problems for RCN planners seeking to create a stable force structure and trying to determine the place of nuclear weapons in it in 1964. In mid-1963, Herbert Rayner asked the Assistant CNS for Air and Warfare, Commodore A.B. Fraser-Harris, for his opinions on what the future fleet should look like and what missions it should carry out. Fraser-Harris thought that the Soviets would eventually acquire an SLBM capability and this would render existing planning centered on countering the close-in missile submarine threat obsolete. Fraser-Harris also thought that a stabilized deterrent system would make conventional war in Europe unlikely, and therefore convoy operations and ASW support to them was equally unlikely, though he allowed for the possibility "that a war initially limited in nature, might escalate to a stage at which it involved conventional warfare in Europe and thus the defence of shipping in the North Atlantic within the framework of conventional war."<sup>31</sup>

Fraser-Harris thought that the most likely contingency was a limited war in a peripheral or Third World theatre. If Canada was going to get involved in such operations, the RCN needed an improved air defence capability, general purpose frigates, and troop transports: "It is, therefore, believed that the [RCN] should strongly support any move that may be made to break out from the confines of NATO Force Goals as they now stand and

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31. DGHIST file 79/34, 9 Jul 63, memo ACN (A&W) to CNS, "Effectiveness of Naval (RCN) Response to the Threat Now and in the Foreseeable Future-1970s."

to re-equip the forces of Canada with the prime objective of supporting Canadian interests in the future."<sup>32</sup>

Fraser-Harris did not elaborate as to what those interests were. Essentially, his views were similar to those of Air Commodore Fred Carpenter, the former commander of Air transport Command who previously championed UN operations over NATO operations.

In November 1963, Director of Operational Research (Navy), J.S. Vigder, visited Washington with Dr. Sutherland of the DRB in a fact-finding trip related to the ad hoc committee on defence. Though the information gathered was not incorporated in the ad hoc committee report in detail, a report was passed to all members of the RCN leadership.<sup>33</sup>

Vigder relayed the American views on the future of ASW. The advent of ABM system development in the United States led some USN thinkers to place less emphasis on the close in ASW mission. More emphasis would be placed in the future on "defence of task forces, amphibious operations, and convoys. The prospect of fighting a convoy war in the north Atlantic ("Battle of the Atlantic") was considered a distinct possibility either with or without a land war in Europe."<sup>34</sup> In other words, a pure naval battle was possible within a flexible response concept, while at the same time the strategic nuclear forces canceled each other out.

For example, American planners thought that a future Cuba-like situation could result in the Soviets' blockading Western Europe by sea.

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32. Ibid.

33. DGHIST file 79/34, 22 Nov 63, memo to distribution list, "Visit Report of J.S. Vigder, DOR(N)."

34. Ibid.

This meant that a wide range of conventional and tactical nuclear options had to be available to respond flexibly. The USN was planning on building more escorts equipped with the ASROC system. ASROC would be retrofitted to older escorts to increase their ASW effectiveness and the ASROC would have a dual capability (conventional and nuclear). Some American planners thought that "The introduction of nuclear weapons into a sea battle would favour the [submarine] more than the ASW forces."<sup>35</sup>

Rayner asked his staff to take all of these factors into consideration and come up with a credible plan. The recommendations of the 1961 Brock Report were beyond reach due to cost. What could be done?

In essence, a number of RCN planners believed that "The idea of providing flexible general purpose forces in Canada can be supported", and that "Specialized forces either on a national scale or within the Navy alone reduce the possibility of proper contribution in the future...."<sup>36</sup> The 1960s force structure was not alterable at this point, and the existing missions (counter-missile submarine, shipping protection, and Army support operations) could be carried out with it. Twenty DDH's with helicopters, the CVL with Trackers and helicopters, eight general purpose frigates (GPF) and twelve other ASW ships were adequate. The GPF's were the only missing piece. The main threat would continue to be the submarine but "there is no non-nuclear weapon system in sight that can destroy a

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35. Ibid.

36. DGHIST file 124.019(D1) "The Future Fleet: A Presentation to the Naval Staff- November 1963."

submarine when launched at long range from an inaccurate datum.<sup>37</sup>

Translation: nuclear ASW weapons were still required.

RCN planners were initially unaware of the 1963 Cabinet decision omitting nuclear ASW weapons and continued to examine storage requirements. Storage of weapons dedicated for patrol aircraft use was no problem: The planned HMCS Shearwater site would function like CF-101B bases in terms of custodial and release arrangements. The problem was storing them aboard ships. The RCN planners believed that it was too expensive to keep nuclear ASW weapons and an associated USN custodial detachment aboard the DDE's and DDH's during peacetime. The best plan was to keep the warheads at Shearwater and at Comox on the Pacific coast. Once released, they could be moved by helicopter to the ASW ships. The planners thought that the USN would have no major issues here since "there is no doubt that the USN wishes the RCN to have these weapons, as emphasized by the assistance they have given the programme so far."<sup>38</sup>

As for the Argus and Neptune fleets, probable storage sites still included Comox, Greenwood, Summerside, and Torbay (wartime dispersal). No funds were allocated in 1964 for SAS site construction at these bases.

The RCN and RCAF got together, at Hellyer's insistence, in February 1964 to explore the nuclear ASW issue and make recommendations to him so that the Minister could take the matter to Cabinet. Keep in mind that Hellyer favoured nuclear ASW acquisition, as evidenced by the Cabinet discussions on the matter in 1963. The main point of divergence between the

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37. Ibid.

38. DGHIST 79/34, 6 May 63, memo ACNS (A&W) to CNS, "Nuclear Warheads for the Canadian Forces."

two services was that the RCAF thought there should be two separate annexes: one for the land-based aircraft and another for the ships.<sup>39</sup> RCAF motives for this are unclear but probably were related to interservice rivalry as the RCAF continued to believe that the Trackers and Sea King's should belong to them.<sup>40</sup>

Essentially, the papers explained that nuclear ASW weapons were necessary because of problems in target localization and the need for an absolutely high probability of kill with regard to nuclear missile launching submarines. The new Soviet nuclear-powered attack submarines were too fast for the existing conventional weapons and this provided an additional rationale for aerial-delivered nuclear depth bombs. Until better conventional weapons like the planned Mk. 46 torpedo were deployed, nuclear ASW weapons were the best method to deal with the threat. On the down side, there would be time delays in approving nuclear weapons use and deploying them to ships outside of helicopter range of land station HMCS Shearwater outside of Halifax. There might even be problems from some countries who would not allow nuclear-armed Canadian ships and aircraft to enter ports or airfields.<sup>41</sup>

The RCN and RCAF also explored the possibility of using the existing emergency stand by arrangements if the Government would not go for the

39. DGHIST, NPPCC files, 3 Mar 64, "Supplement to the Minutes of the 293rd Meeting of the Naval policy Coordinating Committee: Nuclear Weapons for Anti-Submarine Warfare."

40. See NAC RG 24 vol. 573 file 098.1058, 25 May 62, memo VCAS to CAS, "Employment and Control of RCN Fixed Wing Aircraft." Note that these documents were marked "RCAF Eyes Only."

41. DGHIST, NPPCC files, 3 Mar 64, "Supplement to the Minutes of the 293rd Meeting of the Naval policy Coordinating Committee: Nuclear Weapons for Anti-Submarine Warfare."

other alternatives. This meant that transport aircraft would have to be kept on standby to move nuclear ASW weapons from NAS Brunswick, Maine and NAS Argentia (if and when storage was approved from that site by the Canadian Government) to Shearwater and the other bases.<sup>42</sup>

There were two major recommendation made by the RCN/RCAF study. The first was "that nuclear anti-submarine weapons be obtained for the Canadian Maritime Forces as soon as possible," and second "that immediate steps be taken to establish permanent special weapons storage facilities in Canadian ships and at Canadian maritime operating bases."<sup>43</sup>

The matter then went to the COSC for discussion. Miller noted the political problems with adding another annex to the nuclear weapons agreement. Admiral Rayner and Air Vice Marshal Annis (Dunlap was away) stressed the operational necessity for nuclear ASW weapons since better conventional weapons would not be available before 1968, if then at all. The Chairman of the DRB, Zimmerman, chimed in to support the papers. Miller, however, clung to the political problem:

...it would be necessary to clearly establish a pressing requirement for these weapons if government approval is to be obtained for their acquisition. If the need is less pressing it might be easier to seek government approval to equip our maritime forces to take the weapons but to rely on US storage in peacetime.<sup>44</sup>

As for storage, Rayner suggested the process would be easier if permission could be given to construct the SAS sites. As for the ships,

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42. Ibid.; Maloney and Sokolsky, "Ready, Willing, and Able."

43. DGHIST, Naval Board files, 13 Mar 64, Naval Board, 724th Meeting.

44. DGHIST, Raymont Collection file 1311, 30 Apr 64, COSC 764th Meeting.

"space is already provided in the modernized St Laurent-class destroyers, the Mackenzie-class destroyers, the two new Nipigon DDH's, HMCS Bonaventure and HMCS Provider, although alterations to accommodate the weapons have not yet been completed."<sup>45</sup>

Clare Annis, who was against nuclear ASW weapons (see Chapter 11) noted that the RCAF had not yet approached the USN on accessing the USN stockpile located in the United States, which was not the case as we have seen. This could be done, and storage in Canada would not be necessary. In his view, only the Argus, Neptunes, and shore-based Trackers should use nuclear ASW weapons. Having them aboard ship was too unwieldy. Miller jumped on this thin reed of support and took the easy way out. The Americans should be assured that the matter was being given "serious consideration" by the Canadian Government and that Canadian nuclear ASW weapons acquisition should be related to the discussions over the use of Argentia as a storage site. In effect, Miller vacillated on the issue and told Hellyer that there was "some doubt" as to the need for the weapons given conventional weapons developments.<sup>46</sup>

In terms of forces, the RCAF provided 33 Argus and 21 Neptunes deployed as before. As for the RCN, the bulk of the ships and aircraft were on the Atlantic coast. Most of the Trackers were either on the CVL or at HMCS Shearwater, though there was a detachment located near Victoria on the West Coast. Several St Laurent DDE's were converted to helicopter destroyers (DDH), each carrying one Sea King ASW helicopter. There were nine of these. Two more DDH's were building (the Nipigon and Annapolis,

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45. Ibid.

46. Ibid.

a separate class). In addition to the CVL HMCS Bonaventure, there were seven DDE's and five other ocean escorts. Pacific Command consisted of five DDE's and seven ocean escorts. Three Oberon SSK's were building.<sup>47</sup> With the exception of the fixed-wing aircraft, none of the other RCN ships or aircraft were equipped or certified to use nuclear weapons.

Drawing on the draft White Paper and several other recommendations, Admiral Rayner established a working group to examine future force structure. The eight-man group led by Commodore H.G. Burchell produced the "Study on Size and Shape of The Royal Canadian Navy 1964-1974." Rayner instructed them to determine what force structure was required if "the Navy is to be primarily effective for ASW and also have a capability for U.N. Peacekeeping Operations and Limited War."<sup>48</sup>

The working group undertook their task with some initial hesitancy, since they were "aware that broad, strategic studies are now being undertaken within NATO which might well change the force requirements of the Major NATO Commander and, consequently, the Force Goals of the RCN....The NATO study is not, however, expected to decrease the requirement for conventional forces and might well specify an increased requirement."<sup>49</sup>

The working group agreed that the priority of RCN tasks included:<sup>50</sup>

47. "Composition of the Fleet", *The Crowsnest*, March-April 1965, p. 36.

48. DGHIST file 124.019(D1), 6 Jan 64, "Study on Size and Shape of the Royal Canadian Navy 1964-1974."

49. Ibid.

50. Ibid.

- 1) to defend sea lines of communications through control, escort and convoy of shipping.
- 2) to detect, locate, and destroy enemy submarines.
- 3) to contribute to early warning of attack launched from over, on, or under the sea.
- 4) to transport, land and support Canadian Army contingents as required.
- 5) to provide mobile command and base facilities for external undertakings.

To do all of this, the RCN should deploy five groups of forces: four in the Atlantic and one in the Pacific. In a shift back to the 1950s, the working group recommended that the first ASW Group, a light aircraft carrier and seven St Laurent DDH's "equipped with a full range of anti-submarine armament" (read: nuclear ASW weapons), be assigned to EASTLANT. A second ASW group consisting of a Landing Platform Helicopter (based on the USN's Iwo Jima-class), seven Restigouche and two Mackenzie DDH's would remain in WESTLANT under CANCOMARLANT's direction. Three Oberon submarines would be passed to SACLANT to operate as part of a larger barrier force, probably in the GIUK Gap or in the Norwegian Sea. The Mobile Logistic Force would be retained under national control. The Pacific group would be assigned to CUSRPG. it would consist of an LPH, four Mackenzie-class DDE's, three or so new guided missile destroyers and one submarine. The aircraft carrier needed new fighters. The best bet was the compact A4E Skyhawk which was suitable both for intercept and ground support.<sup>51</sup>

This was an extremely flexible force structure. The LPH's could be used for peripheral operations, either NATO or UN and could function as ASW platforms in a general war. If Canada acquired them, however, extensive

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51. Ibid.

modifications would have to be made. The USN's Iwo Jima as originally built did not have NBCD protection (pre-wetting and a citadel) and were not considered robust enough for North Atlantic weather.<sup>52</sup>

Walter Gordon's budget did not allow for LPH, A4E, and guided missile destroyer acquisition (Hellyer had already canceled the GPF on his own back in 1963).<sup>53</sup> Canada was left with a defence policy that was not reconciled to her force structure nor her defence budget. As we will recall, the 1964 White Paper asserted that a maritime force in being was a necessary contribution to the deterrent, that is, priority three, behind UN intervention operations (priority two) and forces for Europe (priority one). With Hellyer unable to get any movement on nuclear ASW weapons from the Prime Minister, Canada possessed a naval force structure that was marginally effective in general nuclear war in the counter-SSBN role and (without special USN help), had no means to support or even carry ground troops to NATO's peripheral areas or on UN operations without stripping away dedicated ASW capability from her NATO commitments. The list of woes included the Hellyer versus the RCN battle over unification from 1964 to 1967, which distracted the maritime force leadership from its primary tasks.

A 1967 re-assessment of Canada's maritime forces confirmed this state of affairs and also re-emphasized the main threat at sea. The CDS at this time was now General Jean Victor Allard (whom we have met previously as Vice Chief of the General Staff), and he wanted to know what the proper balance was between the "requirements of flexibility, at the same time

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52. Ibid.

53. Hennessy, "The Rise and Fall of a Canadian Maritime Policy," pp. 385-418.

appreciating the importance of maintaining watch on prepositioned submarines in the seaward approaches.<sup>54</sup>

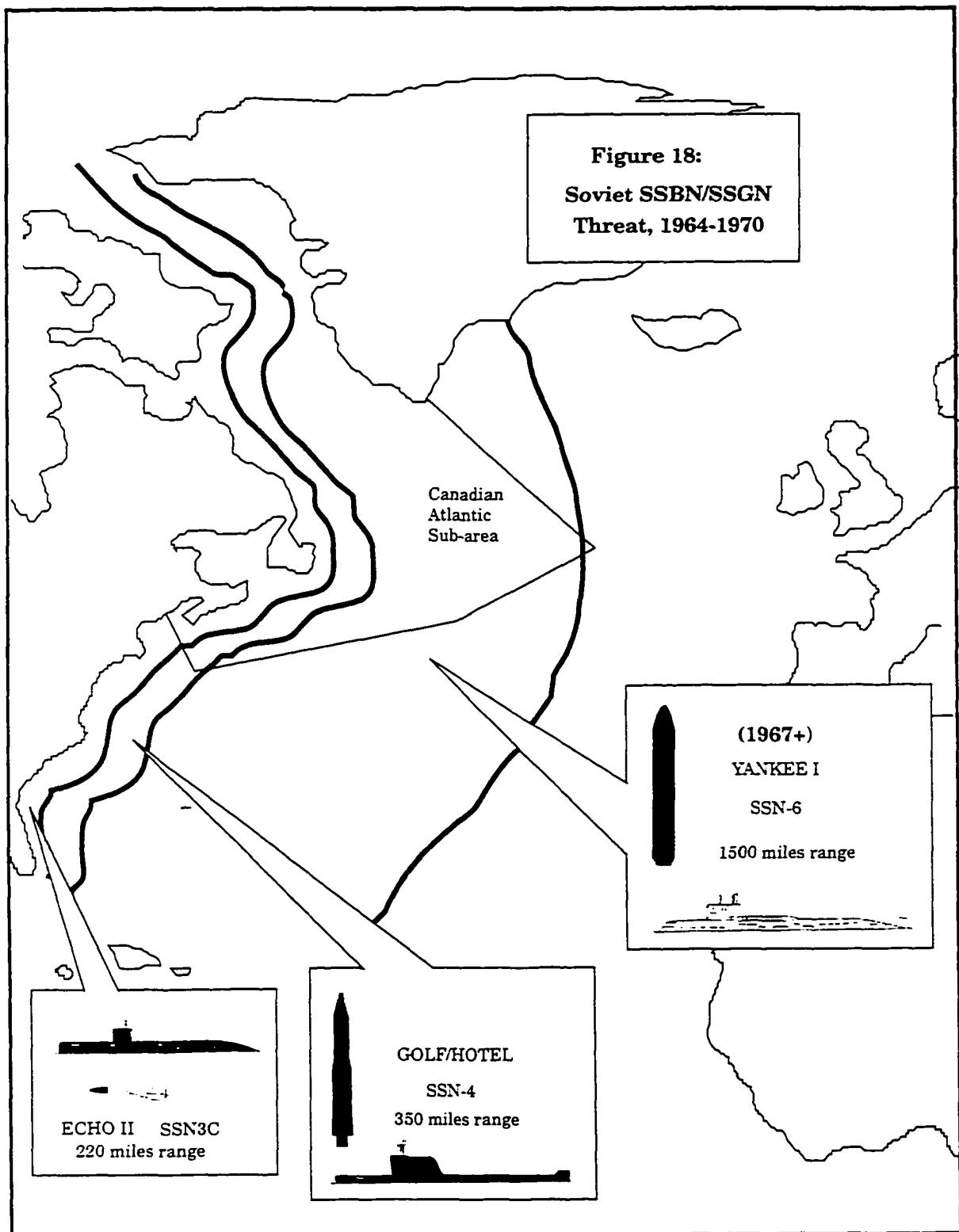
"The Russians," the study noted, "for the first time in their history have embarked upon a maritime strategy." In addition to Soviet surface deployments in the Mediterranean and in the Indian Ocean, there was a new dangerous threat confronting Canada. The new threat to North America (though predicted earlier in the decade) from the sea was the nuclear-powered ballistic missile submarine (SSBN) equipped with eight or more 1000- to 2000-mile-range missiles. Intelligence estimates predicted that the Soviets would have ten SSBN's on continuous patrol in the Atlantic and eight in the Pacific. Three of these eighteen SSBN's would be on patrol in Canadian areas of responsibility: one in the Pacific and two in the Atlantic. Prior to the outbreak of hostilities, the Soviets would surge their remaining missile submarines through the Norwegian Sea and five might arrive in the Canadian Atlantic sub area. Some might be used immediately and others would be used later, perhaps in a third strike after aerial reconnaissance. Soviet cruise missile submarines would be re-oriented against NATO surface groups and not used against land targets (see Figure 18).<sup>55</sup>

Allard's staff argued that they "were unable to foresee organized attacks against shipping before a nuclear exchange occurs." This thinking

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54. DGHIST, Raymont Collection, file 384, 31 Jan 67, "Maritime Systems Study."

55. Ibid.



conformed more to MC 14/2 (revised) than the defunct MC 100/1 or the new NATO concept MC 14/3, which was then under discussion.<sup>56</sup>

Canada could opt out of participating in the maritime defence of North America. If she did, however:

...there can be no doubt that the US would feel compelled, for reasons of her own protection, to move into what we have hitherto regarded as areas of primary Canadian interest specifically our East and West approaches....The forces that we provide for continental deterrence are more important to the interest of Canada than the fact that some SLBM's would likely be targeted on Canadian installations should the deterrence fail Our contribution to this defence is a relatively easy, and at the same time essential way of maintaining our sovereignty as a nation with pride and dignity.<sup>57</sup>

This echoed the same arguments deployed back in the 1950s when the air defence system was under debate. By not acquiring SSN's, Canada effectively ceded the conduct of counter-SSBN operations to the United States in the way she ceded anti-ballistic missile defence.

The Americans were not interested in waiting for Canadian concurrence or participation. They constructed a counter-SSBN force which would operate as far forward as possible based on new nuclear-powered attack submarines. American planners thought they would have between two and four days warning time provided by the SOSUS system off Norway and Iceland before Soviet missile launching submarines would be in position to fire.<sup>58</sup>

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56. Ibid.

57. Ibid.

58. USNARA RG 200, box 23 file 16/32, memo to The President, "Anti-Submarine Warfare Forces FY 1965-1969," 18 Oct 63; memo for The President, "Recommended FY 1966-FY 1970 Anti-Submarine Warfare Forces," 20 Oct 64.

Close-in ASW forces were still necessary, but the Americans were hedging their bets on the 13 Permit-class and 37 Sturgeon-class SSN's. All of these submarines were equipped with SUBROC. SUBROC was a stand-off nuclear ASW homing torpedo with a range of 25 to 35 miles. It carried a W 55 nuclear warhead which had a 1 to 5 kt yield (SUBROC owed its existence to the NOBSKA study discussed in earlier chapters). Some SSN's also carried ASTOR, a nuclear torpedo with a warhead similar to that of the Mk 101 Lulu.<sup>59</sup>

The 1950s dilemma regarding the operational employment of Canada's maritime forces had come full circle. What proportion of these forces should be dedicated to close-in defence against submarines (either attack or missile launchers), and what proportion should operate in the GIUK Gap or even in the Norwegian Sea? It was not enough to assume that Soviet SSBN's would operate at the maximum limit of their missile range (1500-2000 miles). Some would be in close, as would the attack submarines which carried nuclear torpedoes. For the 1964-1967 period, it did not matter since the threat did not change. However, the first Soviet YANKEE I SSBN deployments in 1968 brought the question to the fore.

The 1967 CDS study made a number of material recommendations. Only one of these involved nuclear delivery systems. This recommendation was to upgrade four Restigouche-class DDE's. The favoured weapon was the RUR-5A ASROC (Anti-Submarine ROCKET), a weapon in extensive use by 11 nations including the USN. ASROC came in two versions, conventional and nuclear. It was a ship-launched rocket-boosted homing torpedo with an

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59. Hansen, U.S. Nuclear Weapons pp. 207-209; Friedman World Naval Weapons Systems p. 415-416; Polmar, Ships and Aircraft of the U.S. Fleet (14th Ed) pp. 58-63, 481-482.

approximate range of six to ten miles. The nuclear version had a W 44 warhead with a 1 kt yield.<sup>60</sup> Four DDE's, HMCS Gatineau, Kootenay, Restigouche, and Terra Nova, had the pepperbox-like launcher fitted between 1969 and 1970.<sup>61</sup> Canadian launchers were capable of storing and launching nuclear-tipped ASROC without modification, though W 44-equipped RUR-5A were never stored onboard the four Canadian ships. Maritime Command officers on the Combat Officer Course were trained in the weapons effects and use of the RUR-5A in tactical situations.<sup>62</sup> Emergency standby arrangements probably existed to deliver W 44's to Canadian ships in wartime in the same way Canadian patrol aircraft could access the USN stockpile.

### Conclusion

Canada's continental defence force structure was tailored to confront a specific threat: submarine-launched cruise missiles and manned bombers (some equipped with stand-off cruise missiles). At long last Canada was fully able to play the role that she committed herself to: protecting SAC and the North American industrial/mobilization base with BOMARC missiles, MB-1 rockets, and nuclear depth bombs. The problem that now arose was that the threat as well as the West's main deterrent force was changing to

60. Ibid., Hansen, U.S. Nuclear Weapons, pp. 84, 86, 208; Cochrane et al., Nuclear Weapons Databook Volume 1: U.S. Nuclear Forces and Capabilities, pp. 267-268.

61. Jane's Fighting Ships 1971-72, pp. 41-49.

62. Confidential interview.

ICBMs and SLBMs. This had been anticipated by Canadian planners in the late 1950s and confirmed in the 1963-64 White Paper process. The cumulative effect was that Canadian continental defence forces would have to change to meet these new threats. For the time being, however, the existing system was acceptable and probably would have given a good account of itself if the 1967 Middle East and 1968 Czech crises had escalated to war. The Trudeau Government, however, turned its back on continental defence system improvements.

This chapter portrays the culmination of a process which started in 1953. It is the end state and thus has demonstrated that the principles of saliency, relative military autonomy, and operational influence successfully allowed Canada to protect her sovereignty and thus her exposed position in Canadian-American relations. The continental defence system also assisted in healing the wounds inflicted during the Diefenbaker Government's tenure. Canadian interests were protected through the command and control arrangements and force structure. Expressions of this include the BOMARC release system, Canadian participation in NORAD HQ, and by the fact that it was Canadian ships in Canadian waters that protected vital approach routes to North America under Canadian control. Canada had the ability to monitor and defend her air and sea space and to influence American activity undertaken as part of the joint defence system. In this regard Canadian prestige was restored to some degree, and nobody could validly claim that Canadian participation in the defence of North America was of a token nature.

## CHAPTER 14

AD. CUSTODIENDAM EUROPAM: NATOS'S CANADIAN NUCLEAR FORCES.

1963-1969

### Introduction

The purpose of maintaining Canadian forces in Europe as established in 1951 and continually ratified by the Government remained constant throughout the 1960s. The primary change was that 1 Air Division was now fully capable of carrying out its assigned mission once the introduction of nuclear weapons was allowed after 1963. 4 Brigade already had this capability since 1961, albeit in an informal fashion. This was also formalized in 1963. As we saw in Chapter 12, great emphasis was placed by the national security policy process on the Europe-based forces, and this was in line with Canadian strategic tradition. Equipping 1 Air Division's CF-104s with megaton- as well as kiloton-yield nuclear weapons and assigning this force to critical targets in Eastern Europe was the ultimate expression of the lengths that Canada was willing to go to deter a war in Europe, not to mention operational influence. As the NATO strategic concept evolved, 4 Brigade exerted almost as much influence in that this formation was truly dual capable. With the new emphasis placed on conventional forces within Alliance circles, no one could argue that Canada was presenting NATO with a dubious commitment. Together the combined Canadian presence on the ground and in the air continued to provide psychological as well as practical support to preventing the Soviets from dominating Western Europe.

This chapter will examine both Canadian air and ground commitments to ACE, though it will place greater emphasis on 1 Air Division because of the complexity of the nuclear strike role and its relationship to nuclear strategy. Pursuant to this, this section will examine the threat to NATO in Europe and SACEUR's evolving response to it. It will deal with NATO nuclear targeting philosophy and its relationship to SAC targeting. It is only after a thorough examination of this that the critical place of 1 Air Division within it can be discussed and understood. There will also be a short discussion of international and domestic political factors affecting 1 Air Division operations from 1963 to 1969. Canada's land commitment to NATO was less technical from a nuclear weapons standpoint and has been covered in extreme detail in another work.<sup>1</sup> Consequently, the focus of this chapter will be on 1 Air Division.

#### The Threat to Western Europe 1964-1970

The Soviet/Warsaw Pact threat to NATO's Central Region consisted of several components. The ones which will be examined here include ground, aerial ground attack, and missile forces.<sup>2</sup>

In essential terms, the Warsaw Pact ground forces had 38 tank and motor-rifle divisions available for immediate operations, with a further 30 in direct support (days, if not hours). These forces were located in East

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1. See Sean M. Maloney, War Without Battles: Canada's NATO Brigade in Germany, 1951-1993 (Toronto: McGraw-Hill Ryerson, 1997).

2. There was, of course, a massive subversive and special purpose force threat.

Germany, western Poland, Czechoslovakia, and Hungary. All of this collectively comprised the first strategic echelon and was divided into four operational echelons which were dependent on the distance between each divisional base and the front line. The second strategic echelon consisted of 88 divisions in the USSR, 33 of which were combat-ready but would take some time to be transported to the front via road and rail.<sup>3</sup>

For the most part, the Warsaw Pact divisions included tube artillery which was nuclear-capable, but kt-yield shells were in short supply in the early 1960s. This would change by 1970. The ground forces also possessed 120 nuclear-capable FROG launchers (similar to Honest John) with a short range of 65 kilometers. These were for the direct support of the land battle, and they carried 1 to 5 kt-yield warheads. East Germany, Poland, Hungary, and Czechoslovakia each had small numbers SCUD and FROG weapons. The FROG took 20 to 30 minutes to fire after deployment.<sup>4</sup>

In addition, Soviet forces in East Germany and Czechoslovakia possessed a total of 216 SCUD B's. This missile had a 170 mile/280 km-range with a 1 to 10 kt warhead. SCUD Bs took 1 to 1.5 hours to fire after deployment. As for nuclear-capable ground support aircraft, there were two Tactical Air Armies (TAA) each with 500 nuclear-capable tactical ground support aircraft (SU-7 FITTER, MIG-17 FRESCO) and 80 light nuclear-capable bombers (IL-28 BEAGLE) and YAK-28 BREWER (grand total: 1160), all with free-fall nuclear bombs of various yields up to 300 kt in addition to

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3. Maloney, War Without Battles pp. 197, 281; National Security Archive, "USAREUR Intelligence Estimate-1965" p. 48.

4. NSA, "USAREUR Intelligence Estimate-1965" p. 231; Chief of the General Staff, Notes on Soviet Ground Forces (London: UK MOD, 1972) see fold outs. See also David C. Isby, Weapons and Tactics of the Soviet Army (fully revised edition) (London: Jane's Publishing Company Ltd., 1988).

interceptors, helicopters, transports, and the like used to support conventional operations. The other Warsaw Pact forces possessed air arms but most of these were dedicated to air defence missions.<sup>5</sup> Warsaw Pact bilateral agreements signed between 1961 and 1965 established central nuclear storage sites under exclusive Soviet control for all Warsaw Pact forces: 16 in East Germany, 3 in Czechoslovakia, and an unknown number in Poland. NATO intelligence sources did not think that nuclear weapons were stored in the Warsaw Pact satellite countries prior to 1965, but that the weapons would be moved in by rail and aircraft from the Soviet Union proper. For example, it appears as if the Czech storage sites were to be used by Soviet custodial units, and weapons flown in at some alert stage.<sup>6</sup> This situation changed sometime during the 1966-1967 time frame.<sup>7</sup>

In 1967 the Soviets tested the SS-12 SCALEBOARD mobile ballistic missile. It was deployed in 1969. It had a range of 500 miles/800 km, carried warheads in the MT-yield range, and required between 2 and 4 hours to set up and fire after tactical deployment. There were 4 SS-12 bases in East Germany, one in Czechoslovakia, and six in the USSR. Each base retained several deployment firing sites. Approximately 24 SS-12 launchers were

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5. NSA, "USAREUR Intelligence Estimate-1965" pp. 220-222; Chief of the General Staff, Notes on Soviet Ground Forces (London: UK MOD, 1972) pp. 3-15 to 1-19, see fold outs. Isby, Weapons and Tactics of the Soviet Army.

6. Mark Kramer, "The Lessons of the Cuban Missile Crisis for Warsaw Pact Nuclear Operations," Cold War International History Project Bulletin Spring 1995 Issue 5., pp. 112-113.

7. Anderson interview.

deployed in Eastern Europe.<sup>8</sup> This was a particularly dangerous weapons system because of its mobility and long range.

This constituted the close-in threat to NATO. The theatre level threat consisted of a mix of MRBM's, IRBM's, and bomber aircraft based in the western USSR (see Figure 19). NATO intelligence sources credited the Soviets with being able to deploy two Long Range Air Armies against NATO. These included 670 TU-16 BADGER and 30 TU-22 BLINDER bombers. As for the missile threat, there were approximately 28 SS-3 SHYSTER (1150 km range), 608 SS-4 SANDAL (1900 km range) and 97 SS-5 SKEAN (4000 km range) MRBM's and IRBM's in 1966. Each missile carried one warhead.<sup>9</sup> These 733 missiles were located in fixed 'soft' sites. Fewer than 100 of them were in 'hard' silos.<sup>10</sup>

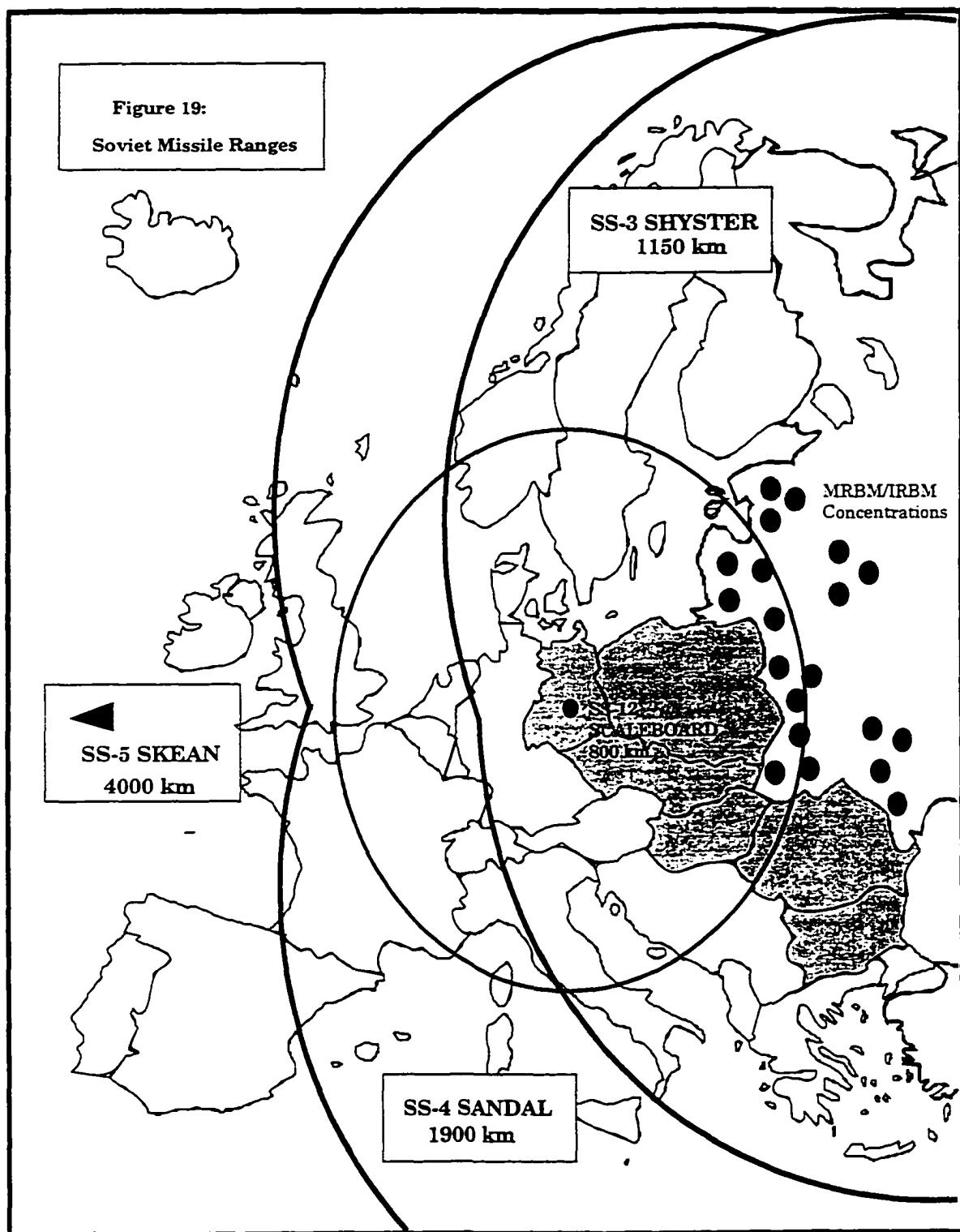
It should be noted that this is a description of the numbers of available Soviet nuclear delivery systems. This does not mean that nuclear warheads were attached or in some cases widely available for all of these forces in the 1960s. NATO planners could not take the chance of targeting some systems and not others: All nuclear-capable systems were fair game, and the Soviets were rapidly expanding their stockpile year to year. The probability is high

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8. Cochrane et al, Soviet Nuclear Weapons pp. 192-193; Stewart Menaul (ed) The Soviet War Machine (London: Salamander Books, 1980) pp. 225-226; Chief of the General Staff, Notes on Soviet Ground Forces (London: UK MOD, 1972) see fold outs.

9. NSA, "USAREUR Intelligence Estimate-1965," pp. 280-282; see Cochrane, et al Soviet Nuclear Weapons pp. 190-191.

10. FRUS 1961-1963 Vol. VIII pp. 515-516, NIE 11-8-63, "Soviet Capabilities for Strategic Attack," 18 Oct 63; For a wider discussion of Soviet theatre nuclear forces, see Stephen M. Myer, Soviet Theatre Nuclear Forces Part I: Development of Doctrine and Objectives and Soviet Theatre Nuclear Forces Part II: Capabilities and Implications (London: International Institute for Strategic Studies, 1984).



that the MRBM/IRBM force was fully equipped with nuclear warheads and that the SCUD and SCALEBOARD systems were too during the 1960s. A 1964 estimate states that Soviet theatre and tactical nuclear weapon stockpile consisted of 2900 warheads with yields ranging from 3 to 200 kt. long-range rocket forces had 1650 warheads (500 kt to 25 MT), while Long Range Aviation possessed 120 weapons (90 kt to 25 MT). The breakdown of the theatre weapons included 580 to tactical use, with 820 in reserve. An additional 1500 warheads were allocated from rocket forces to the theatre forces.<sup>11</sup>

Soviet planning on how to attack NATO was in as much flux in the 1960s as NATO strategic concepts were to defend against it. The progression of the Soviet force structure moved several times:

- 1) massive ground conventional capability perhaps supplemented with limited aerial delivery and tactical nuclear capability (to about 1963)
- 2) massive ground conventional capability preceded by large MRBM/IRBM barrage or supplemented by a more limited MRBM/IRBM attack (to about 1966)
- 3) massive ground conventional capability, massive MRBM/IRBM capability, comprehensive tactical nuclear capability in support of conventional ground forces (1967 on).

As for the force structure employment, the Soviets were a phase behind NATO. Their warfighting doctrine was based on immediate nuclear weapons use to support the land offensive battle well into the 1960s, while NATO was trying to develop flexible response based on limited nuclear weapons use in a crisis situation. Eventually the Soviets realized the implications of sub-strategic and sub-theatre nuclear war and privately

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11. FOIA, USNARA RG 200 box 21 tab 7, "Warsaw Pact Capabilities and Deficiencies," 18 May 1964.

accepted the belief that war in Europe could remain limited nuclear or even conventional once the Soviets achieved strategic nuclear parity. When exactly this took place is difficult to determine but 1967 appears likely after the large-scale DNPR exercises that year which emphasized conventional operations. This shift was noticeable from a 1961 exercise which saw 300 notional nuclear weapons "used" by 25 divisions across a 250 mile front.<sup>12</sup>

Soviet nuclear targeting policy in Europe was fairly straight forward. The absolute priority target was NATO's nuclear delivery means, from airbases all the way down to nuclear capable tube artillery batteries. Second priority were NATO headquarters, then reserve formations. Next came known NATO defensive positions, rear area installations, and logistics routes and hubs. Soviet targeting staffs preferred airburst instead of ground burst so as to limit fall out.<sup>13</sup> This policy reflected the pre-eminence of the conventional ground forces in the offensive battle.

#### The SIOP, the JSTPS, and NATO

NATO targeting and employment of nuclear forces was affected by American strategic nuclear weapons employment policy as much as by the threat. The most important development in this regard was the creation of

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12. See Jonathan Samuel Lockwood and Kathleen O'Brien Lockwood, The Russian View of U.S. Strategy: Its Past, Its Future (London: Transaction Publishers, 1993) particularly Chapters 5 and 6; David Holloway, The Soviet Union and the Arms Race (New Haven: Yale University Press, 1983) pp. 40-41; FRUS Vol. VIII: National Security Policy 1961-1963 pp. 299-300, memo Taylor to Kennedy, "Study of Requirements for Tactical Atomic Weapons," 25 May 62.

13. Chief of the General Staff, Notes on Soviet Ground Forces (London: UK MOD, 1972) p. 3-19.

the Joint Strategic Target Planning Staff (JSTPS) in Omaha, Nebraska in 1960. Co-located with SAC headquarters, the 200-man JSTPS was the culmination of a lack of nuclear planning coordination amongst the American CinCs and services and the development of the Polaris SLBM system. The JSTPS was structured to create a database of targets (the National Strategic Target List or NSTL) and then generate a coordinated nuclear strike plan for SAC's missiles and bombers and the USN's SSBN's. Representatives from the joint commands worldwide provided representatives to the JSTPS to ensure that the regional nuclear use plans from the CinC's were properly coordinated with the master strike plan known as the Singly Integrated Operational Plan (SIOP).<sup>14</sup>

The SIOP underwent three major changes prior to 1964. The first was SIOP-62 created in 1960 during the last half of the Eisenhower administration. SIOP-62 was based on 2600 separate targets inside the USSR, China, and some Communist satellite countries selected from the 4100-target NSTL. 1050 nuclear weapons were to be used within the first 24 hours. Targeting priority included Soviet nuclear capability (including 150 bomber bases); military and governmental command and control; and 50% of the industrial floor space in the Soviet Union (200 targets). There were also a projected 160 air defence suppression targets.<sup>15</sup> It should be noted that SIOP-62 was not specifically structured for retaliation to a Soviet attack

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14. FOLA, History and Research Division, HQ Strategic Air Command, "History of the Joint Strategic Target Planning Staff: Background and Preparation of SIOP-62;" for a stylized account of the JSTPS, see Anthony Gray's novel, The Penetrators (New York: G.P. Putnam and Sons, 1965) for a fictional depiction of JSTPS activities. It is clear that Gray either worked in SAC HQ/JSTPS or knew people who did. The novel is a plea against placing too much emphasis on ICBM's over manned bombers.

15. FRUS 1961-1963 Vol. VIII pp. 138-152, Draft memo from McNamara to Kennedy, "Recommended Long Range Nuclear Delivery Forces 1963-1967," 23 Sep 61.

or the preemption of one.<sup>16</sup> SIOP-62 had as many was 16 attack options all of which were based on the level of alert achieved by American and Soviet forces when the decision was made to launch. There were some withholding options against the Warsaw Pact countries exclusive of their air defence systems. There was, however, massive criticism directed against SIOP-62, particularly from the USN due to the high levels of damage and subsequent radiation that would result from any of the options.<sup>17</sup>

General Maxwell Taylor provided his critical views on SIOP-62 to President Kennedy during the 1961 Berlin Crisis. Taylor was concerned that the airborne Alert Force, if directed to attack counterforce targets as it was supposed to, reduced the flexibility of the other options, since the only flexibility in the plan was to withhold strikes as opposed to retargetting them. Attack should be restricted to the Soviet Union and not the other countries. This would increase flexibility. The main problem Taylor noted was that SIOP-62 assumed the Soviets would attack urban-industrial targets in the United States and not conduct an initial counterforce attack. There was a fear in the planners' minds that any other type of plan would result in SAC's targeting enemy cities in response to a Soviet attack on North America. SAC was loath to do this and chose options which allowed

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16. David Alan Rosenberg, "U.S. Nuclear War Planning, 1945-1960," in Desmond Ball and Jeffrey Richelson (eds) Strategic Nuclear Targeting (Ithaca New York: Cornell University Press, 1986) pp. 35-56.

17. Desmond Ball, "The Development of the SIOP, 1960-1983," in Desmond Ball and Jeffrey Richelson (eds) Strategic Nuclear Targeting (Ithaca New York: Cornell University Press, 1986) pp. 57-83; David Alan Rosenberg (eds), "Nuclear War Planning," in Michael Howard, George J. Andreopoulos, and Mark R. Shulman, The Laws of War: Constraints on Warfare in the Western World (New Haven, Connecticut: Yale University Press, 1996), pp. 160-190.

it to not confront this moral dilemma. As such SIOP-62 was an inflexible "blunt instrument."<sup>18</sup>

In June 1962 the JSTPS completed SIOP-63. Unlike its predecessor, SIOP-63 emphasized flexibility and provided for a controlled response to a general nuclear war in line with the Kennedy administration's stance of flexible response.<sup>19</sup> SIOP-63 had five attack options, "some designed for preemptive execution, others for retaliation." These target options were cumulative, not inclusive. The first two options could be selected in a pre-emptive attack if the Soviets were preparing to attack the United States or her allies. The other three were retaliatory attacks. SIOP-63 separated the Warsaw Pact nations and China as target sets and separated Soviet nuclear forces from bases located near cities. Portions of the American strategic force were to be held in reserve for "intrawar deterrence" purposes, and in some options certain enemy command and control/government facilities could be withheld to "permit a negotiated settlement."<sup>20</sup>

SIOP-63's first option was broadly interpreted as a counterforce plan, that is, to strip away Soviet strategic forces in a pre-emptive strike to limit damage to the West. Even if such an attack achieved its aims, planners estimated that there could be between 88 million to 195 million American and European dead. SIOP-64 was not too different from SIOP-63. It went

18. FRUS 1961-1963 Vol. VIII pp. 126-129, memo Taylor to Kennedy, "Strategic Air Planning and Berlin," 19 Sep 61.

19. FOIA, History and Research Division, HQ Strategic Air Command, January 1964: "History of the Joint Strategic Target Planning Staff: Preparation of SIOP-63;" FRUS 1961-1963 Vol. VIII p. 82, memcon Kaysen and Rowan, 25 May 61.

20. Rosenberg, "Nuclear War Planning," Howard et al., eds. The Laws of War: Constraints on Warfare in the Western World (Newhaven: Yale University Press, 1994) pp. 178-179; FRUS 1961-1963 Vol. VIII p. 125, editorial note No. 41.

into effect in 1963 and remained so until SIOP-4 was implemented on 1 July 1966.<sup>21</sup>

The early SIOP's were virtually divorced from the regional nuclear planning undertaken by the American CinC's. As CinCSAC General Thomas Power noted, the JSTPS provided "packaged plans to the President" and included a "wide choice of options to meet any contingency and affords him complete flexibility." Power also noted, however, that "It should be emphasized that all this applied only to the initial counterstrike in a general nuclear war,"<sup>22</sup> not in a regional conflict in Europe. In other words, a regional nuclear war in Europe was not directly connected to employment of the SIOP. They were separate processes which were coordinated, but one did not inevitably lead to the other. Some anomalies existed. For example, SIOP-62 targeted 100 of the MRBM/IRBM sites (each site had four missiles in an unprotected launch facility), which theoretically were a SACEUR responsibility.<sup>23</sup> Even by late 1963 there was some concern, since "the number of [ACE] targets which would be attacked by theatre nuclear forces and would not have to be scheduled for attack by our Strategic Retaliatory Forces is uncertain."<sup>24</sup>

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21. Rosenberg, "Nuclear War Planning," Howard et al., eds. The Laws of War: Constraints on Warfare in the Western World (Newhaven: Yale University Press, 1994) pp. 178-179.

22. Thomas S. Power, Design for Survival (New York: Pocket Books, Inc., 1965) pp. 178-179.

23. FRUS 1961-1963 Vol. VIII pp. 138-152, Draft memo from McNamara to Kennedy, "Recommended Long Range Nuclear Delivery Forces 1963-1967," 23 Sep 61.

24. FRUS 1961-1963 Vol. VIII pp. 543-560, Summary record of the 520th Meeting of the National Security Council: Soviet Military Capabilities," 5 Dec 63.

Late in 1964, however, US Secretary of Defense Robert McNamara ordered General Lyman Lemnitzer not to use NATO nuclear forces independently from SAC, which led to a horrendous row between the two men. Lemnitzer's view, the correct one, was "that having the ambiguity of the use of nuclear weapons was the thing that gave us the deterrent we needed."<sup>25</sup> Linking NATO's European forces too closely with the strategic response from SAC would in fact limit options, not create them.

This argument was kept secret because of the obvious implications for NATO's independence and unity. When Paul Hellyer found out about it and queried McNamara about it at the December 1964 NATO Ministerial meeting, McNamara erroneously told him that all of SACEUR's targets were covered by multiple SAC strikes anyway and that theatre nuclear forces in Europe were redundant. This led Hellyer to believe that 1 Air Division was redundant and bolstered his argument with Air Marshal Miller that the formation should have a conventional capability (this aspect is discussed later on in the chapter).<sup>26</sup>

The targeting methodology employed by the JSTPS was similar to that employed by SHAPE in its nuclear planning. All American intelligence sources flowed into the JSTPS. Planning was undertaken based on the statistical probability needed to destroy a given target; that is, several nuclear weapons and even several delivery vehicles were allocated per target to ensure that there was at least a 90% probability of destroying that target if it was a nuclear weapon target and 75% to 90% if it was any other

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25. Office of the Secretary of Defense History section, Oral History Interview, General Lyman L. Lemnitzer, 19 Jan 84.

26. Hellyer, Damn The Torpedoes, pp. 117-118; letter Paul Hellyer to Maloney, 16 August 1995.

sort of target. The number of weapons employed could range between one and four. A consequence was that some effects of a nuclear weapon (blast, shock, and EMP/TREE) were emphasized over other effects (immediate radiation, fire, and fallout). The SIOP coordinated the time on target for each delivery vehicle. The probability of each delivery vehicle getting off the ground and reaching the target was also factored in. Cities themselves were not targeted though the actual installations in a given city or around it were. The SIOP also coordinated penetration routes to avoid fratricide. The SIOP was developed on predictability and began to be tooled to ICBM and SLBM use. Weapons systems which were 'variable', like aircraft carriers, were less likely to be employed in initial strikes and formed a follow-on or residual capability.<sup>27</sup>

Closer coordination between the SIOP and SACEUR's regional planning was initiated in 1961. This coordination cell consisted of American officers assigned to SACEUR. They came from AIRCENT (USAF) and STRIKFOR SOUTH (USN). There was a senior representative and two clerks.<sup>28</sup> One of the first things the SACEUR liaison staff undertook was to deconflict some SACEUR and SAC targets. Another arrangement was made between SACEUR and SAC to cover targets which he could not reach because he had a paltry MRBM capability, since the MLF was still under discussion, and there was a shortage of NATO strike capability.<sup>29</sup>

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27. Interview with Colonel Fred Lockwood, (USAF Ret'd), 28 December 1993 Henderson Village, New York; telephone interview with Admiral Yogi Kaufman (USN Ret'd) 10 August 1995.

28. USNARA RG 218 JCS 1961 box 149 file 9051/112 ACE, JCS, "Establishment of SACEUR Liaison Officer to JSTPS," 13 Apr 61.

29. DDEL, Norstad papers, Mobile Force folder, message JCS to USCINCEUR; USCINCEUR to JCS, 12 Jan 62.

The JSTPS was on a high level of operational influence, directly linked with the decision to employ nuclear weapons by the American President and his delegated commanders: This was the place in which targets inside the Soviet Union were selected. Note that there was no non-American NATO representation at the JSTPS in 1960, 1961, and 1962. The NATO Ministerial Meeting in Athens discussed in Chapter 11 produced a new attitude in which American policymakers fostered confidence-building measures within the Alliance which included more information sharing on doctrine, planning, and targeting policy. The Nassau Agreement reiterated this. The 1963 Ottawa Ministerial Meeting produced the decision to allow SACEUR to form a SHAPE liaison staff consisting of non-American NATO staff officers and assign it to the JSTPS. This was all directly related to maintaining NATO unity.<sup>30</sup>

The initial increment from SHAPE was originally brought in with the ultimate aim of expanding it if and when the MLF or ANF concepts were fully implemented. Neither of these ideas was, as we have seen, so the SHAPE increment stayed small. The first four members were Italian, West German, British, and French. Several administrative personnel were also dispatched. They arrived between October 1963 and July 1964 and reported to the Deputy Director of the JSTPS. There were also three American SHAPE liaison officers who represented SACEUR in his USCinCEUR capacity. The senior representative sat on the Policy Committee and had voting rights on

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30. FOIA, History and Research Division HQ Strategic Air Command, "History of the Joint Strategic Target Planning Staff: Preparation of SIOP-64 Vol. 1-Narrative."

it.<sup>31</sup> The lack of Canadian representation at this point probably reflected the fact that 1 Air Division had still not been issued its targets.

It is not surprising that the non-American SHAPE element did not have access to everything. It is more surprising that the American SHAPE element was in a similar situation. The non-Americans had access to the whole of SAC HQ, but they were required to have American JSTPS escorts if they visited the Command Post, the Air Intelligence Room, and the Operations Planning Room.<sup>32</sup> The American SHAPE group was not allowed access to all data in the SIOP process. They could not evaluate SAC intelligence and did not have access to the SIOP itself, though this may have changed over time.<sup>33</sup>

What exactly the non-American SHAPE group actually did in the SIOP process is unknown but was probably related to deconflicting SHAPE targets and SAC targets. Information flowed one way. The SHAPE people probably explained SHAPE's targeting rationale to the JSTPS people, and the JSTPS people handled the discrepancies within their compartment and presented SHAPE with the solution.

What sorts of conflict could occur? There was no geographical line drawn between SACEUR's and CinCSAC's area of responsibility on the European land mass. As noted earlier, SACEUR's plans and the SIOP were not connected and some overlap occurred. SACEUR did not target anything that could reach North America: This was a SAC, UK Bomber Command

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31. FOIA, History and Research Division HQ Strategic Air Command, "History of the Joint Strategic Target Planning Staff: Revisions 1-8 to SIOP-64."

32. Ibid.

33. Lockwood interview.

and/or USN responsibility. Any Soviet ground-based nuclear system located in Eastern Europe or the Soviet Union that could reach Great Britain was also covered by either SAC, UK Bomber Command (prior to V-Force's assignment to SACEUR in 1963), the Royal Navy's SLBM systems, or the USN SLBM systems. This was intended to protect the USN forward deployed SSBN facility at Holy Loch Scotland as well as the SAC and RAF bomber bases in East Anglia. The same went for the USN SSBN facility located at Rota, Spain.<sup>34</sup>

On the other hand, SACEUR planned on having the ability to cover the Soviet MRBM/IRBM fields in Western Russia, exclusive of SAC resources. As noted in earlier chapters, this was why Norstad originally wanted IRBM's for NATO. Had the MLF existed, this is probably what they would have been targeted on. The probability is high that SACEUR's four dedicated USN SSBN's operating in the Eastern Mediterranean were targeted on these sites. This will be discussed in more detail in the next section. SACLANT would be pounding the Soviet naval bases in the Kola Peninsula with his nuclear-armed aircraft operating from STRIKEFLEETLANT. These also required some coordination, though SACLANT had his own representation on the JSTPS through his USCinCLANTFLEET staff.<sup>35</sup>

As to the matter of Canadian representation at SAC HQ and the JSTPS, there were a small number of Canadian officers assigned to the JSTPS between 1964 and 1972. In some cases they were part of the SHAPE

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34. Lockwood interview; Kaufman interview.

35. FOIA, History and Research Division HQ Strategic Air Command, "History of the Joint Strategic Target Planning Staff: Revisions 1-8 to SIOP-64."

increment because of the percentage of nuclear strike resources provided by Canada in Europe and in others they were part of a NORAD liaison detachment. NORAD of course had to closely coordinate with SAC since inbound empty KC-97 and KC-135 tankers could be mistaken for inbound Soviet bomber aircraft.<sup>36</sup>

In terms of operational influence, visible Canadian representation was prestigious but not as practical as operational influence exerted at SHAPE, AIRCENT, and 4 ATAF. This is partly because of the lack of control of the JSTPS over any operational forces (the JSTPS exerted influence on SAC and the USN but did not control those forces), and partly because of the fact that the influence was probably limited to de-conflicting SACEUR's regional plans and the SIOP. Despite all of the foregoing, the procedures employed to create the SIOP influenced the procedures used to target the Canadian CF-104 force in Europe.

#### ACE and Theatre Nuclear Warfighting 1964-1970

1 Air Division's place in SACEUR's Nuclear Strike Plans for the 1960s can be determined by a process of elimination. SHAPE had two types of attacks to contend with and the staff produced several sets of plans. The first type was a general nuclear war based on a massive Soviet conventional and/or theatre nuclear strike preparations against Europe or a Soviet strategic attack on North America. The other was an escalatory situation

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36. Lockwood interview; Kaufman interview; telephone interview with Colonel John David, 22 February 1993; Schultz interview.

produced by circumstances less than general nuclear war, a situation like Berlin or Cuba or Soviet pressure on, say, Turkey or Norway.

The first instance contained several plans:

- 1) General Strike Plan (GSP): immediate use of NATO forces on QRA against enemy theatre-wide nuclear forces.
- 2) Regional Priority Nuclear Strike Program: against conventional/tactical nuclear forces in specified command areas.
- 3) Regional Anti-Nuclear Strike Program in specified command areas.
- 4) Nuclear Prohibition Plan to interdict the enemy logistical structure theatre-wide.
- 5) Tactical Strike Program: land fighting plan to tactically support the land forces.
- 6) naval battle plan.<sup>37</sup>

The second instance involved the selective release of nuclear weapons. This included the shot across the bow (like BERCON BRAVO), limited Berlin support provisions in the BERCONS, operations on the flanks, limited use to effect a pause at the border in the Central Region, or even the placement of atomic demolition munitions (ADM's) in border areas to deter enemy attack.

The events which would trigger each response varied. If, for example, signals intelligence sources detected Soviet preparations to massively launch MRBMs against NATO in a pre-emptive strike before an attack (an event which could take one to three hours since they were liquid-propelled and had to be fueled first) this was sufficient indicator to launch the QRA forces and implement the regional nuclear plans with the follow-on forces. If the Soviets made preparations to launch a conventional land attack supported with tactical nuclear weapons in the Central Region, this too

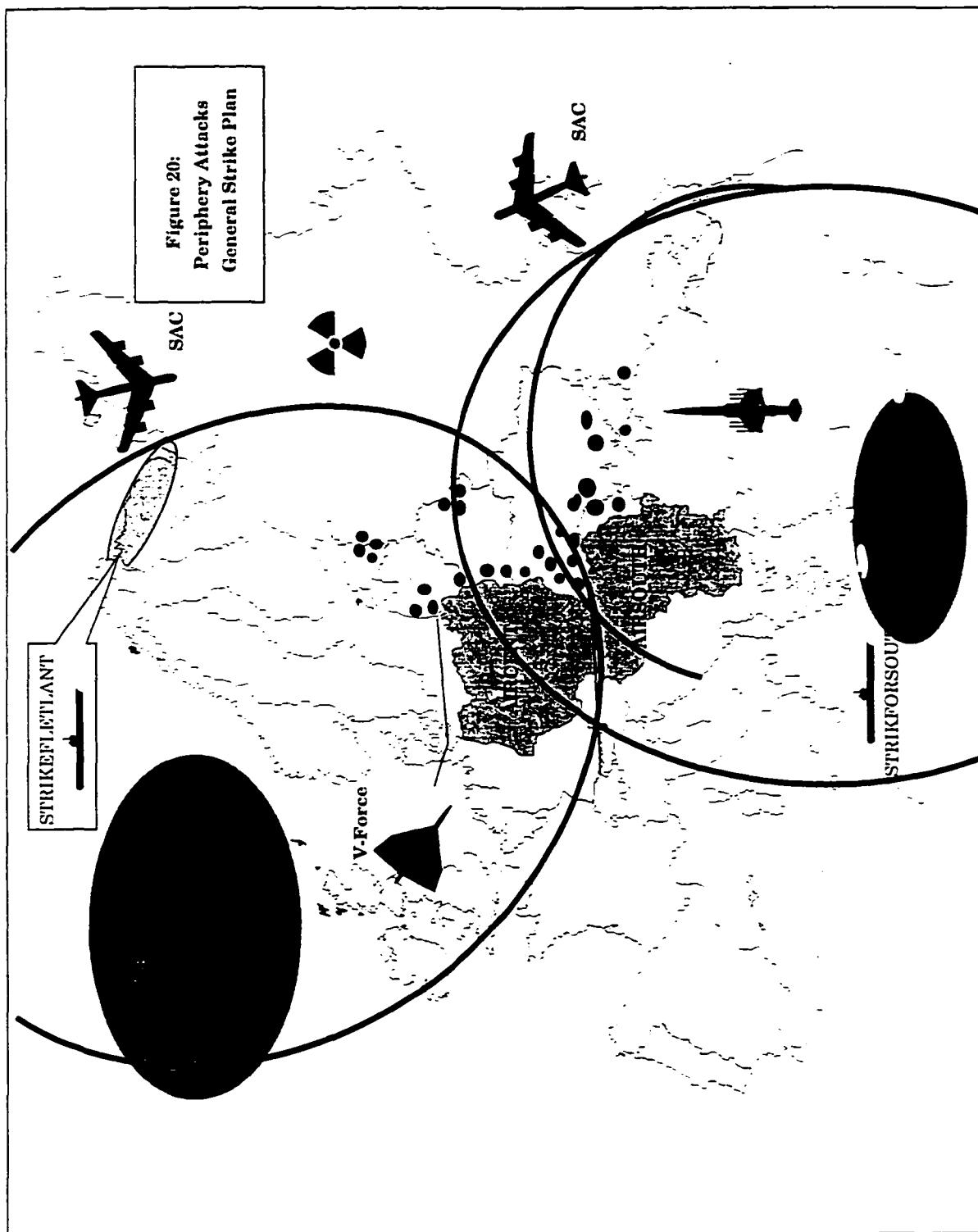
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37. NAC MG 32 B9 vol. 87, House of Commons, "Confidential Supplement to the Records of the Special Committee on Defence, November 1963."

would take time, perhaps 8 to 48 hours. It would prompt implementation of the regional anti-nuclear and interdiction plans, and the QRA force could be held for signs that the enemy theatre nuclear force was preparing to launch before going. Soviet conventional moves against the flanks would be met with the ACE Mobile Forces first. If it were determined that these were limited operations not related to the Central Region, selective use could be employed at SACEUR's discretion.

As noted earlier, SACEUR's area of responsibility was not strictly geographical since he was permitted to target those enemy forces he believed posed a direct threat to NATO forces in Europe. Conversely, SAC was authorized to target anything that could reach North America and/or threaten non-NATO tasked strategic forces. Let us deal first with aspects of the general strike plan and work from the periphery down to the Central Region (see Figure 20).

SACLANT's STRIKEFLEETLANT USN and RN nuclear-equipped aircraft carriers and CinCLANT's SSBN force Polaris-equipped submarines would, in conjunction with SAC, destroy targets in the Kola Peninsula. These targets included a number of naval aviation bomber bases (many aircraft were equipped with nuclear cruise missiles), submarine repair and construction facilities; and command and control centres for the Soviet submarine missile launching force. These attacks were coordinated with SAC in the JSTPS in Omaha. Generally, these operations were not an ACE responsibility unless the Soviets used their ground and tactical nuclear forces against north Norway, in which case ACE mobile forces would deploy, and perhaps Norwegian F-104's would receive nuclear weapons from outside Norwegian territory. In any event, attacking the Kola



Peninsula limited damage which could be wrought against North America as well as Europe.

The Norwegian Government eschewed stationing foreign forces on its soil and declined to accept nuclear weapons into its force structure. This eliminated a necessary means to cover Soviet threats emanating from the northern Soviet Union. It appears that Norway's air force planned to equip two squadrons with F-104G's with nuclear weapons, but this was never implemented.<sup>38</sup>

The most direct nuclear threat against ACE were the Soviet MRBM, IRBM, BADGER, and BLINDER bomber bases located in the western Soviet Union. In 1965 there were 200 fixed IRBM/MRBM sites most of which were unprotected and concentrated.<sup>39</sup> There were 200 airfields in the western Soviet Union capable of handling bombers which could range to the United Kingdom (Western analysts assumed Soviet bomber dispersal at various levels of alert).<sup>40</sup>

The IRBM/MRBM sites were the ones which Norstad originally wanted covered by a SACEUR IRBM force in the late 1950s, and as the MLF project evolved, these targets also justified the 200-missiles request. Prior to 1964, these targets were covered by 60 dual key RAF Thor IRBM's, 30 Jupiter IRBM's in Italy, and 15 in Turkey for a total of 105.<sup>41</sup> SACEUR also had the

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38. NAC MG 26 N6 file: Defence Correspondance, 11 Jul 63, letter George Drew to Pearson.

39. Steury, (ed) Intentions and Capabilities pp. 204-205.

40. Ray Bonds (ed) The Soviet War Machine (New York: Chartwell Books, Inc. 1976) See map p. 73. This map was adapted from a U.S. Air Force study.

41. From Snark to Peacekeeper: A Pictoral History of Strategic Air Command Missiles (Offutt, Nebraska: Office of the Historian HQ Strategic Air Command, 1990) pp. 51-61.

services of 144 Mace ground-launched cruise missiles. These weapons belonged to the USAF and were based in southern Germany from 1959 to 1968. They had an 1100-mile range and could reach the Soviet MRBM/IRBM missile fields. Some Maces were mobile while others were in hardened shelters. The Mace carried a 1 MT warhead.<sup>42</sup>

The United States dedicated five Polaris-equipped SSBN's to SACEUR in May 1962. These included 16 Polaris missiles each for a total of 80 Polaris A-1 and A-2 SLBM's equipped with W47 800-kt warheads. These were replaced by the Polaris A-3 in 1964 which had two Mk. 58 warheads each yielding 200 kt (this was an MRV, not a MIRV: the two warheads would hit the same target and therefore increase the probability of kill).<sup>43</sup> In 1965 there were 20 SSBN's operating from Holy Loch, Scotland and Rota, Spain, with eight operating the eastern Mediterranean and 12 off Norway. Thirteen were committed to continuous alert, five of them targeted by SACEUR and five targeted by CinCEUR.<sup>44</sup>

RAF Bomber Command also dedicated three Valiant squadrons (24 aircraft) to SACEUR between 1961 and 1965 to provide additional coverage. Each aircraft carried two bombs, Mk. 28 and then Mk. 43 armed for the 1 MT-yield range. This provided coverage for an additional 48 targets. SAC

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42. Robert Berman and Bill Gunston, Rockets and Missiles of World War III (New York: Exeter Books, 1983) p. 27; Hansen, U.S. Nuclear Weapons, p. 107.

43. Sokolsky, Seapower in the Nuclear Age, pp. 60-61; Cochran et al, U.S Nuclear Forces and Capabilities, p. 11; Robert Berman and Bill Gunston, Rockets and Missiles of World War III, (New York: Exeter Books, 1983) p. 33.

44. USN OA, "Report of the Commander in Chief U.S. Atlantic Fleet Upon Being Relieved, Period 1 July 1964 to 30 April 1965;" Mats Berdal, Forging a Maritime Alliance: Norway and the Evolution of American Maritime Strategy, 1845-1960 (Oslo: institutt for Forsvarsstudier, 1993) pp. 116-124; W. Bauss (ed) Radio Navigation Systems For Aviation and Maritime Use: A Comparative Study (New York: Pergamon Press, 1963) pp. 119-126.

provided overlapping coverage on some 24-48 targets.<sup>45</sup> Until 1963 SAC assigned 20 B-47's targets in the western Soviet Union while SACEUR provided 52 Mk.28 bombs from his assigned stockpile for those bombers.<sup>46</sup>

In 1963 SACEUR had approximately 429 weapons to cover the Soviet systems located in the western Soviet Union. This changed, however, once the Jupiters and Thors were removed and the B-47's retired. After the Nassau Agreement and the 1963 Ottawa NATO Ministerial Meeting, RAF Bomber Command was tasked to SACEUR. The Medium Bomber Force (MBF) consisted of 9 Vulcan and 4 Victor squadrons for a total of 104 aircraft. Sixty four aircraft were equipped for multiple bomb carriage (usually two weapons) and 40 were equipped with the Blue Steel standoff missile (1 MT). This was in addition to the Valiant force, which was subsequently withdrawn in 1965 due to aircraft wear.<sup>47</sup> The MBF could theoretically cover 168 targets alone.

The Greeks operated two F-104 squadrons in the nuclear strike role (36 aircraft) starting in 1964.<sup>48</sup> The Turks eventually built up to 4 F-104 nuclear strike squadrons (72 aircraft).<sup>49</sup> These aircraft had the range to reach a

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45. Humphrey Wynn, RAF Nuclear Deterrent Forces (London: HMSO, 1994) pp. 363-370, 493-497.

46. DDEL, Norstad papers, Mobile Force folder, message JCS to USCINCEUR; USCINCEUR to JCS, 12 Jan 62.

47. Norris et al., British, French, and Chinese Nuclear Weapons, p. 49; Wynne, RAF Nuclear Deterrent Forces, pp. 552-553.

48. John Fricker, "Lockheed F-104 Starfighter," Wings of Fame: The Journal of Classic Combat Aircraft Vol. 2 (London: Airspace Publishing Ltd., 1996) pp. 93, 98.

49. Simon Duke, United States Military Forces and Installations in Europe (Oxford: Oxford University Press, 1989) pp. 178, 288-189; Arkin and Fieldhouse, Nuclear Battlefields, pp. 219, 233.

number of targets in the south east Soviet Union, though a proportion would have been dedicated to countering Soviet nuclear-equipped tactical aircraft and other Warsaw Pact forces (Bulgarian and Rumanian) conventional forces that would have been employed against them. If one assumed 4 QRA aircraft per squadron for a total of 24 F-104's, this could be legitimately added to the general strike plan total. Therefore, by 1965, SACEUR could target approximately 416 targets with his NATO-dedicated forces and approximately 80 more with additional Polaris-equipped SLBM's for a grand total of 496 targets in the western Soviet Union which could threaten NATO, 200 of which were the fixed missile sites.

As for regional strike plans on the southern flank, NATO STRIKFOR SOUTH (basically the USN 6th Fleet), 5 ATAF (Italy) and 1 ATAF (eastern Mediterranean) would have employed its carrier-based nuclear strike aircraft to support Italy, Greece, and Turkey. Italy would eventually deploy two F-104 nuclear strike squadrons later in the 1960s, while in an emergency three squadrons of USAF F-100D's would deploy to Italy from Spain and use pre-stocked nuclear weapons. This totaled 12 USAF and Italian QRA aircraft plus a variable number of carrier-based aircraft. Usually there were four QRA aircraft per carrier, and there could be two or three USN carriers in the Mediterranean at any given time.<sup>50</sup>

What of the critical Central Region (see Table 13 and 14)? The full build-up of the MC 70 aerial nuclear strike force plan started in 1963 and lasted until 1966. (For the USAF forces assigned to AIRCENT, it was a continuous process). Table 13 depicts the build up of purely nuclear strike dedicated aircraft to 1966, while Table 14 shows the forces breakdown between 2 ATAF

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50. John Fricker, "Lockheed F-104 Starfighter," Wings of Fame: The Journal of Classic Combat Aircraft Vol. 2 (London: Airspace Publishing Ltd., 1996) pp. 93-94.

**Table 13: Central Region Nuclear Strike Force Build Up, 1953-1968**

	1963	1964	1965	1966	1967	1968
West Germany F-104G Pershing 1a	36 combat 12 reserve (2 Sqns)	+72 combat +12 reserve (4 Sqns)	+36 combat +12 reserve (2 Sqns)	+36 combat +12 reserve (2 Sqns)	32	
France F-100D	68				(-68) (removed)	
Belgium F-104G		36 (2 Sqns)				
Netherlands F104G		18 (1 Sqn)	+18 (1 Sqn)			
<b>CANADA CF-104</b>	(no nucs) 108 (6 Sqns) 36 (2 Sqns Strike/Recce)	108 (6 Sqns) 36 (2 Sqns Strike/Recce)			+12 (CF-104D)	

United Kingdom Canberra	48+24 (4 Sqn's in Germany, 2 in UK)					
United States  F-100D F-105 F-4 Pershing 1a	108 72	(partial	phase (phase out)	out) (-72) 108 24	108	

**Table 14: Nuclear Strike Resources: 2 ATAF vs. 4 ATAF, 1966-1967**

2 ATAF			4 ATAF		
West Germany	4x sqn F-104G (72 combat, 24 reserve)	72	West Germany	6x sqn F-104G (108 combat, 36 reserve) Pershing 1a	108 32
Belgium	2x sqn F-104G	36	Canada	6x sqn CF-104 (+36 recce, 12 CF-104D follow-on force)	108 (48)
Netherlands	2x sqn F-104G	36	France	2x sqn F-100D (withdrawn end 1966)	68
United Kingdom	4x sqn Canberra 2x sqn Canberra (UK based)	48 24	United States	6x sqn F-4 6x sqn F-100D Pershing 1a	74 74 24
Total:	216 240(with follow on)		Total:	512 (Fr incl) 444 (no Fr) 528 (with follow-on)	

and 4 ATAF. The predominant aircraft type was the F-104G in Belgian, Dutch, and West German service. British forces used the Canberra twin-engined bomber, the French operated the F-100D, while the Americans used F-100D's and F-105's. Canada operated the CF-104 which, as we will recall, had a longer range and were easier to maintain.

1966 was a major changeover year. The French pulled their forces from NATO command. This included the Lahr- and Bremgarten-based F-100D squadrons from the French 1 CATAc which were part of 4 ATAF's nuclear strike force equipped with American nuclear weapons. The Americans and the West Germans also phased in the Pershing 1 nuclear missile system, which were placed on continuous QRA. The RAF provided 4 Canberra squadrons in Germany and 2 more in the UK: all were trained in LABS and were equipped with a mix of American and British nuclear weapons. USAF Europe also started to convert from F-105 to the F-4 Phantom.<sup>51</sup>

Taking 1966 as the peak year, there were 240 dedicated nuclear strike aircraft in 2 ATAF and 520 in 4 ATAF. There were an additional 56 Pershings on call, most of which were based in southern Germany (the 4 ATAF region). In 1967, this ostensibly dropped to 486 aircraft with the

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51. Jean-Jacques Petit, "Le F-100 dans l'Armee de l'Air", Le Fana de l'Aviation No. 282 Mai 1993, pp. 50-57; Chris Ashworth, RAF Bomber Command 1936-1968 (Somerset, UK: PSL Publishing Ltd., 1995) p. 161; Robert Jackson, Canberra: The Operational record (Washington D.C.: Smithsonian Institution Press, 1989) pp. 39-44; letter Brevt Colonel M. Paulissen to Maloney 10 February 1995 and attachment, "History of the Belgian Army;" P.A. van de Werve, "The Royal Netherlands Air Force", The Royal Air Forces Quarterly Vol. 1 Summer 1962 No. 2, pp. 99-105; John Fricker, "Lockheed F-104 Starfighter"; Bob Archer, "USAFE 1970-1979: A Decade of Airpower," Wings of Fame: The Journal of Classic Combat Aircraft Vol. 4 (London: Airspace Publishing Ltd., 1996) pp. 138-157; Becker, Starfighter pp. 115-126; Robert Robinson, USAF Europe 1948-1965 (New Carrollton Texas: Squadron/Signal Publications, 1982); National Security Archive, "Presidential Briefing Book-1966: "Army's PERSHING Surface-to-surface Ballistic Missile is Being Optimized for the Quick Reaction Alert Role;" Robert Robinson and David Menard, F-100 Super Sabre (New Carrollton, TX: Squadron-Signal Publications, 1992).

French withdrawal. 1 Air Division, however, developed a supplemental follow-on force (Project ABALONE, which will be discussed later) of 12 more aircraft to bring the Canadian total to 120 CF-104's or 23% of 4 ATAF's nuclear delivery means, 24% of 4 ATAF available aircraft, and 15% of the total nuclear delivery capability in AIRCENT. The West German totals are somewhat inflated. Generally each of the five wings had 36 combat-ready strike aircraft with 12 more in reserve which could have been used as part of a follow-on force.<sup>52</sup>

The American numbers require some explanation. A 1964 study from the US Secretary of Defense's office examining the ratio of nuclear strike to conventional attack forces claims that there were 441 USAF aircraft dedicated to nuclear strike operations with 4 ATAF. This is misleading, as are the other figures for Canadian and Dutch resources.<sup>53</sup> In 1965, there were 6 F-105 squadrons and 9 F-100D squadrons in USAFE. There were three F-100D squadrons (or one wing) each in Spain, West Germany, and the UK. (The UK squadrons, which also included a number of F-100C day fighter squadrons, were the ones which evacuated France in 1959 on de Gaulle's insistence). The F-100D squadrons were all dedicated to nuclear strike, but only four of the six F-105 squadrons were similarly equipped because of changing American thinking regarding flexible response. The other two F-105 units were thus equipped with conventional weapons. The Spain-based F-100D's were not part of 4 ATAF; they deployed to Italy and Turkey, picked up nuclear weapons in those countries, and were part of the

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52. John Fricker, "Lockheed F-104 Starfighter."

53. FOIA, USNARA RG 200 box 21 tab 7, "Analysis of SACEUR Emergency Defense Plans and Related Postures," 18 May 1964.

AFSOUTH regional plan. The F-4 Phantom phased into service starting in 1965-1966 until there were ten squadrons by 1970. Not all of these aircraft were nuclear strike dedicated: six of the ten squadrons were conventionally-equipped. Therefore, a consistent figure of 200 USAF nuclear strike aircraft dedicated to the Central Region between 1964 and 1970 appears acceptable.<sup>54</sup>

These are strictly numbers of dedicated nuclear strike aircraft and do not represent the total capability. There is the matter of the nuclear weapons themselves in terms of numbers and location. A 1964 study conducted for the US Secretary of Defense states that there were nine airfields in the Central Region with non-US NATO nuclear strike aircraft operating from them but operating with US nuclear weapons, and that there were 250 nuclear weapons located at these bases, or 27 weapons per base.<sup>55</sup> By deduction, these bases were Lahr and Bremgarten (France); Norvenich, Lechfeld, Memmingen (West Germany); Volkel (Netherlands); Kleine Brogel (Belgium); Baden-Soellingen, Zweibruecken (Canada). Note that this was less than half-way through the AIRCENT build-up schedule.

The exact available US stockpile figures for SACEUR are at present unavailable. However, Robert McNamara noted in a 1967 speech that there were 7000 American nuclear weapons in Europe (it is unclear whether this included at sea weapons supporting Europe), and in 1968 Clark Clifford stated that it increased to 7200. By 1975 this had dropped back to 7000. One estimate of the break down concludes that 21% were defensive weapons

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54. Bob Archer, "USAFE 1970-1979: A Decade of Airpower;" Cecil Brownlow, "F-105D's Limited War Capability Boosted," Aviation Week & Space Technology February 25, 1963 pp. 105-111; Harvey, Strike Command pp. 178-186; See also Bill Yenne, Aircraft of the U.S. Air Force and Its NATO Allies (New York: Gallery Books Inc., 1987).

55. FOIA, USNARA RG 200 box 21 tab 7, "Analysis of SACEUR Emergency Defense Plans and Related Postures," 18 May 1964.

(ADM's, SAM's and ASW weapons) or 1470. This leaves 5530 offensive weapons: 1935 aircraft bombs, 1714 missiles, and 1880 artillery-delivered shells.<sup>56</sup> Note that the 1975 figures represent a relative 'end state' of the 1960s build up and are included for comparative purposes.

If we take the 1975 figure of 1935 aircraft-delivered bombs and divide it by the number of dedicated nuclear strike squadrons within ACE in 1966 (47), we get 41 bombs per squadron. If we take the figure of 1500 aircraft bombs from the 1958 estimate presented by the then-SACEUR General Norstad, and divide it by the number of squadrons, we get a figure of 31.9 weapons per squadron. In general terms, then, each Canadian squadron had between 31 and 41 weapons assigned. With six RCAF squadrons dedicated to the strike role, this gives us a bracket of 186 and 246 weapons allocated to 1 Air Division, or 8% and 13% of the aircraft-deliverable stockpile in the whole of ACE (not just the Central Region). For 4 ATAF, in 1967 there were 18 squadrons and between 558 and 738 weapons. With six RCAF squadrons this gives a figure of 33% in both cases of the percentage of Canadian-delivered weapons in 4 ATAF. (All of the forgoing is, of course, only a rough estimate for comparative purposes, as the stockpile was constantly subject to change through maintenance.) Not bad for a middle power.

In a general war situation the implementation of the General Strike Plan would have entailed the use of those forces in Europe assigned to QRA or Victor Alert first and then follow-on forces within 30 minutes. The QRA forces consisted of ready and loaded aircraft on 15 minutes standby, 24 hours a day, seven days a week, no matter what the level of tension.

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<sup>56</sup>Ivo H. Daalder, The Nature and Practice of Flexible Response: NATO Strategy and Theatre Nuclear Forces Since 1967 (New York: Columbia University Press, 1991) pp. 108-109.

Generally, the ACE standard for QRA was four aircraft per squadron. It was generally considered burdensome but necessary duty by Canadian pilots. However, it imposed a great strain on all manner of resources. The issue went all the way to the Minister of National Defence, and an arrangement was worked out with SHAPE. Because of the strange Canadian basing system (which will be examined in more detail later), Canadian squadrons would allocate two aircraft on QRA per squadron for a total of 12 aircraft at Zweibruecken and Baden-Soellingen.<sup>57</sup> Immediately available forces for the 1966 ACE GSP in the Central Region (2 ATAF and 4 ATAF) included approximately 176 aircraft and 56 Pershing missiles (for comparative purposes, the number of aircraft on QRA in the Central Region during the Cuban Missile Crisis in 1962 was 59).<sup>58</sup> In a general war situation the objective of the QRA would have been to pre-empt enemy nuclear forces in range of NATO bases. Priority targets included enemy long range nuclear delivery means and their command and control system. It is possible that some Central Region QRA forces would have hit portions of the enemy air defence system to clear a path for the V-Force and the Mace cruise missiles on their way to the MRBM/IRBM sites in the western Soviet Union. The follow-on force then would implement a combination of the other four regional plans to take advantage of the QRA strikes.

The specifics of the regional plans remain unavailable. It is possible, however, to reconstruct partially the target systems in Eastern Europe for the Central Region plans. As noted earlier, there were four categories of

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57. DGHIST, Raymont Collection, file 1391, 13 Oct 66, Defence Council-Minutes, 200th Meeting.

58. NSA, Cuban Missile Crisis microfilm collection, frame 1325/2, message JCS to SECSTATE, 25 Oct 62.

planning in addition to the General Strike Plan. These could be implemented alongside it in total or in a selective mode independent of the GSP, depending on what the situation warranted and what SACEUR wanted. Figures 21 to 24 depict the four target systems in general terms. Note that Austria, a neutral nation, is included in the Nuclear Prohibition Plan. The exact amount of overlap and the various options between the four plans and the GSP are unknown and therefore the target systems should be taken as approximate. RCAF intelligence planners estimated at one point there were 400 strike and 400 recce targets in the 4 ATAF area of responsibility alone, including 80 airfields.<sup>59</sup>

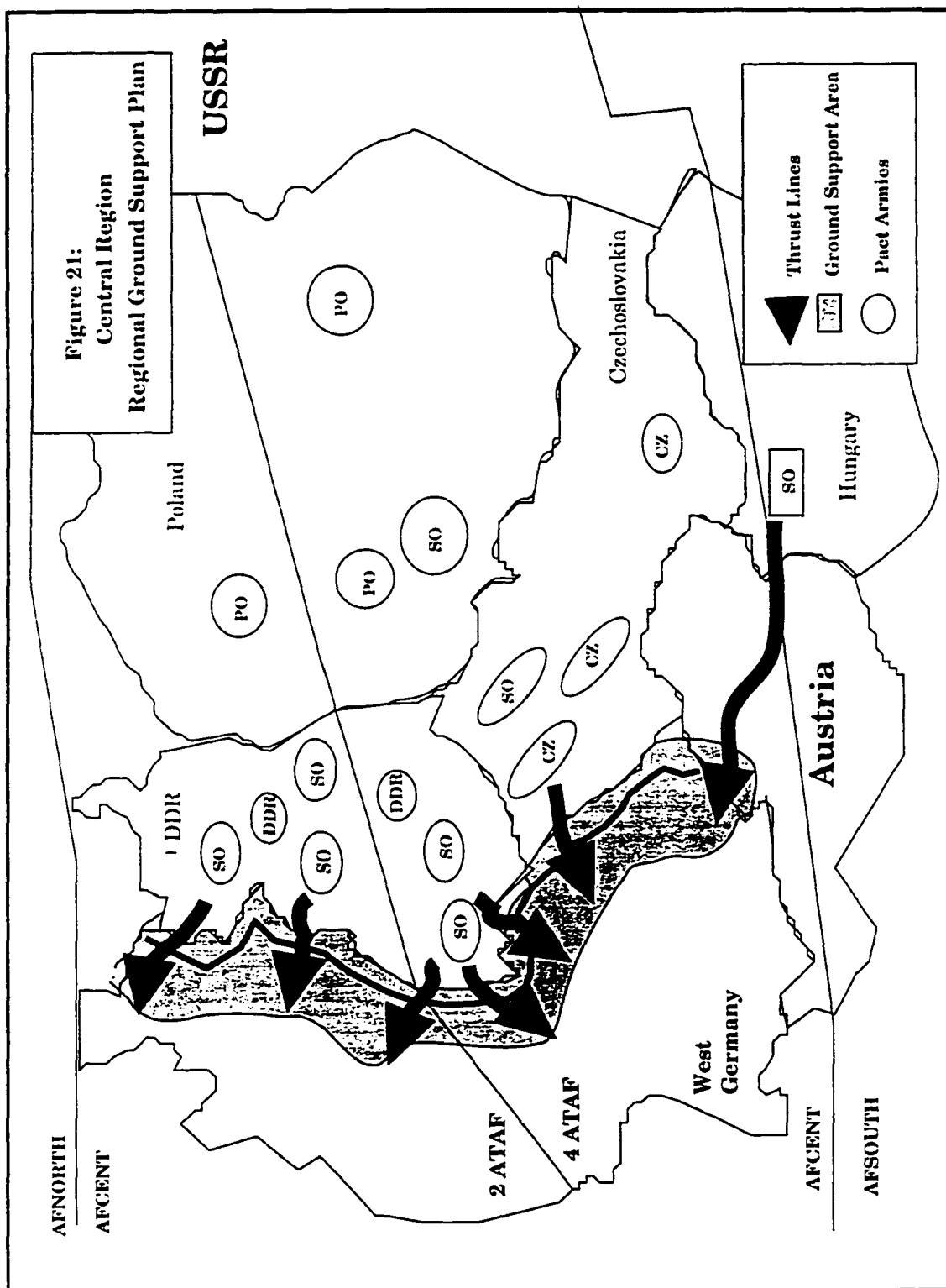
As for the Regional Anti-Nuclear Strike Plan, there were 119 estimated fighter and bomber bases with 5000+ foot runways out of 152 with 4000+ foot runways. 47 more required supporting equipment and there were 68 sod runways.<sup>60</sup> In some cases, 2 ATAF targets were covered with 4 ATAF resources for redundancy.<sup>61</sup>

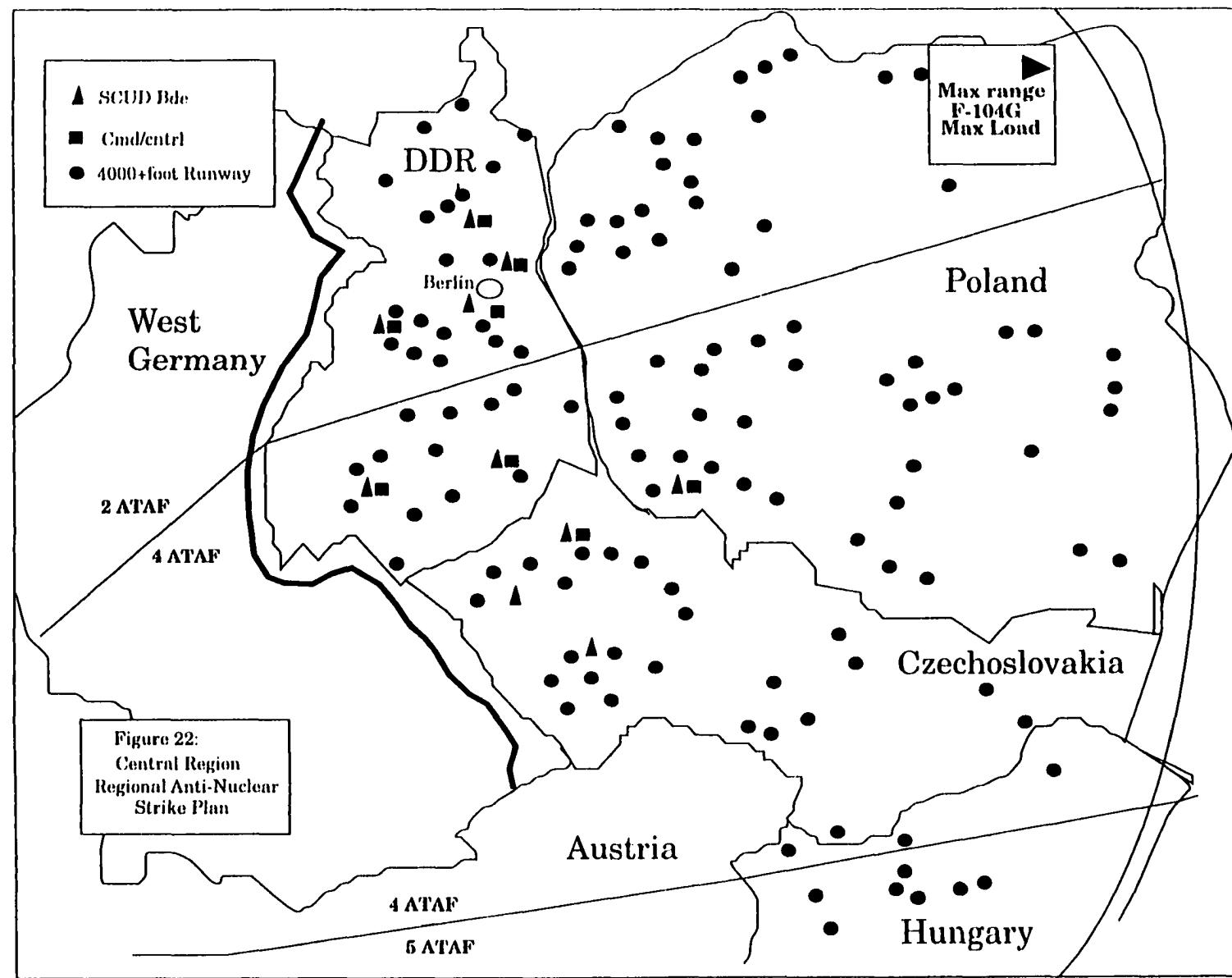
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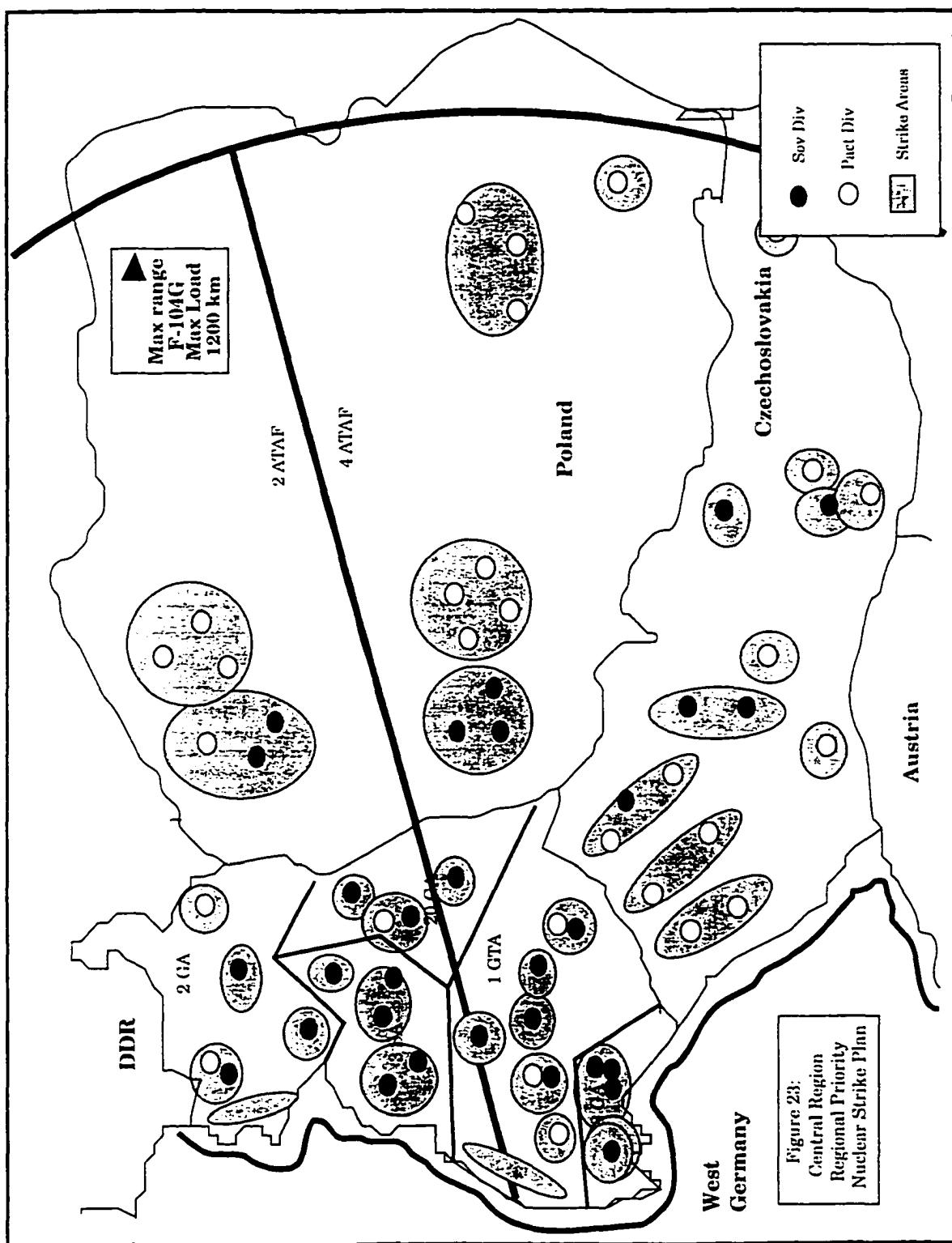
59. ATI, 29 May 61, Minutes of Current Planning Committee Meeting 5/61.

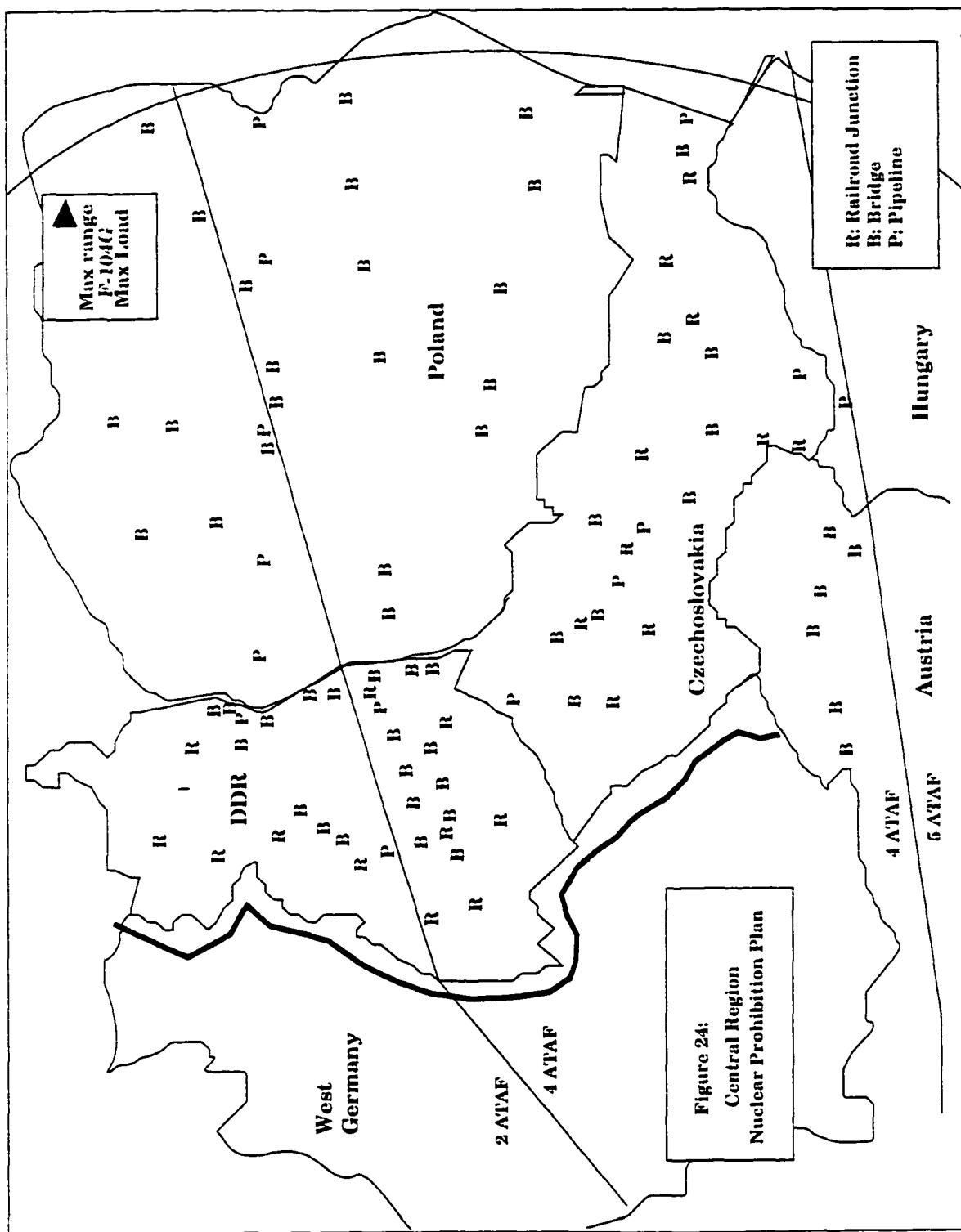
60. NSA, memo for SECDEF, "Tactical Fighters for NATO Europe," 8 Sep 61; Ray Bonds (ed) The Soviet War Machine (New York: Chartwell Books, Inc. 1976) See map p. 73. This map was adapted from a U.S. Air Force study.

61. Telephone interview with Colonel John David, 22 February 1993.









## 1 Air Division and ACE's Central Region 1964-1969

As before, 1 Air Division's role was to "contribute to the isolation of the European combat zone and the destruction of enemy forces operating within SACEUR's tactical theatre of operations."<sup>62</sup> 1 Air Division's structure was in a state of continuous flux between 1964, when the formation received its nuclear weapons to December 1971, when its relinquished the nuclear strike role at the behest of the Trudeau Government. The most stable period ran from 1964 to 1968. Thereafter 1 Air Division suffered a slow decline and steady degradation of its nuclear capability. Figures 39, 40, 41 and 42 graphically depict the basing evolution.

De Gaulle's prohibition of American nuclear weapons on French soil altered the original concept of operations. Initially, there were to be 8 squadrons in the strike/attack role for a total of 144 aircraft: four squadrons in France at Marville and Grostenquin and four in West Germany at Zweibruecken and Baden-Soellingen. A small number of aircraft from each wing were to have the ability to mount the Vinten VICOM reconnaissance camera pod and conduct pre- and post-strike recce. To get around the basing situation in France, the two squadrons at Marville, 439 and 441 Squadrons (1 Wing), became dedicated recce squadrons, while 421 and 430 squadrons at 2 Wing moved to Zweibruecken and Baden-Soellingen respectively.<sup>63</sup> This was a less than ideal situation in that dense packing six squadrons on two bases posed an unacceptable concentration of forces. The

62. DGHIST, file: Air Marshal Dunlap Speeches-1963, 16 Jan 63, "Address to General Officers Commanding Conference."

63. Bashow, Starfighter pp. 28-30; letter LCol William Anderson to Maloney, 13 September 1996.

dispersal concept which existed during the Sabre days was revived. Bertrix and another two sites were re-surveyed for dispersed operations.

In 1966 de Gaulle ordered all non-French units out of France. This prompted the withdrawal of 1 Commandement Aerien Tactiques (1 CATAc) and its two F-100D squadrons at Lahr and Bremgarten. Canada's Chief of Defence Staff, General J.V. Allard, met with the redoubtable French General Jacques Massu in the wine cellar of the 1 CATAc mess in Lahr. Over a great many drinks, the two generals agreed to swap Marville for Lahr.<sup>64</sup> This took place in mid-1967. By 1968, with the Trudeau Government in power, two Strike squadrons were disbanded leaving four. In 1969, Zweibruecken was closed as an 'economy measure', and two more strike squadrons were struck off strength. 1 Air Division ended its nuclear strike days as 1 Canadian Air Group in December 1971.<sup>65</sup>

That, however, was in the future. The peak operating years for 1 Air Division were from 1964 to 1969, and for that brief time the formation provided the highest quality nuclear strike force in ACE. For example, the never-ending operational readiness inspections (ORI) and tactical evaluations honed Canadian expertise to a fine edge. On one no-notice ORI, 1 Air Division scored 100%. When the American nuclear safety experts at Sandia base in New Mexico heard about this, they conducted another no-notice exercise, which was passed again at 100%. More Americans arrived to study Canadian procedures and training, and as a result the whole F-104 nuclear weapons safety syllabus was re-written. This apparently caused a

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64. Maloney, War Without Battles, p. 242.

65. Bashow, Starfighter, pp. 54-58.

certain amount of angst within the USAFE nuclear strike squadrons.<sup>66</sup> In April 1964 the SAS sites were ready, but the QRA areas were not completed, since they were awaiting more communications equipment. The first nuclear weapons eventually arrived at Baden-Soellingen and Zweibruecken in June 1964.<sup>67</sup>

Canada's CF-104 force used several types nuclear weapons. The most ubiquitous nuclear weapon in non-American NATO air forces was the thermonuclear Mk. 28. In Canadian service, the Mk. 28 was known as the No. 1 Weapon and it came in two variants: the EX which was a free-fall weapon and the RE which was parachute retarded. The Mk. 28's were specifically modified for use on F-100, F-104, and F-105B aircraft. There were four yield variants: 70 kt, 350 kt, 1.1 MT and 1.45 MT. The weapon could be fused for air or ground burst. Some MK. 28's had hardened tips to improve penetration capability.<sup>68</sup>

The No. 2 Weapon was the Mk. 43. Designed initially for the B-58 Hustler supersonic bomber, the Mk. 43 was adapted to the F-105D, F-104, F-5, and F-15 aircraft. this weapon was also a thermonuclear weapon with a 1 MT

66. Correspondance LGen Reg Lane (CF Ret'd) with Sean Maloney, 1 December 1995.

67. Bashow, Starfighter, p. 30; NAC RG 24 acc 86-87/65 box 16 vol. 1, 17 Apr 64, message USAFE to CANAIRDIV Metz; NAC RG 24 acc 86-87/165 box 16 vol. 2, 11 May 67, "Summaries of Briefings Presented to Joint RCAF/USAF Operational Review Board-CF-104/Mk. 57 NWS."

68. NAC RG 24 acc 86-87/65 box 18 vol. 3, file 3313-22, (n/d) "Draft Safety Rules for the non-US NATO CF-104/ MK 28 RE and MK 28 EX Weapons Systems;" 3 Dec 63, memo to DADSI, "CF-104 Plan of System Operation;" Hansen, U.S. Nuclear Weapons, pp. 151-154. A 1993 conversation by the author in Ottawa with a retired brigadier general, who was a former RCAF Group Captain, on the yields of the weapons in question resulted in glib astonished disbelief when confronted with the megaton-yield range of the weapons in question. He claimed that the Americans would never allow NATO, let alone Canada, access to such weapons, and that all weapons were in the kt-yield range. At least two secondary sources, Bashow's Starfighter (p. 61) and Becker's Starfighter (p. 114), cite the average yield of the weapons as approximately 1 MT.

yield. There were two versions: the Mod 0 which had an impact spike so that the weapon could penetrate into a hard surface without bouncing off, and the Mod 1, which was an airburst version. The Mk. 43 saw comparatively limited service with 1 Air Division. In 1966 CF-104's were restricted in carrying the Mk. 43 because of problems with the Lockheed bomb rack (which was mounted on some CF-104's) and the weapon mounting.<sup>69</sup>

The No. 3 Weapon was the Mk. 57, which was briefly discussed in Chapter 6. The Mk. 57 was designed for sub-general war operations and as such had a lower yield: 15 to 20 kt. This weapon was configurable for use as an aircraft bomb or a nuclear depth bomb. It could be fused for airburst, ground burst, or underwater burst. In 1965 the USAF approved safety rules for the CF-104/Mk. 57 combination and the weapons arrived in 1966.<sup>70</sup> Project ABALONE was related to the Mk. 57 weapon deployment. Between 1964 and 1965, 16 CF-104D's, the two-seat trainer version of the CF-104, were modified to the Mk. 57 weapons. The Mk. 28 and Mk. 43 were too large to carry, as the "D" version was lower slung. Several of the aircraft went to Sandia, and the combination was certified as a nuclear delivery system. The ABALONE aircraft were slated for a follow-on force in Europe. They would be employed after the QRA and main force follow on aircraft were launched. This was a residual capability of almost squadron strength and

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69. Hansen, U.S. Nuclear Weapons, pp. 158-161; NAC RG 24 acc 86-87/165 box 18 vol. 3 file 3313-22, 1 Feb 66, CDS to COMMATCOM, "Nuclear Weapons Safety- CF-104 Limitations on Operations;" 14 Feb 69, message CANFORCHED to CANAIRDIV; 20 Feb 69, message CANFORCHED to CANAIRDIV; 3 Feb 69, memo to DNW, "1 Air Division Stockpile No. 2 Weapon."

70. Hansen, U.S. Nuclear Weapons, pp. 164-166; NAC RG 24 acc 86-87/165 box 18 vol. 2 file 3313-22, (28 Feb 66) message USAFE to CANAIRDIV, "Mk-57 Weapon;" NAC RG 24 acc 86-87/165 box 18 vol. 3 file 3313-22, 15 Jun 66, "CFHQ Nuclear Weapon Instruction NWI 306 (Second Issue)."

added between 12 and 16 aircraft to the existing six-squadron capability. In a sub-general war context, it was a significant capability to possess.<sup>71</sup>

The CF-104 force also had access to a number of Mk. 61 weapons in 1970-1971. This bomb had four selectable yields, three of which were between 100 and 500 kt and a fourth which was about 10 kt. The yield was selectable prior to take off in the early versions: later versions deployed after Canada left the strike field could have their yield altered in flight, thus increasing the flexibility of the system.<sup>72</sup>

The characteristics of the weapons in question reveal their potential uses. Mk.28's equipped with the penetrating cap suggest a fixed, underground hard protected target like a command bunker, while impact spike-equipped Mk. 43's suggest an anti-airfield role. The Mk. 57, with its small yield, was more suitable for ground support operations in the Regional Priority Strike or Tactical Strike Programs or in a selected release mission in a conflict short of general strike. Standard Mk. 28's and Mk. 43's were more general purpose and could be used against anything, including troop staging areas, railway marshaling yards and bridges. The introduction of the Mk. 61, given its kt-yields, appears to be part of a trend to move away from the massive damage and fallout which would be generated by the use of MT-yield weapons in Europe.

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71. NAC RG 24 acc 86-87/165 box 18 vol. 1, 25 May 64, memo DNW to DARMENG, "CF-104 Nuclear Weapons Safety Operational Duals-Project ABALONE"; 19 May 64, message RCAF LO Kirtland AFB to CANAIRHED, "Project ABALONE"; 20 Apr 64, memo DARMENG to Lockheed, "CF-104D Aircraft-Project ABALONE: Electrical Compatibility Trials"; 10 Apr 64, memo CAS to RCAF LO Kirtland AFB, "CF-104D Armament installations T&DI Project ABALONE"; NAC RG 24 acc 86-87/165 box 18 vol. 2, 11 May 67, "CFHQ/VCDS/DNW Report on the Operational Review of the CF-104/CF-104D/Mk. 57 Nuclear Weapons Systems."

72. Hansen, U.S. Nuclear Weapons, pp. 166-168; telephone interview with David Anderson, 10 April 1996; NAC RG 24 acc 86-87/165 box 18 vol. 4, 31 May 68, memo to distribution list, "CF-104/CF-104D Mk. II Checklists."

Safety rules similar to those of the CF-101 force were followed in 1 Air Division. This included no-lone zones and nuclear access areas. These were the weapon and the centre line bomb rack, the cockpit of a weapon loaded aircraft, and the code and PAL safes. Several instruments in the cockpit were lead sealed. The American custodians came from the USAF's 7232 Munitions Maintenance Group's 306 Munitions Maintenance Squadron.<sup>73</sup>

Pilot training for nuclear weapons delivery was intense. Pilots completed a low-level navigation mission course at Chatham, New Brunswick using CF-86's without shapes. The targets were the many covered bridges scattered throughout the province. No information on nuclear weapons was provided on this course. Upon assignment to 6 OTU at Cold Lake, two RCAF pilot instructors were the nuclear weapons specialists who were trained at Luke AFB in the United States. There was an additional USAF pilot exchange officer as part of 6 OTU at any one time.<sup>74</sup>

RCAF CF-104 pilots were:

...introduced to the external physical characteristics of the two weapons to which Canada had access [in 1965]. We were not provided with any detail of how the trigger or atomic explosive mechanisms were assembled or of how they were configured within the weapon casings. The pilots actually had literally no need to know....We received a pretty detailed series of lectures on weapons effects. It was in effect a short course in what now would be called weaponeering. In the main, all our pre-planned European targets had been weaponeered and our main responsibility was to fly the route....We were instructed on the delivery parameters for the weapons and what would happen if the weapons were delivered outside of those parameters....By the time the course finished, we knew what settings

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73. NAC RG 24 acc 86-87/165 box 18 vol. 4, 15 Feb 67, message CANAIRDIV to CANFORCEHED; 26 Jan 67, message CANFORCHED to CANAIRDIV; 15 Dec 66, memo DConP to distribution list, "RCAF/USAFC CF-104 Technical Agreement Amendment #5."

74. letter LCol William Anderson to Maloney, 13 June 1995.

had to be manually set into the weapons, and how to set them in. We were given instruction on how the weapons were physically mated to the aircraft....<sup>75</sup>

1 Air Division target planning was a laborious and highly compartmentalized process: even the Air Officer Commanding 1 Air Division did not know where all the targets were. Air Commodore Reg Lane, AOC 1 Air Division in the late 1960s, did not want to know too much as there was a constant danger of kidnapping by hostile intelligence services.<sup>76</sup> Each base had a targeting committee. The pre-planned (ie: non-selective release) SHAPE Priority Targets were provided by SHAPE through 4 ATAF. Then the Wing intelligence staff "weaponeered" or conducted delivery planning and tactics based on the characteristics of the weapon and the target. Air Division HQ at Metz approved the planning (not the targets), and then the planning went to 4 ATAF, to SHAPE, and then to the JSTPS in Omaha to ensure deconfliction. For the QRA mission each pilot had one priority target and one follow-on target (non-QRA related but not selective release: supposed to be launched within 30 minutes of QRA launch). These missions were "flown" by the pilots in simulators first, and then the delivery plans were justified to the target committee.<sup>77</sup> Selective nuclear release target planning was different given its opportunistic nature. Pilots and weaponeers could have between 1 to 5 hours to plan,

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75. Ibid.

76. Correspondance LGen Reg Lane to Maloney, 1 December 1995.

77. letter LCol William Anderson to Maloney, 31 June 1995; Schultz interview; Henry and Orr interview.

depending on the situation. There was no preplanning other than an intelligence estimate in a folder.<sup>78</sup>

The types of targets assigned to Canadian pilots varied as much as the four target complexes depicted in the last section. In general terms, however, SACEUR assigned 1 Air Division to his highest priority targets in the general strike plan. This was a decision based on the extremely high quality and training of the force. The highest priority targets included command centres and operational headquarters.<sup>79</sup>

The command and control mechanism used to unleash 1 Air Division , that is, initiate what was referred to as the stockpile to target sequence, was equally complex. Canada assigned 1 Air Division to SACEUR, who then delegated operational control to 4 ATAF. 4 ATAF had a high concentration of Canadian staff officers in the operations sections, with few administrative slots. Canada gained more slots once the French withdrew in 1966.<sup>80</sup> Once SACEUR secured his release authority from the NAC and/or the President or initiated a pre-delegated response, he would order the Supreme Headquarters Operations Centre (SHOC) to send the employment message via the Supreme Commander Alert Reporting System (SCARS) code-named FAST CAT (known by Canadians as Quick Pussy). Installed in 1966 FAST CAT was "designed to provide the current status of the [QRA] forces, as well as to permit the instantaneous alert and release of selected nuclear delivery units assigned tasks under SACEUR's

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78. Telephone interviews with LCol William Anderson, 28 November 1996; 23 July 1997.

79. Correspondance LGen Reg Lane to Maloney, 1 December 1995.

80. Ibid; Irving Breslauer, "Fourth Allied Tactical Air Force," Sentinel January 1967 pp. 18-20.

Nuclear Strike Plan."<sup>81</sup> This system skipped AIRCENT and 4 ATAF in the process, so that the SHOC was directly connected to the strike squadrons and missile units. Prior to 1966, the messages went through 4 ATAF. At the same time, SACEUR in his CinCEUR capacity transmitted the same message via another secure US crypto teletype to the custodial detachments at each base.<sup>82</sup> Either message, properly authenticated, was valid. Only one was required for release to occur.<sup>83</sup>

Two types of employment messages existed: one for R-Hour and one for S-Hour. R-Hour release messages were for general nuclear war while S-Hour messages directed selective release "under conditions of aggression less than general war."<sup>84</sup> R-Hour messages were sent in the clear over all available US and NATO communications systems.<sup>85</sup> The US Alert Duty Officer, the RCAF Operations Duty Officer and the US Custodial Agent in charge of the QRA safe authenticated the message or messages which included an enabling code-word. The Custodial Agent then removed the

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81. USNARA RG 218 JCS 1961 box 147 file 9050/4900 NATO, 5 Oct 62, JCS Report by the J-1, "Emergency Personnel Requirements Program for Allied Command Europe;" Telephone interview with BGen Herb Sutherland, 25 February 1994; see also "The Control of Nuclear Weapons," Survival Vol. 6 1964 pp. 278-279.

82. Telephone interview with BGen Herb Sutherland, 25 February 1994; USNARA RG 218 JCS 1961 box 147 file 4050/6000 NATO, 22 Mar 63, JCS decision, "Requirement for US Teletype (Off-Line Crypto)."

83. NAC RG 24 acc 86-87/165 box 16 vol. 2, 11 May 67, "Summaries of Briefings Presented to Joint RCAF/USAF Operational Review Board- CF-104/Mk. 57 NWS."

84. NAC RG 24 acc 86-87/165 box 18 vol. 1, 3 Dec 63, DADSI, "CF-104 Plan of System Operation."

85. FOIA, USNARA RG 200 box 21 tab 7, "Analysis of SACEUR Emergency Defense Plans and Related Postures," 18 May 1964.

PAL codes from the safe and delivered them to the pilots on QRA.<sup>86</sup> At the same time, the Squadron operations officers also received the SACEUR strike directive. They also authenticated this prior to launch. The safe in which the PAL cards was kept was a no-lone zone, as was a second safe containing the authentication enabling code words. These safes were guarded by American personnel who did not have access to the safes.<sup>87</sup> The custodial detachment would use a special device attached to the weapon to enable it and remove the device, the aircraft would take off, and the pilot would arm the weapon using the PAL code which he received on the ground. He would then enter the four digit code into a device in the cockpit while in the air.

In times of gradually increasing tension, the NATO Alert System prescribed the alert posture of the squadrons. At Military Vigilance (DEFCON 3) the "maximum number of delivery aircraft will be placed on QRA." The minimum requirement was that the existing QRA force be doubled. At Simple and Reinforced Alert, enough aircraft to cover "all strikes in SACEUR's Scheduled and Regional Priority Programs" were to be placed on alert. During State Orange and State Scarlet (the Countersurprise Military System) the maximum number of existing aircraft were to be placed on alert.<sup>88</sup> In Canadian parlance, the mass upload was called a Gypso Line (a slang reference to the 1967 Six Day War when the Arab air forces were caught unprepared on the ground wing tip

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86. NAC RG 24 acc 86-87/165 box 16 vol. 2, 11 May 67, "Summaries of Briefings Presented to Joint RCAF/USAF Operational Review Board- CF-104/Mk. 57 NWS."

87. NAC RG 24 acc 86-87/165 box 18 vol. 1, 3 Dec 63, DADSI, "CF-104 Plan of System Operation."

88. Ibid.

to wing tip) on the taxi ways.<sup>89</sup> A chain or vehicular barrier would be used to prevent the aircraft from taxi-ing and unauthorized launch.

In times of protracted tension, it was possible for 1 Air Division to implement a dispersal plan. This would only be done at the direction of SACEUR, and then only after he in his CinCEUR capacity authorized peacetime weapon movement. The problem with using CF-104's in such a plan was the single-place configuration of the aircraft. If a CF-104 took off with a nuclear weapon on board, this violated the no-lone zone rules. Therefore, if dispersal were ordered, non-US transport aircraft could be used to move weapons to the dispersal site, but only with American custodial personnel on board. The weapons would be in a disenabled state.<sup>90</sup>

Once released, CF-104's had about 15 minutes flight time to the Iron Curtain. The approaches were at supersonic speed and very low to avoid anti-aircraft systems. There was no planned anti-aircraft system suppression during this period (unlike the 1950s). CF-104 pilots had two possible acquisition modes: visual and radar. The NASRR ranging radar could function in any weather, unlike some other national nuclear strike forces. There were three possible delivery modes: Low Angle Drogue Delivery (LADD), Low Altitude Bombing System (LABS or toss bombing ballistic delivery) and level delivery.<sup>91</sup>

Canadian pilots used LADD and level delivery since the LABS manouevre was inaccurate and made the aircraft more vulnerable to anti-

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89. Sutherland interview.

90. NAC RG 24 acc 86-87/165 box 18 vol. 1, 3 Dec 63, DADSI, "CF-104 Plan of System Operation."

91. Telephone interview, LCol William Anderson, 28 November 1996.

aircraft fire. For a LADD delivery, the pilot would penetrate the area at 200 to 300 feet, climb and release the weapon at 1400 feet. The weapon was dropped by a release timer which had been set by the pilot on the way in and the parachute deployed. If the parachute did not deploy, the weapon would not work. This was another type of fail-safe system called an Environmental Sensing Mechanism (ESM). Bomb activation was dependent on acceleration and gravity. The entire procedure resulted in a Circular Error Probable (CEP) for a LADD delivery of 800 feet. The level delivery mission involved a weapon equipped with a laydown spike. The pitot boom on the CF-104 was used as a sight in this case. This was a low altitude, high speed mission using a retarded weapon. The purpose was to stick the spike in either fresh turf or asphalt. A CEP of 50 feet was possible. In both cases escape manoeuvres were fast, close to the ground at less than half of the height of burst of the weapon.<sup>92</sup>

All of the foregoing is not meant to suggest that the entire NATO release and employment system was flawless. It never could be. One serious problem was that the NATO command, control and communications system, though adequate to handle the general strike plan and some initial stages of the regional priority plans, was vulnerable in a conflict fought with conventional forces and sub-kt nuclear weapons after a period of protracted tension and build up. It probably could not have survived a complete, 100% total surprise attack. This was aggravated by the lack of a BMEWS-like ICBM detection system covering the entire NATO area. (Fylingdales was fairly effective in this regard but did not cover the Southern Region). In 1964, ACE had not yet completed its primary war

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92. Ibid.

headquarters bunker system, and thus its command and control facilities were soft.<sup>93</sup> The system was heavily reliant on SIGINT to provide warning for launch. Another serious problem was the exponential increase in the Soviet missile-launching submarine deployment in the Atlantic throughout the 1960s.

On the other hand, SHAPE emphasized dispersal in time of crisis, mobile headquarters elements, and their associated communications systems. As we have seen in previous chapters, SACEUR had a continuous communications link with NORAD for air defence and ballistic missile warning information. Headquarters within ACE also embarked on a hardening programme throughout the 1960s, while SACEUR maintained four EC-135 aircraft as airborne command posts (code-named SILK PURSE) operating from bases in the UK.<sup>94</sup>

Minister of National Defence Paul Hellyer was somewhat curious about how 1 Air Division functioned. When he inquired about the weapon yields, Hellyer was told that they were adjustable and nothing more: "It was only when I demanded, point blank, to see the figures, that I was told the bombs were capable of yields ranging from a few kilotons to something in excess of two megatons."<sup>95</sup>

Hellyer also asked for a list of the targets and found that "in the event of all out nuclear war the same village could have been incinerated two, three, or possibly more times (I'm not sure what the upper limit was)." Hellyer

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93. FOIA, USNARA RG 200 box 21 tab 7, "Analysis of SACEUR Emergency Defense Plans and Related Postures," 18 May 1964.

94. See Paul Stares, Command Performance: The Neglected Dimension of European Security (Washington D.C.: The Brookings Institution, 1991) pp. 130, 224.

95. Hellyer, Damn The Torpedoes, p. 75.

wondered "whether or not someone can be deader than dead."<sup>96</sup>

Apparently, even Air Marshal Dunlap was initially unaware of the exact yields in 1963.<sup>97</sup>

These perspectives, as well as conversations with Robert McNamara and the changing NATO strategic concept, contributed to Hellyer's push to incorporate a conventional capability into the Air Division. Another factor was a detailed report the Canadian High Commissioner in London sent to the Prime Minister about the state of the Air Division and its lack of a conventional capability compared to the other NATO allies.<sup>98</sup>

In 1964, the existing conventional capability was in the form of the two recce squadrons. In 1966 there were 16 recce squadrons in the Central Region. 2 ATAF had one Dutch and two West German RF-104 squadrons and four RAF Canberra recce squadrons. 4 ATAF possessed two West German RF-104 squadrons, five American RF-4 squadrons, and two CF-104 squadrons.<sup>99</sup> In terms of total recce resources, this gave Canada 12% for the Central Region and 22% in 4ATAF.

SHAPE recce requirements were integral to the general strike and regional priority plans. These requirements included:

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96. Letter Paul Hellyer to Maloney, 16 August 1995.

97. He noted in a speech that newspaper reports of 1 MT weapons were "gross exaggerations." See DGHIST file: Air Marshal Dunlap Speeches-1963, 19 Jul 63, "Remarks by Air Marshal Dunlap, National Defence College."

98. NAC MG 26 N6 file: Defence Correspondance, 11 Jul 63, letter George Drew to Pearson.

99. Jackson, Canberra, pp. 39-44; Fricker, "Starfighter"; Archer, "USAFE 1970-1979."

- 1) to determine new threat to Allied forces in Central Europe, particularly nuclear threats.
- 2) pre-strike and post-strike recce.
- 3) recce of friendly forces.<sup>100</sup>

Recce forces were flexible and would be used in the full spectrum of conflict. They carried a photo-recce pod external to the aircraft which could be removed. Canadian recce pilots had a reputation for overflying topless beaches in the Mediterranean, to the delight of the photo-interpreters. On a more serious, RCAF recce flights in peacetime usually took place at altitude along the Iron Curtain. The cameras in the VICOM pod could range deeply into Czechoslovakia and East Germany for a substantial oblique distance.<sup>101</sup>

SHAPE also contemplated an armed strike-reconnaissance task in addition to these existing tasks. Planners thought that all recce aircraft should be nuclear-capable. In the general strike scenario as well as the regional priority plans, it would be advantageous for recce aircraft to carry nuclear weapons, perhaps the small Mk. 57, to take out targets of opportunity. These could include mobile missile launchers that had escaped attack on their central bases. Weapons with a low yield, again like the Mk. 57, would be perfect for this task and could use airburst mode to destroy " fleeting targets."<sup>102</sup> It is this requirement that led to maintaining 1 Air Division CF-104 recce squadrons with the appropriate electrical circuitry and training to use nuclear weapons.

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100. NAC RG 24 acc 83-84/167 vol. 6281, file 1038-110 F-104G.3 v.2, "Notes on the Recce Meeting Held at GMOD on 6-7 Feb 1962."

101. Dickson interview.

102. Ibid.

As we have seen in previous chapters, the concept of equipping 1 Air Division with conventional weapons was a long-standing issue, and the RCAF continuously resisted this move because of the concern that the Government might incrementally reduce the nuclear capability over time. This led to several acrimonious conversations between Air Marshal Miller and Hellyer. In the end Hellyer and Miller agreed that the squadrons were to possess a conventional capability but not at the expense of the nuclear delivery mission. This decision was made in early February 1965. Two million dollars was allocated to the project, which went towards the purchase of cluster bombs and napalm.<sup>103</sup>

There were several technical problems with this project. The electrical system in the CF-104 was optimized for nuclear weapons delivery and as such had been tested and certified by Sandia as being electrically safe to conduct this mission. The standards for nuclear certification were extremely high, since any anomalies in the electrical system could affect the ability to arm and drop the bomb or the ability to prevent a nuclear accident caused by TREE or other electrical effects. Alterations were expressly forbidden by the service-to-service and safety agreements. If alterations were made, the new electrical configuration of the aircraft had to be re-certified by Sandia. In late 1966, the armaments were acquired. By 1967, approximately 20% of the six CF-104 strike squadrons were electrically reconfigured for the new weapons.<sup>104</sup> Unfortunately, the CF-104 was not

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103. Hellyer, Damn The Torpedoes, p. 117-118; letter Hellyer to Maloney 16 August 1995; NAC RG 24 acc 86-87/165 box 18 vol. 2, 11 Feb 65, memo DNW to NW2, "CF-104 Nuclear-Conventional Weapons Interface."

104. Telephone interview, LCol William Anderson, 28 November 1996; NAC RG 24 acc 86-87/165 box 18 vol. 2, 4 Mar 65, memo DARMEng to DNW, "CF-104 Aircraft Armament Installations Conventional Weapons Systems-Nuclear Safety Implications"; 11 Feb 65, memo DNW to NW2, "CF-104 Nuclear-Conventional Weapons Interface."

exactly optimized for close support operations. It had a small wing area and was not manoeuvrable at low level, since it was designed for maximum speed. In short, it was not really suitable for conventional missions.

At first glance, the entire aerial nuclear strike force available to SACEUR was seen to be vulnerable to a bolt from the blue Soviet MRBM/IRBM strike. As we have noted, however, SACEUR was prepared to pre-empt such a move in peacetime if his SIGINT and other intelligence systems indicated that this was about to happen. He also possessed the forces to carry this out. If an escalatory situation short of general war occurred, dispersal options were available, though crowding was a greater problem. This was a direct result of France's decision to opt out and prohibit NATO air operations from its air base network which had been constructed in part using NATO common infrastructure and a great deal of additional Canadian money. The defence critics had raised the question of Air Division vulnerability back during the SCODE hearings in 1960 and later, but the military could not divulge the facts of the situation as it would undermine the deterrent and make the world safe for conventional warfare.

In terms of contributing to NATO's nascent deterrent aspects, 3 Wing at Bade-Soellingen was adjacent to the Soviet Military Liaison Mission (SMLM) located at Baden-Baden. SMLM were essentially uniformed spies. This 'liaison arrangement' dated back to the Second World War but had evolved into a cat and mouse game. The Soviets had SOXMIS in the British sectors of NORTHAG, while SMLM-B was in Baden-Baden and SMLM-F was located in Frankfurt. Most of the Soviet 'liaison officers' belonged to Spetsnaz (Soviet Special Forces) which would be the units targeting NATO facilities in wartime. There were corresponding British (BRIXMIS),

French, and American liaison missions which operated from Potsdam in East Germany.<sup>105</sup>

The SMLM-B detachment had a natural curiosity about NATO nuclear operations. SMLM-B were deliberately not harassed when they observed (from a discrete distance) certain operational readiness inspections and tactical evaluations conducted at Baden-Soellingen. SMLM-B also had an SIGINT capability which was "permitted" at times to listen in. There can be no doubt that the Soviets rated 1 Air Division as a particularly formidable strike force.<sup>106</sup>

If SACEUR was unable to target the significant number of targets covered by 1 Air Division, his nuclear strike plans were moot instruments in both peace and war. He would have required even more American resources allocated to a region in which the preponderance of American military power was huge; this would have only added to the inferiority complex among the European nations. Consequently, 1 Air Division performed a critical psychological role in addition to its important military functions.

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105. See Tony Geraghty's excellent Beyond the Front Line: The Untold Exploits of Britain's Most Daring Cold War Spy Mission (London: Harper Collins Publishers, 1996) for a discussion of BRIXMIS operations and the treaties which permitted this activity. See also Maloney, War Without Battles, pp. 42, 390-391.

106. William Dickson, David Anderson, William Anderson, Joe Schultz and Tom Henry/Jack Orr interviews and correspondance.

## Conclusion

As with Chapter 13, this chapter represents the end state that Canadian forces dedicated to NATO's Central Region reached after almost fifteen years of change. 1 Air Division and 4 Canadian Mechanized Brigade Group were important expressions of all of the pillars of Canadian strategic tradition: forward defence, alliance warfare, and relative military autonomy. Both commitments were also salient. For example, 4 CMBG was situated on vital ground and was more than capable of defending that ground. 1 Air Division, through its salience, garnered a significant number of high value targets which in turn made this contribution indispensable in both peacetime and wartime. More importantly, Canada's contribution allowed Canada to exercise untold levels of operational influence as expressed through Canadian representation on the Joint Strategic Targeting Planning Staff. These forces were expressions of a strategic process which Canada was an integral part of: it was not imposed on Canada. They were, of course, capable of participating alongside the other members of the Alliance and this contributed significantly to NATO's deterrent posture in the face of a numerically superior enemy. Canadian policymakers took on the deterrent role, and that is what she and NATO got: two high quality formations capable of fulfilling Canadian national security policy as it had been continuously defined and refined since 1954.

The nature of NATO strategy was changing, however, concurrently with the change in threat to the continental defence system. The Trudeau Government, nevertheless, did not make the appropriate changes in Canada's NATO force structure which would allow her to participate

effectively within the context of the new strategy. This is the subject of Chapter 15.

## CHAPTER 15

### HARD A PORT: DENUCLEARIZATION AND STRATEGIC VACUUM 1966-1972

#### Introduction

By 1972 Canada had divested itself of its nuclear weapons systems save the CF-101B/AIR-2A combination. In many cases these capabilities were not replaced with equivalent conventional capability which reduced the magnitude of capability and operational influence that Canadian forces and Canada's NATO allies were accustomed. This had long-term effects on Canada's military.

The existing sources present a picture of a dramatic break with Pearson's pre-1968 strategic policy, a break generated and sustained by the Government of Pierre Elliott Trudeau. Based upon the information presented in previous chapters, however, this is not necessarily the case. Trudeau's strategic policy was philosophically different from his predecessors' and implemented in a rather dramatic way, but the actual effects on Canada's force structure and therefore Canada's place in NATO were pre-ordained by the policy advocated by the Pearson Government. There was actually more continuity in the two policies than has previously been assumed.

This chapter will briefly examine the broad elements of the Pearson Government's foreign policy within the context of influence. It will then shift to examine the creation of the Trudeau Government's strategic policy and the continuity aspects of it. This will be followed with a discussion of

denuclearization and its effects on the Canadian Forces missions and operational influence.

### Mike Pearson and The Americans

The changes in Canada's nuclear force structure implemented by the Trudeau Government were in part the product of a perceived growing anti-American attitude in Canada in addition to the groundwork laid by Pearson in 1963. As we will recall, two of the Pearson Government's priorities upon election in 1963 were to restore confidence between Canada and the United States and Canada and NATO, and to undermine growing Quebec nationalism to ensure national unity, that is, the survival of Canada as a nation.<sup>1</sup> Over time, these priorities produced a strange paradox. Accepting nuclear weapons contributed to restoring confidence in bilateral and NATO circles. Despite Minister of Finance Walter Gordon's economic nationalism, Canada-US relations improved under Pearson and Kennedy. After Kennedy's assassination, however, they took a down turn. Lyndon Johnson's growing involvement with the crisis in Vietnam and Pearson's response to it produced new problems.

Leftist Quebecois, taking the Algerian experience as inspiration, launched a multi-faceted propaganda campaign to supplement their active terrorist campaign. Couched in Marxist rhetoric, the basic elements of the campaign portrayed Pearson and the anglophone establishment as the colonial masters of Quebec who must be overthrown both because they were

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1. Sharp, Which Reminds Me p. 106.

"colonial masters" and because they contributed to the repression of "progressives" in South East Asia. Canadian leftist academics, both francophone and anglophone, were also against the war for a myriad of other reasons. Over time, the leftist academics and the Quebecois social revolutionaries set their sights on the most visible symbols of what they argued was American dominance: NORAD and NATO. This resulted in intense questioning about Canadian independence and objectives. In addition, the rapid expansion of television in the United States and Canada swamped Canadians with an excessive amount of American popular culture, a morass which Canada was unable to match in quantity or replace with quality. There was a subsequent increase in Canadian nationalism in anglophone Canada both in response to American culture and against Quebec nationalism. This in turn prompted growing doubts regarding Canada's place in the world.<sup>2</sup>

Pearson's response to all of this was not coherent. He attempted to generate a policy of having cake and eating it as well. The Prime Minister, with the assistance of Secretary of State for External Affairs Paul Martin, engaged in a diplomatic balancing act which is best explained through their approach to Vietnam.

There are basically two schools of thought on Canada's involvement in Vietnam and this involvement's relationship to Canada-US relations. The more traditional view sees Pearson's Vietnam policy as one of constraining American action in the region, including constraining the Americans from

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<sup>2</sup>. For more on the revolutionary movements in Quebec, see John Gellner, Bayonets in the Streets: Urban Guerrilla at Home and Abroad (Toronto: Collier-Macmillan Canada Ltd., 1974) and Louis Fournier, FLQ: The Anatomy of an Underground Movement (Toronto: NC Press, Ltd., 1984). See also Bothwell, Canada and the United States pp. 89-90; J.L. Granatstein and Robert Bothwell, Pirouette: Pierre Trudeau and Canadian Foreign Policy (Toronto: University of Toronto Press, 1990) p. 9.

using nuclear weapons and thus escalating the conflict into global war with the Soviet Union. The main method for this policy was to use a combination of diplomacy and a peace observation force, the International Control Commission (ICC). Another component of this policy was to attempt to influence American actions in Vietnam through the North Atlantic Council, that is, develop a series of counterweights (the Dutch, the Danes or whoever would go along with it) to pressure the United States.<sup>3</sup>

The other school of thought argues that the interdependent Canada-US economy made Canadian participation in the conflict necessary. Canada chose to involve itself. The ICC was used to gather intelligence, it turned a blind eye to South Vietnamese excesses, it abetted the covert rearmament of pro-American forces in the region, and it assisted in psychological operations. Non-violent economic aid programmes run by Canada propped up South Vietnam. As a result of all of this supplementary assistance to the American war effort, the South Vietnamese government remained in power. The Americans needed raw material and finished goods to fight the war and turned to Canada. As a result of the war, the Canadian balance of payments problem created by the Diefenbaker Government was alleviated, unemployment dropped, the GNP increased, and there were technology spin-offs.<sup>4</sup>

The answer lies in the middle. Pearson probably wanted the economic benefits that the Defence Production Sharing Agreement could provide since a working individual has less to riot about. He also wanted to

3. See Douglas A. Ross, In The Interests of Peace: Canada and Vietnam 1954-73 (Toronto: University of Toronto Press, 1984) pp. 4-7, 13, 257, 262-264.

4. See Victor Levant, Quiet Complicity: Canadian Involvement in the Vietnam War (Toronto: Between the Lines Press, 1986) pp. 2-5.

contribute in any way possible to repairing relations with the United States short of involving the Canadian Forces in a war in South East Asia. At the same time, he also wanted to be seen by the press, the Opposition, the international community and his friends in the foreign policy establishment to be pushing for peace in Vietnam and to be "constraining" the "wild men" in the Pentagon.

The need to satisfy this last part produced an unwanted effect which in turn generated even more anti-Americanism in Canada. On 2 April 1965, Pearson traveled to Temple University in Philadelphia to accept the World Peace Award. In his acceptance speech, the Prime Minister called for a bombing halt in North Vietnam so that negotiations could be initiated. The next day, Lyndon Johnson met with Pearson at Camp David. The large Texan unleashed a tirade ("You pissed on mah rug!") at the short, plump Prime Minister, who couldn't get a word in edgewise. The scene escalated when Johnson held onto one of Pearson's lapels and waved his fist in the air. Johnson was upset because he had spent the day justifying the bombing to some of his national security people who were not totally convinced of its efficacy. In any event, the scene was magnified and distorted by the Canadian media.<sup>5</sup>

This event overshadowed a dramatic and significant joint Canada-US effort to broker peace on the critically important island of Cyprus in the summer of 1964. Cyprus (which had recently received independence from the British after a vicious guerrilla war) had Greek and Turkish ethnic groups as well as a critical UK V-Bomber base. The situation threatened to explode into open warfare between two NATO allies: the Greeks and the

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5. See Granatstein and Hillmer, For Better or For Worse, pp. 215-217, 231.

Turks, who were intent on supporting their respective ethnic groups. A Canadian peacekeeping force was inserted as part of a NATO and then UN (United Nations Force in Cyprus or UNFICYP) effort to establish a ceasefire. It was a perfect example of the use of Canadian conventional forces in a peripheral area, not unlike the 1956 Suez operation. (Another spin-off of the affair was that it temporarily blocked the transfer to Turkey of F-104G's which were slated to become part of SACEUR's nuclear strike force.) According to a number of observers, Canada's assistance to the United States in a moment of need contributed to the signing of the Auto Pact, which had enormous economic benefits for Canada.<sup>6</sup> The Auto Pact became yet another economic chip to protect with a two-faced Vietnam policy.

Despite the success of UNFICYP, the efficacy of peacekeeping as an instrument in Canadian multilateral diplomacy was continuously questioned after 1964. In 1964, the UN withdrew its peacekeeping forces from the Congo after questioning their rationale in an increasingly murky situation. In 1967, Nasser demanded the withdrawal of United Nations Emergency Force I, which had been interposed between Egypt and Israel for eleven years. Pearson suffered the ignominy of being forced by a Middle East strongman to withdraw the Canadian peacekeeping troops he helped send in in 1956.

In addition to the rise in anti-Americanism, there was a perceptible rise in anti-European sentiment. This was prompted in 1967 during Centennial Year festivities in Montreal. During a state visit, French President Charles de Gaulle uttered the infamous words *Vive Quebec libre!* from a balcony

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6. Bothwell, Canada and the United States, pp. 93-94; Hellyer, Damn The Torpedoes pp. 66-67; Pearson, Mike Vol. II, p. 135.

above a cheering and fervently nationalist crowd. He was ordered to leave Canada by the Prime Minister. Coupled with the French withdrawal from NATO integrated command and the removal of the NAC to Brussels and SHAPE to Casteu, Belgium, this did not endear Canadians to the idea of continuing to spend resources defending Europe.

It should also be noted at this point that the Pearson Government was a minority government and was thus weak. It could only move legislation forward with the assistance of three smaller but left-oriented parties: the New Democratic Party (NDP), Social Credit, and the Creditistes (a Quebec-based party). These three parties were hostile to Canada's NATO commitments, were anti-nuclear, and "believed in emphasis on the protection of Canada, and maintenance of a light mobile force which was suitable for peacekeeping."<sup>7</sup>

In the summer of 1967, Pearson recalled the ill Norman Robertson and asked him to undertake a foreign and defence policy review. This was prompted by Pearson's belief that he was targeted by the academic community for his Vietnam policy. There is also the possibility that the Harmel Report (discussed later) contributed.<sup>8</sup> There was more anti-Americanism on Walter Gordon's part in Cabinet, while Paul Martin wanted to get more involved in a mediatory role in South East Asia. Robertson was a neutral player, and he undertook the review. Assisted by Geoffrey Murray and Geoffrey Pearson (Mike Pearson's son) both from External Affairs, a rough draft emerged in October 1967. The final version

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7. See DGHIST, Raymont Study, Vol. 2, p. 277.

8. Granatstein and Bothwell, Pirouette, p. 11; Ivan Head and Pierre Trudeau, The Canadian Way: Shaping Canada's Foreign Policy, 1968-1984 (Toronto: McClelland and Stewart Inc, 1995) p. 65.

was made available in March 1968, just before Pearson stood down. This document concurred with Martin's view, which included continued involvement in Vietnam and maintaining effective Canadian contributions in NATO and NORAD. NATO was singled out for its impressive deterrent value and how the Canadian contribution permitted influence with the Americans on other matters.<sup>9</sup>

As noted earlier, Pearson was already contemplating eventual denuclearization and had expressed doubts to Paul Hellyer about Canada's continuing military role in NATO. The death of a thousand cuts started in early 1968. It included the removal of two Honest John launchers from Europe and the disbanding of two of the CF-104 Strike squadrons.<sup>10</sup> The only positive aspect was the addition of one Canadian destroyer to the multi-national Standing Naval Force Atlantic (STANAVFORLANT) which was formed in January 1968. STANAVFORLANT, was an important contribution since it essentially performed the same 'signaling' functions as AMF(L) and AMF(A) under the recently approved MC 14/3 concept, except in a maritime setting.<sup>11</sup>

All of this would have a cumulative impact on the formulation of Trudeau's strategic policy after 1968.

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9. Granatstein, A Man of Influence, pp. 375-378.

10. Maloney, War Without Battles, p. 224-225.

11. R.I. Lysell, "Standing Naval Force Atlantic: An Element of NATO Deterrence Worth Strengthening," Canadian Defence Quarterly Vol. 13 No. 3, Winter 1983/84 pp. 33-36; Richard Larouche, "NATO Standing Naval Force," Sentinel 1987/5 pp. 2-5.

## The Debilitating Effects of Unification

As discussed in Chapter 12, Minister of National Defence Paul Hellyer re-engineered the Canadian defence establishment in what became generally known as 'unification' in 1964. The three traditional services were replaced with functional groupings which reported to a Chief of the Defence Staff (CDS), who at that time was Frank Miller. Unification produced long-term disarray, which ultimately affected the military's ability to respond when confronted by the anti-nuclear challenges of the Trudeau Government in 1968-70.

The long-term effects and implications of unification were hotly and publicly debated between 1965 and 1967. There was a great deal of uncertainty as to what unification consisted of. There were two basic interpretations. Did unification mean the establishment of one service with one uniform, whereby, for example, fighter pilots might be trained to command ships as well as fly aircraft? Or was it supposed to be what we today would refer to as Jointness, that is, the creation of a number of permanent operational commands consisting of two or more services? Was it both? Was it somewhere in between?<sup>12</sup>

Hellyer's conception evolved over time. He wanted to effect savings by integrating command and service functions (for example, eliminate the need for three difference service Chaplains, logistics systems, and medical support) and merging three service headquarters into one. He then favoured the creation of joint commands (though they were not called that) which would wear one uniform and have one rank and pay structure.

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12. See DGHIST, Raymont Study, Vol. 2, pp. 237-238.

Pilots, for example, would not command infantry companies in this scheme.<sup>13</sup>

There was no clarity in Hellyer's vision at the time except to Hellyer himself. He was not candid with the Chiefs about all aspects of his concept because, he rightly perceived, there would be opposition to it. By engaging in a questionable modus operandi to get unification implemented (as discussed in Chapter 12), he inadvertently confused the issue. Since unification was an evolutionary process (it was not anticipated that it would be complete until 1970), only part of it was implemented in 1964. There were several joint operational command and no more services, but there was nothing to replace the intricate intelligence, administrative and planning mechanisms in Ottawa. A Canadian Forces Headquarters (CFHQ) existed, but it had major teething troubles inherent to any new organization. Who was responsible for what and to whom? It would take almost six years to sort these problems out. Although it appears to be a minor factor, the three existing service journals were eliminated and replaced with a glossy colour magazine that was devoid of discussion and placed a premium on photographs. Coupled with the confusion generated in the restructuring of the staff school system, there was no real forum for serving personnel to exchange ideas.

In 1965 problems with implementing the next phases of unification generated an intense public debate. Up to this point, the three services generally perceived unification to be a jointness project. The Army was "in favour and very enthusiastic;" the RCAF was "neutral with a 'give it a go'

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13. Ibid.

approach"; and the Navy was "skeptical to anti."<sup>14</sup> All three services made plans to survive the outright elimination of the services. For example, the Vice Chief of Defence Staff Planning and Coordinating Staff was manned by many former Army Headquarters staff officers and organizationally bore a remarkable likeness to a stripped headquarters. The Navy maintained "an ad hoc naval board", while Air Marshal Annis took it upon himself to act as "an unofficial channel for any personal difficulties" that former RCAF leaders still serving in the system could turn to.<sup>15</sup>

These efforts were not covert enough, and Hellyer made every effort to stamp them out. Some senior Army men (Lieutenant-Generals F.J. Fleury, Robert Moncel, and J.P.E. Bernachetz) prematurely retired, as was CDS Frank Miller, who Hellyer "firmly believed ...was the leader in not wanting to unify the services and that Moncel, Dyer and Fleury were willing collaborationists."<sup>16</sup> Miller retired because he "exhausted his rapport with Mr. Hellyer, and oft times referred to his Machiavellian tactics."<sup>17</sup> An observer noted that "if Moncel had been CDS, there never would have been unification."<sup>18</sup> Navy personnel were, however, the most reluctant to go along with the new programme.

Hellyer forcibly retired Vice Admiral Jeffry Brock in November 1964. Next, Commander of Maritime Command Rear Admiral William

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14. Ibid., p. 71.

15. Ibid., p. 119.

16. Ibid., p. 154.

17. Ibid., p. 159.

18. Ibid., p. 155.

Landymore informed Hellyer in June and July 1966 that unification would irreperably damage Navy morale and that Navy personnel did not accept unification as a policy. He was invited to resign, which he did. The Deputy Command of Maritime Command, Rear Admiral Stirling, retired the same day. Admirals Dyer and R.P. Welland eventually prematurely retired. The media had a field day and dubbed it "the Revolt of the Admirals," which was disingenuous at best. This was "not a co-ordinated or planned revolt in the classic sense, but just an exaggerated eye catching description of individual retirements of navy officers."<sup>19</sup>

It certainly had the appearance of a purge even if it was not one. The Pearson Government was taken somewhat aback since "As far as they were concerned the integration/unification issue was just a reorganization affecting another government department and they were content to leave the solution to its minister."<sup>20</sup> Essentially, the message that filtered down within the Canadian Armed Forces was that careers were finished if members disagreed with Hellyer's concept. An atmosphere of fear enveloped CFHQ, and many senior officers developed survivalist mentalities. The priority was to protect one's career first; all else was of secondary consideration.

The man selected to lead the Canadian Armed Forces through this wilderness was General Jean Victor Allard, whom we have met previously in his incarnations as Vice Chief of the General Staff and Commander of Mobile Command. Allard was "more of a natural and courageous leader of men in the field (awarded three DSOs in World War II), and as an effective

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19. Ibid., pp. 185-186; See also German, The Sea is At Our Gates, pp. 284-289.

20. Ibid., p. 277.

morale builder, rather than as a staff officer. Prone to be volatile, flexible and an "idea man", possessing much charm, offtimes in a mercurial way, he therefore required strong staff and managerial support.<sup>21</sup>

Allard claims in his autobiography that Hellyer approached him in May 1966 and told him that the Prime Minister said that Hellyer could appoint Allard as CDS. Allard noted that he was the logical choice since he was the senior general in the Army and had wartime experience.<sup>22</sup>

Allard, a francophone from Quebec, told Hellyer that he would take the job conditionally. If the Government supported the bilingualization of the Canadian Armed Forces, the creation of so-called French Language Units, and he was allowed to initiate affirmative action for francophone officers in the organization, he would do it. This fit with the Pearson Government's policy on strengthening the place of Quebec within Confederation, and Allard was subsequently approved as Canada's second CDS later that year when Frank Miller retired.<sup>23</sup>

Allard busied himself in 1966 and 1967 defining the role of the CDS; obtaining absolute control over the former three services by crafting new legislation; constructing new forces; reorganizing the logistics system, and "ensuring Canadian control over the administration of all our troops."<sup>24</sup> In his view, he had to deal with the details of the new construction first before dealing with strategic policy formulation "to support the still uncertain

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21. Ibid., p. 214.

22. Allard and Bernier, The Memoirs of General Jean V. Allard, pp. 246-247.

23. Ibid., pp. 248-249.

24. Ibid., p. 261.

policy goals of the Canadian Government."<sup>25</sup> While Allard was preoccupied with these activities, two items crept by without any professional uniformed opposition.

First, Hellyer issued what he called Defence Planning Guidance (DPG) in November 1966. In it, he asserted that:

...for us to base our required capabilities on the determination of the threat, and the consequent strategic position flowing from the threat, was open to question as far as Canada was concerned....the current threat and the logical strategic concept flowing from this threat really had no bearing on what in the final analysis the Government decided to spend on defence resources. The Government spends what, in their political judgement, they think is a fair share of our resources towards a collective defence arrangement.<sup>26</sup>

In 1966 the Pearson Government altered Government spending from a "needs based approach to a formula approach." Basically, low "pre-determined percentage increases" in certain areas, most notably capital equipment acquisition, could not keep pace with monies spent in other areas (pay, operations and maintenance), to the point where operations and maintenance dominated the defence budget, and capital acquisitions dropped off dramatically. With a declining defence budget, a proper balance was not identified and struck between the two, which resulted in a game of catch up.<sup>27</sup>

The second event, which related to the DPG, was the 1967 reduction of the defence budget by 15%. This presumably reflected Walter Gordon's

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25. Ibid.

26. DGHIST, Raymont Study Vol. 2, pp. 115-116.

27. Middlemiss and Sokolsky, Canadian Defence: Decisions and Determinants, pp. 195-196.

perspective on defence spending.<sup>28</sup> It also was generated by the Pearson Government's exponential expansion of social programmes. For example, federally funded medical care replaced provincial and privately run medical plans. In 1950 the Canadian Government spent CAN\$1 billion on health in welfare. By 1968 it was spending CAN\$9 billion in equivalent dollars. One analyst noted that "the Federal authorities set up new programs without any rational assessment of their costs or controllability."<sup>29</sup> This would exacerbate the defence budget situation under the Trudeau Government.

The implications of the DPG and the budget cuts was staggering. Canada was now to re-construct her defence forces without reference to a threat which existed and without reference to the agreed alliance strategic concept designed to counter it. Canadian national security policy was now to be driven solely by how much money was allocated to the defence budget by the Government, without professional input from the uniformed military leadership. The elimination of mechanisms like the Panel on the Economic Aspects of Defence Questions ensured that this state of affairs would continue for a long time.

Rather than confront Hellyer and Pearson, Allard and his staff explored what cuts could be made. The options boiled down to the elimination of specific commitments or across-the-board cuts to everything. The first option included scrapping all CF-104 and CF-101B aircraft and withdrawing 4 Brigade from West Germany. The second option was chosen, since it "could be done in such a way that it would minimize the problem

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28. Allard and Bernier, The Memoirs of General Jean V. Allard, pp. 308-312.

29. Bothwell, et al., Canada Since 1945, pp. 288-290, 305.

and be more acceptable publicly.<sup>30</sup> In other words, there was a fear that the Canadian public would react negatively toward a Government policy which would involve withdrawal of Canadian forces stationed with NATO in Europe.

Pearson then appointed Leo Cadieux as Minister of National Defence (Hellyer became Minister of Transport) in September 1967. Hellyer had threatened to resign from Cabinet several times over the past three years if he was not permitted to implement unification. It is possible that Pearson was tired of the negative media attention directed at National Defence and was tired of Hellyer's behaviour. There were other pressing matters relating to national unity. This could account for the move. Hellyer claims that it was "just another service posting" to him.<sup>31</sup>

Hellyer's departure left a situation in which "Allard was the unchallenged centre of decisionmaking in the Canadian Forces and his staff, CFHQ, was the centre for military decisionmaking within DND."<sup>32</sup>

Another observer noted that Cadieux was a fortunate choice because of his "calm approach and unassuming ways of getting things done with the most likable sense of humour....in spite of his gentle and unassuming manner, he could certainly stand up and fight for anything he thought was right."<sup>33</sup>

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30. DGHIST, Raymont Study Vol. 2, pp. 255.

31. Ibid., p. 249.

32. Bland, The Chiefs of Defence, p. 92.

33. DGHIST, Raymont Study Vol. 2, pp. 249.

The decimation of the defence budget, however, placed a large number of restrictions on what Allard could actually accomplish. By the end of 1967, the Canadian Armed Forces were already well on the way to being cut out of the Canadian national security policymaking process, and there was nothing that could be done about it once Trudeau took control.

### NATO Strategy Changes One Last Time

The Canadian national security policy process was undergoing a crisis. At the same time, however, NATO was in upheaval. NATO was in the midst of dealing with the problems imposed by de Gaulle's intransigence. The French challenged American dominance within NATO, were reacting against what they saw as second class treatment after the Nassau/Skybolt affair, and were reacting against the flexible response strategy as articulated in MC 100/1. The French wanted exclusive control over their own nuclear deterrent, and some believed that de Gaulle wanted the ability to "pioneer" some form of detente with the Soviet Union. In 1966 the French finally withdrew from the NATO integrated military structure. NATO HQ and SHAPE moved to Belgium. In addition, there was serious concern among the European NATO members that replacing MC 14/2 (revised) with a new strategy based on the principles of flexible response was designed by the Americans to decouple themselves from European defence.<sup>34</sup>

There were three developments during this time which in some way affected Canadian national security policy. The first was the Harmel

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34. Helga Haftendorn, NATO and the Nuclear Revolution: A Crisis of Credibility, 1966-1967 (Oxford: Clarendon Press, 1996) pp. 1-5.

Report. The ouster of Nikita Khrushchev in 1964 stimulated some thought that a new détente might result. In 1964 Canada pressed for a study on the future status and roles of the Alliance. This appears to have resulted from Pearson's long standing (1949: see Chapter 1) belief that non-military cooperation within NATO should be a foundation of the relationship. This push in part contributed to Belgian Foreign Minister Pierre Harmel's volunteering ostensibly to assess this and other impacts on the future of NATO. Work started in January 1967. The real aim of the exercise, however, was to ensure continued French participation in the political machinations of NATO. In December 1967, NATO approved the Harmel Report. It recommended that there be greater consultation amongst NATO members, that some means be discovered to protect NATO interests in the Mediterranean basin and other flank areas against Soviet proxy encroachment, and that NATO members develop proposals to reduce East-West tension.<sup>35</sup>

The second development was related to the first. As discussed in previous chapters, NATO members clamoured for more input into the nuclear aspects of NATO defence. Though the origins of the solution to the problem go back to the 1962 Athens meeting, formal discussions were initiated in 1965. Robert McNamara proposed that three working groups be established to facilitate information flow and confidence building among the NATO

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35. Jordan, Political Leadership in NATO, pp. 204-205; Haftendorn, NATO and the Nuclear Revolution, pp. 321, 390, 399.

members prior to the establishment of a formal body that would carry out this function on a permanent basis.<sup>36</sup>

There were three working groups: nuclear planning, communications, and data exchange. The nuclear planning working group consisted of the UK, the US, West Germany, and Italy. Canada lobbied for a slot but was not able to acquire one. Canada was, however, represented on the other two working groups as a compromise. The reasons for and effects of this are unknown.<sup>37</sup>

By 1967, NATO formed the Nuclear Planning Group (NPG) and the Nuclear Defence Affairs Committee (NDAC). The NDAC consisted of all NATO members save Luxembourg, Iceland, and France. The NPG had four permanent members (US, UK, Italy, West Germany) plus three rotating members exclusive of France or Iceland.<sup>38</sup> The NPG met twice-yearly and consisted of the NATO defence ministers. Canada wanted to be a permanent member of the NPG but accepted a rotational position in return for first-time NPG membership. Again, the reasons are unknown.<sup>39</sup>

The broad purpose of these bodies was to allow "candid" discussion of nuclear strategy and to convince the European NATO members of the American nuclear guarantee. It revolved around fair and open discussion to help policymakers understand the detailed complexities of nuclear war

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36. Paul Buteux, The Politics of Nuclear Consultation in NATO 1965-1980 (New York: Cambridge University Press, 1983) for a full exposition of the origins and operations of the NPG.

37. Ibid., pp. 46-58.

38. Ibid., pp. 233-236; Schwartz, NATO's Nuclear Dilemmas, pp. 185-186.

39. DDRS 1978 frame 425A, (Dec 1966) "NATO Ministerial Meeting Paris, December 14-16, 1966."

planning.<sup>40</sup> The NPG's objective was to "devise nuclear employment guidelines in a manner acceptable to all NATO members."<sup>41</sup> The first topics discussed were defensive tactical nuclear weapons use, political consultation on use, and the employment guidelines for ADM's: When and how should NATO use nuclear weapons, and what purpose did nuclear weapons use serve? How much was enough? This debate continued from 1968 until December 1970, when all of the guidelines were approved.<sup>42</sup>

NPG was an important development. As Paul Buteux notes, it "marked a turning point in the politics of alliance nuclear policy making." NPG satisfied the search for alliance control over nuclear weapons use. The German ownership question which caused a wide variety of problems was now irrelevant. Ownership had been exchanged for consultation on use. Buteux also notes, however that national nuclear deterrents not committed to NATO are not under NATO control. So the question which was not raised at this time was whether or not the NPG constituted real control or the appearance of Alliance control. At least it now provided NATO European members with the ability to directly examine and question any proposed American strategic concept and related nuclear weapons use policy that might affect NATO.<sup>43</sup>

The third development was MC 14/3 "Overall Strategic Concept for the Defence of The North Atlantic Treaty Organization Area," commonly

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40. Schwartz, NATO's Nuclear Dilemmas, pp. 185-186.

41. Daalder, The Theory and Practice of Flexible Response, p. 71.

42. Ibid., pp. 72-74.

43. Buteux, The Politics of Nuclear Consultation, pp. 60-63.

known as Flexible Response. Finally, this was the replacement for MC 14/2 (revised) that had been so long in arriving. Patch-up arrangements established by Norstad and Lemnitzer like the Athens Guidelines and elements of the defunct MC 100/1 were no longer necessary. MC 14/3 was, however, a compromise document that was in some ways as ambiguous as MC 14/2 (revised) had been.<sup>44</sup>

The Defence Planning Committee had accepted the strategic concept on 12 December 1967. The NATO Military Committee formally approved MC 14/3 on 16 January 1968 (though they informally accepted it as early as 12 September 1967), in the waning days of the Pearson Government (Pearson announced his retirement in December 1967). Note that MC 14/3 continued on as NATO's strategy until 1993, and even now forms the basis of the current strategic concept MC 400.

MC 14/3 recognized that the Soviets were responding to NATO security initiatives but that they still had not "renounced the extension of Communist influence throughout the world." They would still use all means, economic, political, propaganda, subversion, and even military, to achieve their aims and to gain an advantage over the West.<sup>45</sup>

MC 14/3 postulated eight means by which the Soviets might initiate actions against NATO:

- 1) Major nuclear aggression to destroy NATO military potential along with attacks against industry and population.

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44. Stromseth, The Origins of Flexible Response, p. 175.

45. Information provided by the SHAPE historian, NATO Military Committee, 16 Jan 68, "Final Decision on MC 14/3: A Report by the Military Committee on Overall Strategic Concept for the Defence of The North Atlantic Treaty Organization Area."

- 2) Major conventional aggression supported with chemical and tactical nuclear weapons versus ACE and adjacent sea areas.
- 3) Major aggression against some NATO land regions without chemical or nuclear support.
- 4) Nuclear or conventional operations against NATO SLOC's and naval forces.
- 5) Limited and confined aggression against a single NATO country.
- 6) Harassment on approaches to or attack against West Berlin.
- 7) Covert actions, incursions or infiltrations in the NATO area.
- 8) Politico-military pressures and threats against NATO members (individual or group) involving ultimatums, military demonstrations, deployment of forces, mobilization or related incidents.<sup>46</sup>

NATO therefore had to have the ability to repel any one or any combination of these threats. Notably:

So long as the forces committed to NATO and the external nuclear forces supporting NATO are able to inflict catastrophic damage on Soviet society even after a surprise nuclear attack, it is unlikely that the Soviet Union will deliberately initiate a general war or any other aggression in the NATO area that involves a clear risk of escalation to nuclear war.<sup>47</sup>

Though MC 14/3 did not fully discount the possibility of massive surprise attack, NATO planners clearly thought that the most probable situation would be one of a period of tension prior to aggression, perhaps "weeks if not months." Consequently, NATO should: "[make] ready and [deploy] reinforcements thus enabling the maximum use to be made of any period of

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46. Ibid.

47. Ibid.

forewarning to demonstrate the cohesion and determination of the Alliance and enhance the credibility of its deterrent posture."<sup>48</sup>

In other words, formations like AMF(L), AMF(A) and the naval equivalent Standing Naval Force Atlantic (STANAVFORLANT), to all of which Canada contributed, were critical signaling devices in the context of the strategic concept.

To counter the enemy, MC 14/3 identified three types of defence that NATO would engage in: Direct Defence, Deliberate Escalation, and General Nuclear Response.

Direct Defence was based on the principle that the enemy had to be denied what he wanted: NATO territory. The enemy also had to be defeated at whatever level of warfare he chose to engage in. This necessitated forces in being and pre-planned and selective nuclear weapons use. Direct Defence also included forward defence of the NATO Area.

Deliberate Escalation was in principle to halt aggression by "deliberately raising but where possible controlling, the scope and intensity of combat, making the cost and the risk disproportionate to the aggressors' objectives and the threat of progressive nuclear response more imminent." This could include, for example, using mid-intensity conventional response to local low intensity aggression. It could include the use of defensive nuclear weapons like ADM's, or even the demonstrative use of nuclear weapons. It could also include "selective nuclear strikes on interdiction targets", or "selective nuclear strikes against other suitable military targets."<sup>49</sup>

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48. Ibid.

49. Ibid.

As for General Nuclear Response, this was the massive use of nuclear weapons against military and urban-industrial targets. There were no caveats placed on what circumstances would trigger its use, but the drafters of MC 14/3 indicated that it was "the ultimate deterrent and, if used, the ultimate military response."<sup>50</sup>

Regarding force structure, NATO commands were expected to possess forces which could function "with a full spectrum of capabilities." The first type, strategic forces, had to be able to survive a first strike with enough force to "inflict catastrophic damage on Soviet society." In a departure from earlier concept, MC 14/3 noted that "there appears to be no way to prevent similar damage to the West from an all-out nuclear attack, risks are a necessary corollary of a policy founded on deterrence."<sup>51</sup>

MC 14/3 also incorporated and improved upon the Athens nuclear use guidelines. If there was an "unmistakable attack with nuclear weapons," NATO should respond "on a scale appropriate to the circumstances." If there was a major conventional attack, NATO forces should "respond with nuclear weapons on the scale appropriate to the circumstances." If a smaller scale of conventional aggression occurred in which "the integrity of the forces and the territory attacked" was threatened, the decision to use nuclear weapons would rest with the NAC. In the first case, there would be no time for consultation while in the second case there would be.<sup>52</sup>

In summary, the new NATO strategy differed significantly from MC 14/2. Flexible Response assumed that there would be a lead-up period of

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50. Ibid.

51. Ibid.

52. Ibid.

tension and even escalation prior to the onset of major conventional and nuclear war. NATO therefore had to have a force structure that could respond to any contingency including limited acts of aggression without immediately resorting to nuclear weapons use. The Phase I/Phase II pattern of war was discarded. Unlike MC 14/2, MC 14/3 accepted that strategic nuclear weapons had a deterrent function as a primary function instead of protracted warfighting as a primary function. There was, however, sufficient ambiguity in the document to allow broad interpretations. It was this ambiguity which added to the deterrent aspects of Flexible Response as a strategy.

Exact Canadian views and involvement in the process of these developments is difficult to determine since the relevant files are not yet available for a detailed examination of the back and forth debate within NATO circles.

It appears as though Canada was not involved in the process which produced MC 14/3 to the extent that she had been involved in substantially influencing and then implementing MC 48 in 1954, MC 14/2 (revised) in 1957, and 'NATO-izing' LIVE OAK planning in 1960. There are a number of possibilities as to why this may be the case.

It was not a question of being excluded from that process. Canada had every right to participate in it given the nature and extent of her military contribution and her past history of constructive criticism. If we take the Harmel report, NPG, and MC 14/3 as three processes designed to solve the NATO crisis brought on by French behaviour, it appears that Canadian diplomats threw their weight behind the Harmel report as the solution. As Helga Haftendorf notes in her study, the Harmel report was less important in the long run in solving the problem than MC 14/3 and the creation of the

NPG.<sup>53</sup> If this is the case, therefore, Canada selected the wrong venue and passed up opportunities to influence the new NATO strategic concept.

The turmoil within the Canadian defence establishment may also have prevented a full examination and then exposition of MC 14/3's implications for Canadian national security policy to External Affairs and Cabinet. As we have seen the entire structure was turned upside down and shaken up under Hellyer. The military leadership was in survival mode and not inclined to be outward or forward looking. This does not mean that MC 14/3 as a strategic concept was misunderstood by Canada's military leadership. As we have also seen, the 1964 White Paper was in part based on MC 100/1, which was for all intents and purposes MC 14/3's predecessor. This was understood and subscribed to by the uniformed establishment. In 1966, however, Hellyer instructed Canada's military leadership that Canada was no longer going to base her force structure and strategy on an alliance strategic concept. The amount of money provided to the armed forces was to be the driving force for future force structure.

The creation of the NPG, however, was important to Canada in the long term, since it allowed NATO members without nuclear weapons to observe and perhaps even influence the political guidelines provided to NATO commanders relating to nuclear use. Canada, in theory, did not now need nuclear forces to influence alliance strategy. There is, however, no evidence in the written record demonstrating that Canadian national security policymakers under Pearson or Trudeau made this connection and acted on it when the decision to denuclearize was taken later in the decade. Access to the NPG did not have any effect on operational influence in the

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53. Haftendorf, NATO and the Nuclear Revolution, p. 397.

way the Canadian representation on the Joint Strategic Target Planning Staff did.

Ultimately, the Pearson Government sacrificed Canada's ability and willingness to exert influence in NATO by not being intimately involved in the formulation of MC 14/3. This was a serious departure from previous successful times in which she had. When the Trudeau Government seriously questioned Canada's continued participation in NATO, the first argument that would be deployed against the commitment was a perceived lack of Canadian influence.

#### Pierre Elliott Trudeau and Friends: Thwarting the Policy Process

Pierre Elliott Trudeau has best been described by journalist Richard Gwyn as looking

...distant, pagan, ageless, like the photographs of Nijinsky: the aquiline nose and high Slavic cheekbones, the taut, sculptured face, the ambiguous grace. His countenance, chilly and cerebral, flared nostrils hinting at a sneer, gives him a natural aristocratic quality of dominion over others. Above all, there are the pale and predatory eyes that tell one of skepticism, inquiry, ferocity....<sup>54</sup>

Jesuit-trained in Montreal and Harvard-educated in Boston, Trudeau was a well-traveled upper-class Quebecois (he had been behind the Iron Curtain, in the middle of the first Arab-Israeli troubles, and China).<sup>55</sup> In

54. Richard Gwyn, The Northern Magus (Toronto: MacClelland and Stewart Inc., 1980) p. 13.

55. Pierre Elliot Trudeau, Memoirs (Toronto: MacClelland and Stewart Inc., 1993) pp. 1-88.

1949, a young Trudeau worked within Louis St Laurent's Privy Council Office (PCO). He then went on to establish a political journal along with his friends Gerard Pelletier and Jean Marchand, both of whom would become Cabinet ministers under Pearson as would Trudeau, who was Justice Minister in 1967.<sup>56</sup>

Mike Pearson set his retirement date for April 1968. Two members of the PCO, Marc Lalonde and Michael Pitfield, who were close friends of Trudeau, convinced him to run. In a stunning election campaign, Trudeaumania swept the land (Marshal McLuhan was a media advisor, as was Bill Lee<sup>57</sup>), and the Liberal Party was returned to power in June 1968 with 155 seats in the House to 72 Progressive Conservative, 22 NDP and 14 Creditistes.<sup>58</sup>

What were Trudeau's beliefs? One former External Affairs analyst noted that Trudeau's outlook was not formed by the Second World War. He was of a new generation, skeptical about military solutions to political problems. He was even skeptical about the efficacy of the United Nations.<sup>59</sup> Another foreign policy analyst maintains that Trudeau was motivated by the pursuit of individual freedom (exemplified by his liberal policies towards abortion, homosexuality, and divorce as Justice Minister) and a belief that the Government's purpose was to improve the quality of life so that self-improvement could be maximized. He abhorred ethnic nationalism, which

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56. Gwyn, The Northern Magus, pp. 17, 29, 41-44.

57. Granatstein and Bothwell, Pirouette, p. 8.

58. Gwyn, The Northern Magus, p. 64.

59. Peter C. Dobell, Canada's Search for New Roles: Foreign Policy in the Trudeau Era (Toronto: Oxford University Press, 1972) p. 10.

he took to be the primary threat to peace and stability. If ethnic nationalism could be eliminated in addition to over-robust claims of sovereignty, war could be eliminated. Above all, Trudeau was an anti-separatist. For him, the largest threat to Canada were those in Quebec who clamoured for independence. The main national objective was national unity. The best means to achieve this was economic growth conducted through an aggressive search for new markets and expanded exports.<sup>60</sup>

Thomas Axworthy, Principal Secretary to the Prime Minister, noted that Trudeau's pre-1968 writings revealed a deep skepticism of the "simplistic Cold War system," that Canada had her "eyes closed" to the possibilities inherent in the emerging Third World, and that nuclear weapons were both dangerous and illogical. In some of his election campaign speeches, Trudeau asserted that there was too much foreign policy emphasis on NATO.<sup>61</sup>

What of the United States in Trudeau's *Weltanschauung*? The new Prime Minister favoured selective and moderate economic nationalism with a special emphasis on natural resources. There was to be extensive protection of the Canadian identity. The real threat was not a Soviet-American clash, though this remained a possibility. Canada could function as a useful go-between between the two superpowers and thus NORAD remained a card to keep in with the Americans. The real problems would be deteriorating Soviet-Chinese relations and the decline in the Third

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60. Bruce Thordarson, Trudeau and Foreign Policy: A Study in Decisionmaking (Toronto: Oxford University Press, 1972) pp. 55-63, 81-83.

61. Thomas S. Axworthy, "To Stand Not So High Perhaps but Always Alone: The Foreign Policy of Pierre Elliott Trudeau," Thomas S. Axworthy and Pierre Elliott Trudeau eds., Towards a Just Society: The Trudeau Years (Markham, Ontario: Viking Books Ltd., 1990)p. 17-18.

World's standard of living in the post-colonial period. Still, civil unrest in Canada was more of a threat to Trudeau.<sup>62</sup> As for the United Nations, Trudeau believed it was somewhat corrupt and inefficient. He also believed that Canada's influence in it was exaggerated. He had been a delegate to the UN in 1966 and this apparently was a formative experience for him.<sup>63</sup>

As Mitchell Sharp once put it: "Pearson was merely one of us, whereas Trudeau was not--he was someone extraordinary."<sup>64</sup> This extraordinary man was about to turn Pearson's world upside down. Trudeau had been Parliamentary Secretary to Pearson before becoming Justice Minister, and as we have noted worked in the PCO under St Laurent. He was young and not extensively connected within the Liberal Party (as were most Quebecois at the time). He was relatively inexperienced in Government, having mostly been an observer rather than a practitioner. According to his closest advisor and hatchet man, Marc Lalonde: "There was no way he could have lived with the disarray that existed under Pearson."<sup>65</sup> Trudeau did not like Parliament: It was in his mind a bunch of posturing old-boys behaving childishly. He held even more contempt for the bureaucracy, which he considered ossified and as much of an old boys club.<sup>66</sup>

Trudeau's solution was "counter bureaucracy," better known at the time by journalists and professional civil servants as the 'Supergroup.' One

62. Ibid., pp. 68-73; see also Granatstein and Bothwell, Pirouette, pp.8-9.

63. Dobell, Canada's Search for New Roles, p. 10.

64. Gwyn, The Northern Magus, p. 50.

65. George Radwinski, Trudeau, (Toronto: Macmillan of Canada, 1978) p. 145.

66. Gwyn, The Northern Magus, p. 58.

journalist recounted a story by an anonymous senior civil servant who complained that "I was heard, but not listened to. Supergroup had been there before me."<sup>67</sup> The Supergroup was best described by Richard Gwyn:

Supergroup, of course, was and is a myth, in the same way that the Establishment is a myth. Just as no businessman or society matron dares ignore the standards of behaviour laid down by the mythical Establishment, no Liberal politician or upwardly mobile civil servant dared to ignore the political codes laid down by the non-existent Supergroup.<sup>68</sup>

What changes generated such fear and resentment? In effect, Trudeau established "a parallel power to the bureaucracy",<sup>69</sup> which consisted of a radically expanded and reorganized PCO and Prime Minister's Office (PMO). Traditionally, the PCO was the Cabinet's staff, and the PMO was the Prime Minister's staff. Under Pearson, the PCO had around 150 staffers, while the PMO had about 40. While Trudeau was in power, their respective sizes doubled: 85+ for the PMO and 300+ for the PCO. Though Trudeau participated in these changes, he was influenced by Marc Lalonde, Gordon Robertson (who had been Clerk of the PCO under Pearson), and one Michael Pitfield.<sup>70</sup>

Pitfield was another Quebecois and has been described as "precocious and hopelessly unathletic....a pathetic sad stringy little boy with buck teeth

67. Walter Stewart, Shrug: Trudeau in Power, (Toronto: New Press, 1971) p. 173.

68. Ibid., p. 73.

69. Gwyn, The Northern Magus, p. 72.

70. Ibid., Radwinski, Trudeau, pp. 147-148.

and no friends."<sup>71</sup> Pitfield was a protégé of Bob Bryce and joined the PCO in 1965 when he was thirty years old. Pitfield would have his revenge on his adolescent tormentors: he was "feared and admired in equal parts" by all who encountered him.<sup>72</sup> Over time Pitfield would wreak havoc on the existing federal establishments and render them ineffective in the formulation of policy. National Defence and External Affairs were no exception. Philosophical raconteur John Ralston Saul observed that:

... [Pitfield] experimented so well that the individual ministers were gradually drained of power and kept off balance by the young bureaucrats in his central Privy Council Office. They maintained an atmosphere in which the ministers were constantly afraid of losing their jobs and increasingly in the dark as to what was really going on in the Prime Minister's mind....Pitfield was certainly the finest practitioner yet seen of that bizarre management method which consists of using massive quantities of information to create confusion which in turn creates ignorance and thus removes power from those who receive the information....Pitfield's organization was the final nail in the coffin of Canadian foreign policy.<sup>73</sup>

Under Pitfield, the line between the PCO and the PMO blurred to the point where the two organizations were at times indistinguishable: Even the senior bureaucrats behaved like Liberal Party members instead of apolitical functionaries. The PCO ideally was supposed to be a non-partisan apolitical advisory group which also coordinated the Cabinet's agenda, while the PMO was essentially an appointments office. Now the PMO aggressively

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71. Gwyn, The Northern Magus, p. 74.

72. Ibid., pp. 76-78.

73. John Ralston Saul, Voltaire's Bastards: The Dictatorship of Reason in the West (New York: Vintage Books, 1992) pp. 91-92.

coordinated Liberal party politics with the supposedly separate policy making process and participated in setting the agenda.<sup>74</sup>

The PMO was merely one mechanism. The other was a somewhat ill defined "informal, loosely organized ring of advisors, some of them on Trudeau's staff, some of them public servants, some elected, some appointed...."<sup>75</sup> The key personalities which concern us here included the already-mentioned Pitfield and Gordon Robertson, Marc Lalonde, and Ivan Head. Essentially, these men constituted Trudeau's appointed unelected Cabinet, more along American lines than Canadian (since the Canadian Cabinet consists of elected officials). Unlike the American system, these men were not subject to anything resembling the all-important confirmation hearing process.

Marc Lalonde functioned as Trudeau's hatchet man: sort of a Bob Haldeman-equivalent. Gordon Robertson's approach to policymaking is best portrayed via an anecdote: "When a PCO official submitted a report recommending that more information be made public, Robertson disposed of it by stamping it SECRET."<sup>76</sup>

Of the men in the inner circle, Ivan Head had the most influence on foreign policy. Journalist Peter Newman once described Head as "a sub-Arctic Henry Kissinger, flying about the world on the Prime Minister's behalf by-passing apoplectic officials."<sup>77</sup> By background, Head was an

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74. Stewart, Shrug, p. 178; Thordarson, Trudeau and Foreign Policy, pp. 85-88.

75. Stewart, Shrug, p. 174.

76. Gwyn, The Northern Magus, p. 82.

77. *Ibid.*, p. 83.

Albertan who, like Trudeau, studied at Harvard. He was a law professor at the University of Alberta and had worked for External Affairs. As Trudeau notes in his memoirs, "Ivan Head, who had been an officer in the Department of External Affairs, became my most important personal foreign policy adviser throughout the 1970s."<sup>78</sup>

As for the more traditional Cabinet strategic policy team, under Trudeau it consisted of Mitchell Sharp and Leo Cadieux. Cadieux, the first French-Canadian Minister of National Defence, had served under Hellyer as the Associate Minister since 1965 and had borne the brunt of the unification debate. The fact that he was both French Canadian and in charge of the military was probably a deliberate message to Quebec separatists. Sharp assumed power from Paul Martin, who was eased out by Trudeau because of increasing philosophical differences. Paul Hellyer had been shifted to Housing and sidelined there. He would eventually resign from Cabinet, "convinced that the country was being run by closet fellow-travelers at best."<sup>79</sup> Trudeau continued with the Pearson structure of the Cabinet Committee on External Policy and Defence. Usually Sharp, Cadieux, occasionally General Allard, and other Cabinet members interested in contributing to the debate over national security policy met infrequently and provided their views to Cabinet via memoranda.

The first foreign policy pillar that Trudeau and his band of merry men would tackle was NATO.

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78. Trudeau, Memoirs, p. 202.

79. Gwyn, The Northern Magus, p. 297.

## Canada and NATO: To Be or Not To Be, 1968-1969

General Jean Victor Allard, the Chief of Defence Staff (CDS) when the NATO and nuclear commitments were called into question, had views on these issues. He was skeptical about keeping nuclear weapons in the force structure, as he thought the most likely type of conflict that would be fought in the nuclear age was a low intensity conflict. Allard also believed that "abandoning our nuclear role was sheer hypocrisy....we would leave the dirty job to the others, thus playing the role of Pontius Pilate."<sup>80</sup> In retrospect he claimed some degree of influence with Trudeau, but it was not as much as he wanted.<sup>81</sup> He felt constrained by shifting domestic political opinions as expressed in the media and within the Trudeau Government.

Consequently, Allard thought the first battle was to explain what the military was for before getting into specifics of strategy and influence:

...[W]ill social security always be pursued at the expense of the Forces? This is difficult to say. Here we may find ourselves defending two fronts. On the one front the outright Marxist, the slogan producers and violence-mongers; and on the other, the do-gooder socialists (with a small "s") who will act more for political opportunities than for the good of the people at large. The instability they create will continue to breed doubts in the minds of the unadvised public and create a monumental challenge to us and our supporters.<sup>82</sup>

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80. Allard, Memoirs, p. 314.

81. Allard interview.

82. DGHIST, Raymont Collection, file 832, 29 Aug 67, "Introduction to the Purpose and Rationale for Defence Forces by General J.V. Allard at Special CDS Conference, Kingston, Ontario."

The CDS had initiated a defence policy study presumably in response to the Robertson Report in March 1968 and probably because he saw a growing need for it. Upon his taking over the defence portfolio, Leo Cadieux endorsed the continuing study, which was completed in May 1968. He then sent a synopsis to Trudeau.<sup>83</sup> The document produced, "Rationale For Canadian Defence Forces", was passed on to Cabinet via the PMO and PCO.

The study clearly reflected many of Allard's personal views on Canadian defence. A cognizant document in a way similar to the 1963 ad hoc committee report on defence established by Hellyer, "Rationale For Canadian Defence Forces" explicitly explained the matter of influence and how it related to Canadian forces stationed in Europe as part of NATO and in North America as part of NORAD. Canadian influence was significant "only if exaggerated expectations are avoided."<sup>84</sup> Canadian participation in NATO and NORAD allowed Canada to express her views in European and North American defence. Participation counterbalanced the American preponderance of power in the creation of strategic policy. The ultimate objective was security. Canada needed forces to participate in collective security, forces to deal with internal unrest, and forces to handle any contingency outside of these two areas.<sup>85</sup>

As for nuclear weapons, they would continue to be part of the European deterrent. Canada's continued contribution in this area "depends principally on whether there are alternative ways in which Canada could

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83. DGHIST, The Raymont Collection, file 832, 3 May 68, memo Cadieux to Trudeau; (31 May 68) memo Allard to Cadieux, "Rationale for Canadian Defence Forces."

84. DGHIST, The Raymont Collection, file 832, CFP 243, "Rationale for Canadian Defence Forces."

85. Ibid.

make an effective contribution." Notably, the study concluded that the Air Division's apparent vulnerability to a missile strike "could in itself be destabilizing in a crisis, since it provides both sides with a strong incentive to strike first."<sup>86</sup> On the other hand, Canada's nuclear forces gave Canada an increased voice in agencies like the NPG, and "there is no basis for claiming that Canada would somehow be better off if it dissociated itself from the decisions" made in the NPG, the NAC, or other forums.<sup>87</sup>

Withdrawal from Europe was not a good idea. "Rationale for Canadian Defence Forces" cited the Multiplier Effect, that is, if Canada pulled out troops other nations might too. Canadian forces made a significant contribution to the direct defence of NATO. If they were removed there might be psychological effects on the Alliance which could not be measured.<sup>88</sup>

Cadieux, however, "was unable to give it his blessing as by then he knew that the Prime Minister and the Cabinet wished to have an entire review made of Canada's Foreign and Defence policy...."<sup>89</sup> In May 1968, "the Prime Minister encouraged the Cabinet"<sup>90</sup> to call for a major defence and foreign policy review.

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86. Ibid.

87. Ibid.

88. Ibid.

89. DGHIST, Raymont Study Vol. 2, p. 116.

90. Ivan L. Head, "The Policy of Denuclearization," unpublished conference paper, "Canada and the Politics of the Nuclear Era," Kingston Ontario, 25-27 September 1992.

By July 1968 Cabinet (that is, Trudeau) rejected the defence paper as unsatisfactory, since it was "a restatement of current policy"<sup>91</sup> which represented "the detested status quo."<sup>92</sup> If that was not enough, Donald Macdonald, the 36-year old President of Trudeau's PCO:

...expressed outrage that the drafters of the review had not considered the possibility of neutrality for Canada and urged his colleagues to withdraw all Canadian forces from Europe. How could Canada improve its relations with Czechoslovakia if ...[Canada] had aircraft in Germany ready to bomb Prague?

Allard was directed to incorporate the implications of a neutralist policy. He then concluded that such a move would double the defence budget. The CDS had a suspicion that the "Prime Minister was strongly in favour of [neutrality]."<sup>93</sup> A new review was now needed because the professionals had presented their case and it did not jibe with the vision as it existed within the PCO/PMO and Trudeau's mind. At the same time, Cabinet instructed Cadieux to "maintain [the Canadian Forces] until 1969-70, at the lowest financial level consistent with Canadian obligations to NATO, NORAD and UN Peacekeeping, such level to be determined jointly by ...[DND] and the Treasury Board."<sup>94</sup> This decision was taken without any professional military input. This was the second time in two years that this

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91. Ibid.

92. Thordarson, Trudeau and Foreign Policy ,p. 122.

93. Allard, Memoirs, p. 191.

94. ATI, 19 Jul 68, Cabinet Conclusions.

had happened to the Canadian Armed Forces. Cabinet also explored, on its own, possible incremental reductions to 4 Brigade and 1 Air Division.

The Trudeau Government's reluctance to spend money on defence was in many ways related to the perceived need to make good on the Pearson Government's commitments to the Canadian people regarding lavish social programmes administered and paid for by the federal government. This was driven primarily by domestic political factors, as Trudeau did not want to be seen by the electorate to be reneging on a previous Liberal government commitment with a resultant loss of political power. There is also an argument to be made, however, that these social programmes served a national security purpose by buying off the more moderate seperatists or uncommitted Quebecois, strengthening the links between that province and the central government, and preventing a slide into revolution. Until better information becomes available, this argument must remain conjecture.<sup>95</sup>

On 20 August 1968, Warsaw Pact forces brutally crushed the new moderate Czech government with a multi-national coup de main (which included East German and Polish troops). As Soviet tanks drove over wounded civilians in the streets of Prague, NATO forces were not officially alerted. SACEUR, General Lyman Lemnitzer, did, however, implement

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95. The main proponent of this argument is Major General Dan Loomis in his work Not Much Glory: Quelling The FLQ (Ottawa: Deneau Publishers, 1984).

some low-level preparatory measures as the Soviets reinforced their East Germany-based forces with units brought in from the USSR proper.<sup>96</sup>

Ottawa's response to the Czech crisis was coloured by Cabinet's plan to present NATO with reductions in Canadian Europe-based forces during the upcoming fall NATO meeting. Cabinet discussions on 28 August 1968 reflected more of a concern about prestige than about an appropriate NATO response to the crisis. If Canada announced cuts in the fall NATO meeting after this violent display of Soviet aggression, Canada's image would be damaged. Therefore, some Cabinet members attempted to assert, with convoluted logic, that Canadian forces could now be reduced, since "the Soviet Bloc had become weaker"<sup>97</sup> as a result of this action. These people also asserted that the Soviet build up was merely for the purpose of keeping the Czechs "sealed" within their own country and posed no danger to NATO. Others believed that Berlin might be threatened next, however, if the Americans responded unilaterally. Ultimately, Trudeau instructed Cabinet members not to mention what were now "possible" cuts to Canada's NATO forces in any forum, especially the media. The Americans were preparing a strong diplomatic statement and Canada would sit back and observe before making any moves.<sup>98</sup>

NATO's assessment of the threat posed by the Czech Crisis was initially dire. The situation was "unstable" and could "lead to upheavals and

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96. Maloney, War Without Battles, p. 226; see also Patrick Brogan, The Captive Nations: Eastern Europe: 1945/1990 (New York: Avon Books, 1990); Rudiger Wenzke, Die NVA und der Prager Fruenling 1968: Die Rolle Ulbrichts und der DDR-Streitkraft bei der Niederschlagung der tschechoslowakischen Reformbewegung (Berlin: Ch. Links Verlag, 1995).

97. ATI, 28 Aug 68, Cabinet Conclusions.

98. Ibid.

violence which, should it spread to East Germany, could be very dangerous." SHAPE was particularly concerned about "the forward deployment of Soviet forces in a high state of military and logistics readiness [which] combined with the unstable situation in Eastern Europe, has significantly increased the risk of incidents involving the confrontation of forces that could lead to hostilities."<sup>99</sup> The Soviets threatened the West Germans in propaganda forums as well as militarily: six or seven additional Soviet divisions were moved into East Germany to complement the existing 20 Soviet and 10 East German. Intelligence reports also indicated that Soviet troops based in Hungary were moving towards Yugoslavia.<sup>100</sup>

Canada's response, according to Cabinet, should not contribute to "playing into the hands" of the hardliners in the Warsaw Pact. This view took the line that liberalization was occurring within the Eastern Bloc and, despite the actions in Czechoslovakia, this liberalization might continue. If Canada and NATO reinforced to protect themselves, this would in some Cabinet members' view give the hardliners an excuse to crack down in other Eastern European countries. Therefore, the logic went, Canadian cuts actually could contribute to stability. Secretary of State for External Affairs Mitchell Sharp pointed out, however, that "to do nothing because the Government could not come to a decision about the level [of] Canadian

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99. ATI, 25 Sep 68, memo for the Minister, "Canadian Contribution to NATO: U.S. Aide Memoire of September 24."

100. Ibid; ATI, 26 Sep 68, Cabinet Conclusions.

military participation in NATO was to take a position which was difficult to defend."<sup>101</sup>

By October NATO authorities re-assessed the situation and concluded that there would probably be no "premeditated attack" on NATO, but the danger posed by "the possibility of a spillover of internal unrest in Warsaw Pact countries into Western Europe, resulting in limited hostilities involving NATO forces; and secondarily from the possibility of a miscalculation by the Russians an applying against Berlin possible new pressure...."<sup>102</sup> Cadieux then asked General Allard to see what Canadian military moves could be made over the next year "to strengthen Canada's contribution" to maintaining security in Europe. This was in response to a request from SACEUR. The conclusions were then passed on to Cabinet first.

General Lemnitzer had specifically asked for "additional conventional ground and air forces to strengthen his capacity to control hostilities without resort to the use of nuclear weapons."<sup>103</sup> Immediate Response Measures that could be taken included beefing up 4 Brigade with an additional armoured regiment and an extra infantry battalion, which would give the Brigade a total of six manouevre battalions instead of four.

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101. Ibid.

102. ATI, 24 Oct 68, memo to Cabinet, "Special NATO Ministerial Meeting-Canadian Position."

103. ATI, 28 Oct 68, memo to Cabinet, "Canadian Military Contribution to NATO Europe."

The second measure would be to delay the planned drawdown of 1 Air Division, a drawdown which would reduce it from 108 to 88 aircraft.<sup>104</sup>

What about Canada-based forces committed to NATO? Allard recognized that: "There was no way in which Canada could honour the balance of an infantry division", which was the original land force commitment to NATO dating back to 1951. There was no strategic sealift, and the formation had not trained as an entity for at least five years. The Militia was incapable of mobilizing since it had no combat equipment and was still in the National Survival role. As for Hellyer's vaunted CF-5 fighter force, it would not be ready until 1970. In other words, the only possible support that could be provided were three brigade groups from Mobile Command (one of which was committed to the CUSRPG) in Canada, but there was no way to transport them to Europe rapidly.<sup>105</sup>

The Czech Crisis highlighted all of the problems endemic to Canadian national security policy formulation since 1964. Canada's policy emphasized the ability to operate in both nuclear and non-nuclear environments. Execution of that policy dictated certain requirements which could not be fulfilled, since both the Pearson and Trudeau Governments declined to spend the necessary funds to provide Canada with the requisite capability. Canada could participate in deterring a nuclear war, could fight a short-term conventional or nuclear ground war in Europe, could rebuild in the aftermath of a nuclear war, and could conduct small-scale Cold War conventional peripheral operations in extremely low intensity environments to reduce tension.

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104. Ibid.

105. Ibid.

Canada could not, however, respond to a potential protracted conventional war or respond to a crisis situation in which large-scale conventional forces could contribute to deterrence. By not remaining *au fait* with NATO's strategic policy, by not seriously contributing to Alliance policy formulation in 1967, and by not altering her force structure accordingly, Canada could not respond effectively to a crisis situation involving her closest allies. Rather than assessing the national security problem in these terms and dealing with it properly, the Trudeau Government was even more inclined to extract itself from NATO altogether.

Another problem in Cabinet preventing an adequate Canadian response was the belief, which appears to have been generated by the Postmaster General Eric Kierans, that a prompt increase in Canadian conventional forces in Europe would deleteriously affect the upcoming defence review, a process in which Mr. Kierans and others hoped Canada would withdraw from NATO altogether. Even the Prime Minister echoed this sentiment in one Cabinet meeting.<sup>106</sup>

The discussion at the beginning of November then drifted into how symbolic 1 Air Division's CF-104's were. There was a planned reduction from 108 to 88 aircraft on the table (this was related to the across the board defence budget cuts discussed earlier). Kierans amazingly thought it would be a provocative "escalation" to retain the 20 aircraft. Cadieux favoured retaining 108 aircraft. Hellyer, who was Minister of Transport, stated that the CF-104 force was "redundant" since their targets overlapped with other

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106. ATI, 1 Nov, 68, Cabinet Conclusions.

Allied nuclear forces. The aircraft were "for show" and "consideration needed to be given to phasing in a conventional response...."<sup>107</sup>

When NATO convened for a special ministerial meeting late in November, Cadieux and Sharp told NATO that Canada would retain 108 aircraft in 1 Air Division for one year while Canada underwent a defence and foreign policy review. Cadieux reported to Cabinet that "there had been considerable confusion and disquiet concerning the Canadian position. On the one hand there was an impression that Canada might intend to withdraw from NATO; on the other, that Canada might be prepared to undertake new commitments."<sup>108</sup>

The Canadian media and the Opposition in the House of Commons interpreted the situation in the worst possible light: that the Trudeau Government was actively contemplating withdrawal from Europe, from NATO, or both. Mitchell Sharp was on record stating that Canada had not made up her mind but in his view it "was doubtful that a policy of isolation would serve Canada's national interests."<sup>109</sup>

Allard and Cadieux produced a new version of the rejected 1968 defence policy review. The new version expressly addressed the implications of 'non-alignment', that is, neutrality. Called the "Defence Policy Review" (DPR), it was released to Cabinet in February 1969 and was intended to be read in addition to the report of the Special Task Force on Europe (STAFFEUR) which will be discussed next.

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107. Ibid.

108. ATI, 21 Nov 68, Cabinet Conclusions.

109. ATI, 4 Dec 68, memo for the Prime Minister, "Meeting of the Commons' Standing Committee on External Affairs and National Defence, December 3rd."

Future Canadian defence policy, the DPR study advised, could follow either a non-aligned or aligned path. No matter what path Canadian policy took, she would exist in a world which was dominated by stable mutual deterrence between the superpowers. The strategic implications of non-alignment were clear in this situation:

No power which had not decided to take the supreme risk of launching a surprise nuclear attack on the USA could afford to let Canada remain as a safe haven for the US population and as a reserve of power, food, and resources for use in re-building US strength. Canada's exposure to nuclear attack is not a consequence of its alignment with the USA; if an intercontinental nuclear war broke out between the USA and USSR, Canada's non-alignment would be irrelevant to the combatants....<sup>110</sup>

The military implications of non-alignment were detrimental to Canadian security. If Canada did not defend Canadian territory, the Americans would. If Canada chose to defend Canada with modern weapons all by herself, it would be an extremely expensive proposition, "because no major power would be prepared to furnish its advanced military technology to a non-aligned country."<sup>111</sup> Furthermore, "existing sources of defence information would be drastically curtailed. It is also likely that many of the sources of non-military science and technological information (apart from the open literature) would dry up."<sup>112</sup> (The CF-105 Arrow chickens were coming home to roost.)

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110. ATI, February 1969, "Defence Policy Review," p. 18.

111. Ibid., p. 22.

112. Ibid., p. 24.

The political implications were not good. Non-alignment "would not assist in solving any of the basic economic, social, or cultural problems posed for the Canadian way of life by the USA and, indeed, would be more likely to exacerbate them."<sup>113</sup> Consequently, "the American public would therefore be inclined to view Canada as a free-loading satellite, meriting treatment as such....Defence of Canadian democratic institution and beliefs would become more complicated...."<sup>114</sup>

If Canada withdrew from NATO, economic and political relations between Canada and the individual countries might also be affected.

Additionally:

Canada would no longer be participating in the formulation of Western policies on such matters as European security and disarmament, and that Western governments would regard Canada as essentially an outsider which no longer saw political interests in common with them....Soviet-bloc governments would welcome Canadian non-alignment as a propaganda defeat for the United States and would treat Canada henceforth with increased cordiality.<sup>115</sup>

Which in turn would lead to an increase in Soviet subversion.

If Canada chose to go it alone, her force structure would have to dramatically increase if Canada were to provide surveillance for Canadian territory and protect her sovereign interests. At a minimum, the Army would have to double, as would the numbers of long range maritime patrol aircraft (from 40 to 80). Ten interceptor squadrons totalling 200 aircraft

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113. Ibid., p. 28.

114. Ibid., p. 29.

115. Ibid., p. 33.

would be needed, that is, triple the existing CF-101 force, equipped with an non-existent aircraft that Canada would have to design and build. At sea, at least nine nuclear-powered attack submarines would be required in addition to 30-40 surface ships which would include at least two ASW aircraft carriers/assault ships. There would be huge costs associated with acquiring the technological base to build twin-engined interceptor aircraft and nuclear submarines.<sup>116</sup>

Most importantly, these numbers were predicated on the assumption that the forces would be equipped with nuclear weapons "to significantly increase the capability."<sup>117</sup> Though strategic nuclear weapons were out of the question,

From a purely military standpoint, defensive nuclear weapons for the air and maritime forces would be most cost-effective, and would enhance considerably the credibility of Canada's defence. Whether the forces should possess these weapons, however, would be primarily a political decision and would involve the denunciation of the non-proliferation treaty and a very expensive nuclear weapons production program.<sup>118</sup>

Without nuclear weapons, the size of the forces might be even greater still. Anything less than these minimum numbers and capabilities would not guarantee Canadian sovereignty.

The Defence Policy Review did not merely explore the non-aligned option: it also presented a number of aligned options. Canada could participate in North American defence; in the defence of Western Europe; or to "cooperate

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116. Ibid., pp. 131-135.

117. Ibid., p. 133.

118. Ibid., p. 132.

in the defence of one or more states in other areas (the Western Pacific, Far East, the Caribbean, or Latin America)" or a combination of these options.<sup>119</sup>

There was "no compelling reason" for Canada to involve herself militarily outside of Europe and North America, as "there are few military measures which Canada could usefully take... which would contribute to the prevention of general war originating in these areas."<sup>120</sup> North America had to be defended in any case. UN peacekeeping operations had "an uncertain future."<sup>121</sup> Therefore, the only area outside North America in which Canada could have any effect and influence was Western Europe:

Canadian participation in NATO can make a distinct contribution to the prevention of nuclear war, but how much cannot be said with any certainty. Its ultimate significance can be judged only against the background of Canada's vital interest in the avoidance of war....In the event of Canadian withdrawal, Canada would no longer have the opportunity to bring to bear its views and influence on the formulation and implementation of Western security policy; doubts would be created about the long term solidarity of the Alliance; and NATO's ability to implement its strategy of flexible response would be diminished....Canada would be opting out of a joint endeavour aimed at keeping the peace in favour of obtaining a security by reliance of the good will of its friends and in default of making any contribution to theirs.<sup>122</sup>

Like the earlier "Rationale" paper, the Defence Policy Review also explored MC 14/3, why it was important, and why balanced forces deployed

119. Ibid., p. 36.

120. Ibid., p. 51.

121. Ibid., p. 31.

122. Ibid., pp. 44-45.

in Europe contributed to Canadian objectives in NATO. As for Europe-based forces:

Canada's objectives can be most fully and effectively achieved if its military cooperation in NATO consists principally of Canadian forces stationed in Europe. There are both political and military reasons for this. Politically, identifiable Canadian Forces physically present [in Europe] are the most tangible and, from the European point of view, most acceptable evidence of Canadian [involvement]. Military forces already on the ground...carrying out training on and over the ground where they would be expected to fight, are far more likely to respond quickly and effectively to military contingencies and forces requiring to be deployed from across the Atlantic; moreover, the dispatch of forces from Canada at the onset of the crisis might in some circumstances serve to exacerbate the crisis [emphasis mine].<sup>123</sup>

As for North American defence, the Review explained future technologies and the rationale for continued participation in the air defence system. New technologies, including Over The Horizon (OTH) radar and Airborne Warning and Control (AWACS) radar aircraft would reduce the manpower and cost requirements for air defence since these systems would be more effective and replace the DEW and other radar lines. The Americans were footing the bill for the ABM system and were considering closing down the BOMARC sites. More emphasis was being placed on space surveillance systems by the Americans. If Canada did not remain part of the air defence system, she would not have access to this information.<sup>124</sup>

The air defence system would be more cost effective and would be more tailored to the realities of the ICBM age:

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123. Ibid.

124. Ibid., pp. 83-95.

One of the objectives of improving the anti-bomber defence is to discourage the Soviets from building a new generation of bombers, and thus sending the bomber/anti-bomber contest into a new round of expensive escalation. In the face of the heavy threat from Soviet ICBM's, the anti-bomber defence does not claim an important degree of damage limitation.

Naval forces were multi-purpose and thus critical to the conduct of national security policy. There was no conflict between SACLANT and Canadian maritime force commanders as both wanted Canadian forces to operate in the Western Atlantic against Soviet submarines.<sup>125</sup>

If the Trudeau Government chose to retain Canadian forces in NATO in the 1970s, there were several options. Air forces could include missile contributions to the NATO air defence system (considered unrewarding by the DPR writers); air superiority and ground support with a common aircraft type; or transport support. A nuclear capability was not discussed in the document.<sup>126</sup>

As for ground forces, the existing commitment consisted of 4 Brigade in West Germany and another brigade group (lightly equipped and theroretically airportable) committed to AMF(L) on the northern and southern flanks. As in the 1963 ad hoc committee study, the options here revolved around how much of the forces should be kept in Canada and deployed to Europe in an emergency, and to what extent 4 Brigade should become an airportable or airmobile formation (similar in conceptualization

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125. Ibid., pp. 93-99.

126. Ibid., pp. 101-102.

to that discussed back in 1959-60). Nuclear capability for the two brigades was not discussed.<sup>127</sup>

The Defence Policy Review was passed on to Cabinet.

Another product of Trudeau's insistence that defence and foreign policy be reviewed was the Special Task Force on Europe or STAFFEUR which was formed under the auspices of External Affairs. STAFFEUR in part consisted of Paul Trembley (Ambassador to Belgium), Robert Ford (Ambassador to the Soviet Union), Lieutenant General W.A.B. Anderson, and Brigadier General Henri Tellier.<sup>128</sup> The STAFFEUR report, delivered in January 1969, was a massive document. It moved from the general to the specific and included all aspects of Canada's relationship to Europe. Like its "grandfather," the 1963 ad hoc committee report, the STAFFEUR report cogently assessed Canada's options. Some aspects warrant detailed analysis here so that readers can see what arguments the Trudeau men either retained and claimed as their own or rejected with cavalier disregard.

STAFFEUR defined five Canadian foreign policy objectives, which were in some ways similar to those objectives established by Pearson during the St Laurent Government in 1948 (see Ch. 1). The first was Security. Canada had to have the ability to contain conflicts which might lead to global war. This included the need to protect the American deterrent, maintenance of stability in Europe, peacekeeping operations, and non-military initiatives

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127. Ibid., pp. 103-106.

128. ATI, (22 Aug 68) memo Sharp to Cadieux; (28 Feb 69) memo Raymont to Allard; see also R. Gordon L. Fairweather, "The Role of Parliament in the Review and Planning of Canadian National Defence and External Affairs," in Thomas M. Franck and Edward Weisband's Secrecy and Foreign Policy (Toronto: Oxford University Press, 1974).

like arms control. The second was National Unity. Canada had to block unilateral Quebec links to emergent francophone nations and prevent French interference in Canadian affairs. At the same time, Canada had to promote the bilingual nature of Canada at home and abroad.<sup>129</sup>

The third objective was National Identity. Canada had to counteract American cultural influence without resorting to blatant anti-Americanism, which would "be unacceptable to the Canadian people."<sup>130</sup> As for Economic Interests, the objective was to promote economic prosperity by generating an improved world-wide economic environment. This could best be done by improving the Third World with aid and then profiting from the improved cooperation. Finally, there was the objective of World Order, defined by a "free, stable, independent society based on the rule of law" boosted by collective security.<sup>131</sup>

STAFFEUR attacked the two most popular publicly-discussed foreign policy alternatives to the status quo: the Third World Option and the Non-Aligned Option. The latter option was based on neutralism advocate James Minifie's provocative 1960 book Peacemaker or Powder-Monkey? (discussed in previous chapters), while the former arose in the press and within academia in the early 1960s with the recognition that the Third World actually existed.

The STAFFEUR group recognized that there was a rise in anti-European sentiment in Canada. They ascribed it to four reasons. First, some

129. ATI, "Canada and Europe: Report of the Special Task Force on Europe, February 1969."

130. Ibid., pp. 2-3.

131. Ibid., pp. 3-8.

Canadians wanted to do something new and dynamic, to break from the status quo merely for the sake of doing so. Second, some people "associated [Europe] with power politics and immoral aspects of international affairs." Third, still others had the impression that Europeans were not interested in Canada, while fourth, there was more interest in the Third World.<sup>132</sup>

The report admitted that Canada could bring some degree of prosperity to the Third World and that there were opportunities for influence and prestige "that would be flattering to the Canadian psyche."<sup>133</sup> There were limits, though. For example, "The idea that instability in the Third World represents a threat to Canadian security comparable to the situation in Europe is...highly questionable." In addition, "The Third World has very little to contribute to or do with the fabric of Canadian life in terms of either trade or culture or tradition or technology...."<sup>134</sup>

As for the non-aligned option, would Canada be more attractive to Latin Americans, Asians, or Africans if she were not part of NATO and NORAD? This again was a doubtful proposition. The cost would be too high, unless Canada chose to be an unarmed neutral. There were, however, no unarmed neutrals. If Canada took this route, she would lose any advantage she possessed with the United States, which could affect all aspects of that relationship, including trade. This in turn would have a negative impact on Canadian influence with other nations, since the Third World "value their connection with ...[Canada] in part because we are considered as a NATO

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132. Ibid., pp. 34-35.

133. Ibid., p. 36.

134. Ibid.

member, to be involved in major world problems and to know what the great powers are up to."<sup>135</sup>

The non-aligned option totally ignored the fact that the Soviet Union was an "aggressive and expansionist" threat with an "enormous espionage and subversive" capability. If Canada pulled out of NATO, she would lose access to the valuable intelligence cooperation agreements, and the Soviets "might well step up attempts to meddle surreptitiously in Canadian domestic institutions."<sup>136</sup>

The STAFFEUR group included a summary of MC 14/3 and a lengthy discussion on how the concept was supposed to work, as well as what forces were required to make it work.<sup>137</sup> There were four options other than the existing collective security arrangements in Europe. These included having the Western European Union replace NATO, creating a looser NATO without the committee structures, unilateral Western disarmament, or having the US, UK, and France create a large system and control all. None of these was possible or even acceptable at this time. NATO would continue as it had in the short and even long term.<sup>138</sup>

Canada, in short, could not pull out of NATO. If she tried, there would be widespread repercussions. The strength of the Alliance would decrease, since as the group noted the Canadian contribution was militarily significant. Canada "would lose a voice in the councils of the Alliance and

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135. Ibid., p. 40.

136. Ibid., p. 188.

137. Ibid., pp. 89-120.

138. Ibid., pp. 90-93.

any opportunity to influence decisions affecting real issues of war and peace" would be lost. Other interests, including economic ones, would be damaged.<sup>139</sup>

As for the force structure, military forces were necessary so that Canada could contribute effectively to MC 14/3. Canada should, however, keep in mind that "the formations contributed must be identifiably Canadian" [emphasis mine] to have influence.<sup>140</sup> As for nuclear weapons, STAFFEUR concluded that "There is no compelling reason for nuclear arms for Canadian forces in Europe."<sup>141</sup> This was conditional. Canada should retain dual-capable systems which should include the CF-104 and its replacement. 4 Brigade's M-109 SP guns should have access to nuclear shells as well. Canada, they concluded, could not place the nuclear burden on the rest of the Allies: It was unfair and gave the Germans too much control which in turn could cause problems in Europe.<sup>142</sup>

The Defence Policy Review and the STAFFEUR Report provoked heated discussion in Cabinet throughout March 1969. Donald Macdonald, the President of the PCO, derisively referred to the voluminous and logically stated arguments posited in the documents as one-sided, "an argument for stagnation" and "entirely inadequate." Macdonald was more worried about credibility with the public than about reviewing national security policy, since in his view, "The public would not believe that Cabinet, in forming a

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139. Ibid., p. 93.

140. Ibid., p. 108.

141. Ibid., pp. 111-112.

142. Ibid.

decision, had reviewed objectively, and taken into account opposing points of view." Mitchell Sharp seriously disagreed with Macdonald. Macdonald then asserted that Canada could "influence the European political situation" by withdrawing Canadian forces from Europe, which in his view:

...would contribute to a lifting of the military seige against the Soviet Union and influence the seige mentality of the Soviet leaders. Secondly, we could penetrate the Warsaw bloc countries to encourage liberalism and western contracts thereby accentuating internal problems within the Soviet empire to force a more rapid accomadation with these growing impulses.<sup>143</sup>

Sharp and others, particularly Bud Drury, violently disagreed. Canadian withdrawal "would injure the balance of power concept reflected in NATO....Further, although there might be a short honeymoon in Soviet-Canadian relations as soon as the penetration began, Soviet adverse reaction would be unrestrained" once they figure out what was going on. This would reinforce the Soviet hard liners. Canada could not conduct such activity alone in any case. Macdonald asserted that non-acceptance of his proposal indicated that "There was no evidence that Canada had any influence in NATO. It was a gross exaggeration and evidence of influence was lean indeed."<sup>144</sup> Macdonald had a naive perspective of how the Soviet Union functioned and possessed grossly exaggerated expectations of what Canada could accomplish in certain areas.

Another Cabinet debate broke out on 11 March 1969. General Allard was in attendance for this one. The primary antagonists towards Canada's

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143. ATI, 4 Mar 69, memo for the Prime Minister, "Defence and Foreign Policy Review."

144. Ibid.

continued participation in NATO were Kierans and Macdonald. Kierans thought that Canada's current problems were internal, domestic, and related to Quebec unity within Confederation. Canada had taken, since 1945, "a very costly interest in other nations in the world." Canada could no longer afford this "luxury." Macdonald then made the astonishing comment that "our 'ally,' France, is the main external threat to Canadian unity." (This last remark was probably in reference to de Gaulle's visit to Montreal in 1967 and his tacit support of Quebec seperatism). Canada did not "have any influence anyway." Kierans noted that "The fact that we had been in Europe in two word wars and were a member of NATO did not influence in the slightest the position of European negotiators in the trade area....Mr. Sharp had not proved to him that a single economic decision was favourably influenced by our NATO membership."<sup>145</sup>

General Allard and Drury shot back that Canada had made a "valid and useful contribution" to Western security, and Sharp noted that Canada would have "no influence on the course of events if we withdrew."

Furthermore, Sharp was recorded as saying:

...the matter of our influence was the central question...we wanted a voice in the decisions taken.... The influence of individual members of an alliance could not be measured in the same way [that is, strictly on an economic basis]....it depended upon quality and other things. We should focus our attention on the big fellows and bring to bear independent thinking in a larger group....The world is not waiting for Canadian leadership, but that we must not let security be the exclusive preserve of the big powers. He attributed influence to our superior morality....what we were trying to do in NATO was trying to prevent a war. We had to ask ourselves whether NATO was a good thing and do we have a part to play?<sup>146</sup>

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145. ATI, 11 Mar 69, memo for Mr. Crowe, "Defence Policy Review."

146. Ibid.

Prime Minister Trudeau privately asked for a summary of views on the NATO issue. He was told that Sharp, Cadieux, Allard, Paul Martin (who was at that time minister without portfolio and leader of the Government in the Senate), Rodolphe' Dube' (Minister for Veterans Affairs), Arthur Laing (Minister of Public Works), Bud Drury, Maurice Pepin (Minister of Trade and Commerce), and Paul Hellyer all strongly advocated remaining committed to NATO. The main antagonists to this position were Donald Macdonald, Eric Kierans, James Richardson (another minister without portfolio), and Trudeau's old friend Gerard Pelletier.<sup>147</sup>

Macdonald laid out his arguments for Canadian withdrawal in a proposal to Cabinet. In it he attacked a number of arguments he understood had been made to support continuation in NATO. The first, the "major cockpit theory," revolved around the belief that Europe was the region at the highest risk of nuclear war and that Canada should remain committed there. In Macdonald's view, the Europeans were now capable of defending themselves without Canadian assistance. The second argument, which Macdonald called the "domino theory," suggested that if Canada pulled out, NATO would collapse. Macdonald merely discarded this argument without discussion.<sup>148</sup>

Macdonald next turned to the "influence" argument. He casually asserted that:

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147. ATI, 18 Mar 69, memo for the Prime Minister, "Ministers' Views on Defence Policy."

148. ATI, 25 Mar 69, "NATO-Continued Canadian Participation."

...in purely military terms, there cannot surely be any serious claim that we have very great influence. Influence in military terms is largely a factor of the amount of power deployed and even with the high quality of our present Armed Forces' contribution to Europe, no one can seriously pretend that we are a major military factor to be taken into account.<sup>149</sup>

After discarding this argument, Macdonald then concluded that the reason for Canadian participation in European defence was diplomatic, "which we exercise out of all proportion to our military addition. In this respect I would regard the argument as basically not proven."<sup>150</sup> Macdonald then recommended that Canada withdraw from the North Atlantic Treaty.

Cabinet Secretary Gordon Robertson threw his weight onto the anti-NATO side by directly communicating his views to the Prime Minister. His analysis was seriously marred by incorrect assertions, like "Canada does not maintain armed forces because of the threat of military attack. This is virtually ruled out in the Defence Review...."<sup>151</sup>

Robertson was concerned that Canada's NATO allies were complaining about planned reductions to the Canadian defence budget. He advocated pulling forces out of Europe and then increasing the defence budget by making the Department of National Defence responsible for the following activities:

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149. Ibid.

150. Ibid.

151. ATI, 25 Mar 69, memo for the Prime Minister, "The Defence Policy review and the Report of the Special Task Force on Europe."

- control of the long distance phone system
- store and control all government-issue material for other federal departments
- take over marine and air navigation aids from Transport
- assume responsibility for the Coast Guard
- construct, operate, and maintain all civilian airports
- assist in a Community Improvement Program
- take over and administer the Department of Veterans Affairs
- the Armed Forces should participate in "international development" in the Third World.

By padding the defence budget, Canada could then go to NATO and claim that Canada was contributing at the same rate as other NATO members. Robertson failed to see, however, that converting the Canadian Armed Forces to a national and 'world Peace Corps' would garner no influence with Canada's allies and even less with the Soviet Union.

More importantly, Robertson attacked the concept of flexible response, asserting that it was unworkable and that Canada should not participate in it. He then asserted that the concept of nuclear deterrence was also unworkable and that Canada should not participate in it. He derided collective security as a sham and declared that it did not contribute in any way to Canada's economic well being.<sup>152</sup>

On 27 March 1969, the Cabinet Committee on External Policy and Defence met to make recommendations to Cabinet on NATO participation. Canada was at a crossroads: She could be either aligned or non-aligned.

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152. Ibid.

Aligned did not necessarily mean that Canada had to make a military contribution to collective security. It did not imply that Canada had to contribute to defence in North America and/or Europe. In general, the members, led by Sharp, "agreed to support a policy of military cooperative arrangement between Canada and the United States and a continued contribution under NORAD." The members were unable to reach a consensus on a military contribution in Europe though Canada should continue to be a part of NATO.<sup>153</sup> If Cabinet chose to keep 1 Air Division and 4 Brigade in Germany, it had to "recognize the need for decision as to... the serious imbalance between present force commitments and the present budgetary limitation of the Department of National Defence...."<sup>154</sup>

PCO personnel, particularly Hume Wright, an External man working in the PCO, internally discussed the future nature of the European commitment. They took the aligned policy options presented in the Defence Policy Review and referred to them as the "transitional force structure" as though this option had been agreed upon. They thought that 4 Brigade and 1 Air Division would be withdrawn from Europe and replaced with a single battalion-group committed to AMF(L) and perhaps a squadron or two of the impotent and short-ranged CF-5 close support fighters. It is unclear, however, why this occurred, but it added confusion as to what the actual policy was supposed to be.<sup>155</sup>

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153. ATI, 27 Mar 69, memo to Cabinet, "Report of the Cabinet Committee on External Policy and Defence on its Discussions of the Report of the Task Force on Europe and the Defence Policy Review."

154. Ibid.

155. ATI, 28 Mar 69, memo for Mr. Wright, "Notes on Proposed Transitional Force Structure."

To complicate matters a secret parallel study to STAFFEUR was concurrently produced by what came to be known as the "non-group." Not even External Affairs Minister Mitchell Sharp or Defence Minister Cadieux knew of its existence prior to a crucial Cabinet meeting in March 1969. Trudeau was not impressed with the STAFFEUR product and had asked Ivan Head what could be done about it.<sup>156</sup> Head agreed to do a study. In his view STAFFEUR claimed that the forces stationed in Europe gave Canada influence: This was "difficult to quantify", and he saw the decrease in trade with Europe as evidence of a lack of influence.<sup>157</sup> This view of course neglected the security dimension. Head disregarded this since he asserted that the Soviets did not really constitute a serious threat.<sup>158</sup>

The non-group included Head, Hume Wright; Henri de Puyjalon, from the Treasury Board, and the now-retired Major General Fred Carpenter of the former RCAF Special Studies Group. The first two men were assigned to the non-group as a secondary duty, while Carpenter worked on it full time.<sup>159</sup> As a result, the non-group paper reflected much of what Carpenter expressed back in 1961.

In essence, the non-group paper, as discussed by Ivan Head in his book The Canadian Way, viewed the 1 Air Division Strike role as "destabilizing," and argued that NATO strategy was "inconsistent, incoherent and dangerous," not to mention inflexible. Canada, in the Carpenter-Head view,

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<sup>156.</sup> Head, The Canadian Way, p. 80; Thordarson, Trudeau and Foreign Policy, p. 137.

<sup>157.</sup> Ivan L. Head, "The Policy of Denuclearization", unpublished conference paper, "Canada and the Politics of the Nuclear Era," Kingston Ontario, 25-27 September 1992.

<sup>158.</sup> Head, The Canadian Way, p. 75.

<sup>159.</sup> Ibid., p. 81.

must not contribute to provocative destabilization by providing an aerial nuclear strike force to NATO.<sup>160</sup> In retrospect, Head stated that "the nuclear strike role of the CF-104 lay at the heart of the decision" to denuclearize. 1 Air Division "could only be regarded as a first strike or at the least a first use system" by the Soviets. In a crisis situation, the inevitable link between use of the theatre nuclear force and SAC would result in an attack on North America, which Head and Carpenter argued could not be defended against. Therefore, the BOMARCs had to go too.<sup>161</sup>

In other words, anything that smacked of offensive action, which militaries needed to deter and then win wars, and anything that was defensive and could limit damage, was labeled destabilizing. This included virtually the entire Canadian Forces except for transport aircraft, which not coincidentally Carpenter had been in charge of during the Congo affair and had recommended be used to replace the CF-104's in the air division back in 1961.

The language in the non-group paper was yet another attempt to refute the Defence Planning Review and the STAFFEUR report. It asserted, without evidence or discussing intelligence estimates, that "Not since Confederation has there existed a viable threat to the territorial integrity of Canada. Nor does one exist now." The United States would guarantee Canada's security in North America because of the Monroe Doctrine. The paper then backed off and stated that "to say that there is no present threat to Canada's territorial integrity is not to say that there is no present threat

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160. Ibid., p. 83-86.

161. Ibid., pp. 91-92.

from without to Canada's physical security."<sup>162</sup> To ensure Canada's physical security, four aims had to pursued at the same time: protection of the credibility of the United States deterrent; deterring and settling wars that might escalate into nuclear war; peace forces and non-military initiatives to foster trust and strength; and dedication of an increasing percentage of Canada's GNP to activites designed to relieve or remove such traditional causes of wars as economic security.<sup>163</sup> The non-group paper stated: "The extent of the participation by the Canadian Armed Forces in Canada's pursuit of the above goals is not basically a military decision; the pursuit of the four goals does not primarily, or essentially, demand military input."<sup>164</sup>

In other words, this was a polite way of saying that Canadian military forces were not necessary and the opinions of professional, serving military officers was not relevant in the creation of national security policy.

The non-group paper was beguiled with the concept of mutual stability within the deterrence system and looked askance at anything that could be percieved as provocative and destabilizing. Thus Canada should contribute whatever it could to protect the American second strike capability and: "avoid doing anything which would have the effect of intimidating the Soviet second-strike capability [and] avoid adopting any posture or role which is credible in the eyes of the Soviets only as a first strike role."<sup>165</sup>

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162. ATI, (n/d) "Canadian Defence Policy: A Study."

163. Ibid.

164. Ibid.

165. Ibid.

Therefore, 1 Air Division had to go, and Canadian ASW forces should not be allowed to track and attack Soviet ballistic missile submarines. This capability allegedly contributed to "eroding that stability."<sup>166</sup>

The non-group paper finally conceded that Canadian forces in Europe were valuable political tools. The PCO's "transitional force structure" was tacked on as a timetable for the conversion of the Armed Forces. This amounted to removing 4 Brigade and replacing it in Germany with one battalion with no accompanying dependents. It would be rotated every four months. 1 Air Division would return to Canada and scrapped, while 12 CF-5's would be stationed in Europe. In Canada, the CF-101B VooDoo's were to be replaced with some new American interceptor on a one for one basis. The maritime forces would draw down to only 12 destroyers and 16 patrol aircraft.<sup>167</sup>

By the mid-1970s, the Canadian Armed Forces would, if this plan were adopted, be incapable of doing anything save for some internal security, some limited anti-bomber operations, and some coastal protection. The forces in Europe would have no value whatsoever because they were numerically small, were ill-equipped, and had no role. There would be no saliency in this new force structure.

The non-group paper was sprung on Cadieux and Sharp immediately before a 26 March 1969 informal meeting prior to a planned 29 March Cabinet meeting in which the issue of Canadian Forces in Europe was to be

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166. Ibid.

167. Ibid.

discussed. The details of this story have been told elsewhere.<sup>168</sup> When the non-group paper was included in the pre-meeting briefing papers, Mitchell Sharp had to restrain Leo Cadieux to prevent him from resigning immediately. After a tirade *en français* with the Prime Minister, the paper was withdrawn from consideration. The usurpation of the External Affairs and National Defence professional views on the matter was finally brought into focus.

In the formal Cabinet meeting three days later on 29 March, Donald Macdonald immediately attacked the DPR and STAFFEUR process as not being "objective" since it did not reflect his views. The Solicitor General, George McIlraith, was outraged, since in his view, "the condemnation of official views had surely gone a little too far. The devaluing of the ability of experts to review past advice was a little excessive." Trudeau finally chimed in and told his Cabinet that "Canada's present military establishment was determined not to impress our enemies but rather to impress our friends." In his view, "The political consequences of our force commitments were paramount." He was able to get a consensus that Canada should remain "aligned." Neutrality was not a credible option.<sup>169</sup>

The discussion carried over another day. Paul Martin noted that he was distressed with the economic determinism he saw in Cabinet. Canada's contribution to NATO was psychological and military as well as economic. "Canada's influence in NATO was considerable," he correctly noted, but then he went on to note incorrectly that: "Canada's contribution in military

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168. See Granatstein and Bothwell, Pirouette, pp. 1-35 and Sharp, Which Reminds Me.... pp. 173-177.

169. ATI, 29 Mar 69, Cabinet Conclusions.

terms was not of great significance." The significance of Canada's possession of 20% of SACEUR's nuclear strike capability armed with megaton-yield nuclear weapons was not explored or even mentioned. Trudeau then started to muse that perhaps Canadian forces could "be used to build highways, to solve problems of pollution [and] as cadres for social change." Canada could be aligned but did not have to commit troops. He really believed that Canada could not influence Europe in any way.<sup>170</sup>

Postmaster General Eric Kierans shrilly asserted that "NATO was a non-event." Canada should "indicate that we revere independence and respect the need for an increased contribution to the underdeveloped countries of this world." Therefore, the CAN\$1.8 billion spent on defence should be deployed there to alleviate suffering. This was a true expression of Canadian values, in his view. Finance Minister Ben Benson, on the other hand, informed Cabinet that, in his view: "An abrupt withdrawal would tear the Canadian military structure to pieces...." Hellyer supported this view and also reminded Cabinet that a pull-out from NATO might lead to the same conditions that prevailed in 1914 and 1939 since "statemen prior to those two world wars had not properly assessed the value of an established military deterrent. Korea evidenced for us the real problems of attempting to mobilize quickly in order to withstand an armed conflict." Hellyer agreed with Benson in that "people could not be taken off the streets and immediately transformed into valuable members of the military system....the reduction of troops in Europe would not bail us out of our domestic or international problems."<sup>171</sup>

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170. ATI, 30 Mar 69, Cabinet Conclusions.

171. Ibid.

Sharp's position supported Benson and Hellyer. He was concerned about the American reaction to a Canadian withdrawal. In his view, "until the United States was able to settle the Vietnam issue, the stability of international condition was vitally important. In that context, Cabinet Ministers should not underestimate Canada's influence in contributing to stability." There were economic consequences to a pull-out since: "We expect to be treated in a special commercial sense in wheat negotiations, oil transactions, and in the exchange of defence information. The government should not necessarily expect that such treatment would continue." Once again, Cabinet came to no decision on the matter, though Trudeau pledged to produce a compromise document which would debated in Cabinet before he made any public pronouncement on the issues.<sup>172</sup>

The compromise memorandum "rejected the extreme alternative of non-alignment" and articulated the position that Canada should stay in NATO. As for European-based forces however, a withdrawal would be implemented after NATO was informed in May 1969. Canada's forces had to be able to employ the full range of operations which had to include domestic operations, peacekeeping and peace restoration operations, as well as collective security operations. They also would be expected to contribute to "national development programs." Coastal and air surveillance of North America were paramount since this was directly related to sovereignty.<sup>173</sup>

At the next Cabinet meeting on 1 April 1969, Leo Cadieux strenuously opposed the compromise since:

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172. Ibid.

173. ATI, 1 Apr 69, memo to Cabinet, "Defence Review."

The Canadian forces...had been continuously reduced and we had just received equipment in order to carry out designated roles outlined for them by previous government policy. Now it was to be decided that the roles were to change and equipment be redesignated....the defence establishment had been seriously hampered by financial restrictions and the forces were suffering serious attrition at present.<sup>174</sup>

The Prime Minister then pulled the compromise position paper and pledged to consult Cadieux and Sharp before making a public statement based on it. In two speeches in April 1969, Trudeau rejected neutrality as an option but also announced that 1 Air Division and 4 CMBG would be slashed in half.<sup>175</sup>

This had an effect on the course of what was referred to as the "Defence Policy Review Phase II," a euphemism for a small PCO working group which would recommend what further cuts could be made to the Canadian Forces. This recommendation amounted to slashing the Forces from 98 000 to 81 000 personnel in addition to cutting 1 Air Division and 4 Brigade in half.<sup>176</sup>

Some wanted cuts to include the BOMARC system, since there had been rumours that the Americans were thinking about scrapping theirs. National Defence was concerned about this move. Major General Mike Dare, the Deputy Chief of Operations, told Cabinet in a briefing that the CAN\$5 million annual saving might be a good economy measure, but that it "would encourage pressure to phase out the CF-101 which was also armed

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174. ATI, 1 Apr 69, Cabinet Conclusions.

175. Maloney, War Without Battles, pp. 179-249.

176. ATI, 30 Apr 69, memo to Cabinet, "Defence Policy Review Phase II: Report by Interdepartmental Working Group;" 15 May 69, Cabinet Conclusions.

with nuclear weapons." This would unacceptably degrade the air defence system which the Trudeau Government was actually emphasizing in its new defence policy.<sup>177</sup>

On 20 May 1969, Cabinet finally agreed that by 1972 4 Brigade would be cut in half and assigned to ACE Mobile Force (Land). Only two CF-104 squadrons would remain in Europe by this time and these would be restricted to the photo reconnaissance role. No mention was made of nuclear weapons.<sup>178</sup>

Sharp and Cadieux effectively saved the European commitment from elimination. This move did not go unnoticed in Europe, however. SACEUR, who by this time was General Andrew Goodpaster, was furious. In a blistering cable to Cadieux, SACEUR bluntly informed him that if 4 CMBG were pulled out of NORTHAG, he had no other forces to replace them in the line. If war occurred, Goodpaster told Cadieux, he would be forced to use nuclear weapons sooner rather than later. This "was the antithesis of the MC 14/3 strategy...."<sup>179</sup>

Goodpaster pleaded with Cadieux to have Canada reconsider the European cuts. NATO's Defence Planning Committee sent a series of communiqus to Mitchell Sharp. NATO was formally protesting the cuts. Eventually, Cadieux and Sharp proceeded to Brussels to brief their counterparts on the Canadian position. In an acrimonious session in which Canada was castigated for turning her back on Europe, Cadieux, in a calm and deliberate voice, reminded the Belgian representative who made

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177. ATI, 20 May 69, Cabinet Conclusions.

178. Ibid.

179. Ibid., p. 236.

this remark that there were several thousand Canadians buried in his country from the First and Second World Wars, and thousands more in France, the Netherlands, Italy, and Germany. Canada, he said, has already paid for the right to do what she wanted with her armed forces with the blood of her fallen. There were no Europeans buried in Canada save for twelve aspiring pilots who crashed during training in the Second World War. What more did Europe want? There were still Canadian forces stationed in Europe and more would come if they were needed in a crisis situation. There was nothing more to be said on the matter.<sup>180</sup>

In September 1969, Leo Cadieux announced that Canada would divest itself of the Honest Johns by 1970 and the BOMARCs by 1972. The CF-104 force would give up its nuclear weapons also in 1972.

What of Chief of Defence Staff General Allard's input into this process? Citing "intellectual fatigue," Allard requested retirement in July 1969 to become effective in September. In his memoirs, Allard says he "accomplished the bulk of my mission," which, as we will recall, was the creation of recognized French Language Units within the Canadian Forces. He even had input into the selection of his successor, General F.R. Sharp, who pledged to continue with the policy of 'francophonization.'<sup>181</sup> Sharp, however, "was not a Trudeau confidant and they rarely met during Sharp's period in office."<sup>182</sup>

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180. ATI, 24 Jul 69, Cabinet Conclusions; telephone interview with Lieutenant General Henri Tellier (CF Ret'd), 18 November 1997.

181. Allard and Bernier, The Memoirs of General Jean V. Allard, p. 312.

182. Bland, Chiefs of Defence, p. 94.

The lack of uniformed dissent on the purely fiscally-based national security policy, let alone denuclearization, should be attributed to several factors. Most importantly, uniformed professionals were steadily being cut out of the national security policy formulation process. Second, the disruption of the staff system and the elimination of internal means of debating defence issues prevented the formation of a unified perspective on the issue within the armed forces. We must not discard the atmosphere of fear prompted by the Hellyer 'purge', which generated a survival mentality amongst the military's leadership, and its debilitating effects during this period of change. Finally, General Charles Foulkes died in 1969. He had helped steer Allard through his early days as CDS. With Allard's departure, it was the end of an era, as the "Green Machine" replaced khaki, light blue, and dark blue.

#### 1970-72: Out with a Whimper

The 1971 White Paper on defence was engineered by Donald Macdonald, who replaced Cadieux as Minister of National Defence in 1970. Cadieux, apparently, was deemed "too compliant to the Department's (of National Defence views."<sup>183</sup> As the regiments departed Germany, the Honest John launchers were reduced to scrap, the aircraft mothballed, and the NATO-tasked nuclear weapons returned to the Americans, the armed forces learned that several new policy themes governed their existence, all endorsed by Macdonald:

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<sup>183</sup>. Bland, Chiefs of Defence, p. 95.

- 1) foster economic growth.
- 2) safeguard sovereignty and independence.
- 3) work for peace and security.
- 4) promote social justice.
- 5) enhance the quality of life.
- 6) ensure a harmonious natural environment.<sup>184</sup>

As John Hasek once put it: "There was no identifiable enemy in the brave new world which Trudeau seemed to be planning."<sup>185</sup>

How did all this change affect the armed forces in terms of being able to carry out their assigned roles within the scope of Canada's commitments?

The only nuclear weapons left in Canadian service were the AIR-2A's. These were kept so as not to antagonize the Americans too much and to ensure influence of sovereignty. Canada retained the sixty-six CF-101s and they remained committed to NORAD. The BOMARCs were phased out at about the same time as the American BOMARCs were withdrawn from service in 1972.<sup>186</sup> The DEW Line remained operational, as did a drastically reduced number of PINETREE line GCI radars. The Mid-Canada Line had, by this time, been closed down. Strategic signals intelligence stations, however, remained at optimum strength. As for the rest of the air defence system, the Americans had drawn down their components of it partly as a result of the 1972 ABM Treaty and partly because of a nuclear strategy emphasizing finite deterrence. The USAF ADC fighter force was reduced dramatically down to five regular and ten reserve fighter squadrons, while

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184. Department of National Defence, Defence in the 70s (Ottawa: Queen's Printers, 1971) p. 3.

185. John Hasek, The Disarming of Canada (Toronto: Key Porter Books, 1987). p. 156.

186. ATI, 1 Jun 70, memo to Cabinet, "North American Defence Policy in the 70s."

all surface to air missiles (Nike Hercules as well as BOMARCs) were eliminated. This resulted in an increase in the ratio of Canadian forces to American forces (four Canadian to 15 American).<sup>187</sup>

Canada's maritime forces also declined in the 1970s. The 33 Argus maritime patrol aircraft would eventually be replaced in the 1980s with 18 Lockheed Auroras, which were based on the American Lockheed P-3 airframe (the P2V Neptunes were discarded by 1968). They were deliberately not certified for nuclear ASW use. The Navy would rust out and lose its only aircraft carrier, HMCS Bonaventure. By 1978, there were only sixteen front-line ASW destroyers in service (ten of them built in the mid-1950s), three conventional submarines, and three operational support vessels. Four destroyers were still equipped with ASROC, though no arrangements had been made to provide them with nuclear-tipped torpedoes. The other twelve destroyers operated Sea King helicopters, but these were not certified for nuclear weapons delivery. One squadron of CS2F Tracker ASW aircraft now operated from land bases, mostly in the fisheries surveillance role. There would be no destroyer replacement programme until the late 1980s. The maritime forces would be tasked to SACLANT in wartime but would remain in the Canadian area. One destroyer was continuously dedicated to NATO STANAVFORLANT.<sup>188</sup>

The land forces (Mobile Command) stationed in Canada were reduced from three brigade groups and an Honest John training battery (totaling ten infantry battalions, three armoured regiments, and three artillery regiments) to three Combat Groups (seven infantry battalions, three light

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187. Schaffel, The Emerging Shield, p. 268.

188. See Department of National Defence, Defence 1978 in Review (Ottawa: DND, 1979).

armoured regiments and three artillery regiments). One of these Combat Groups was tasked to reinforce north Norway in the event of war, but there was no strategic sealift. Strategic airlift had not increased dramatically enough to accommodate the ability to "reforge" to Norway. Canada's C-119 and Yukon fleets were paid off and replaced with four 707's, which were not able to operate in a hostile environment. The Honest Johns were eliminated. While the personnel strength of the infantry battalions in the 1960s was approximately 80 to 90%, it dropped to less than 60% in the 1970s. The Militia relinquished its National Survival role by 1971, but no money was spent to rebuild the seriously-depleted (manpower as well as equipment) organization back into combat-capable conventional fighting formations. There was a plethora of CF-5 light fighter-bombers, but these aircraft lacked range. The 707 transports were dual-tasked as in-flight refuellers to get the Canada-based CF-5's to Norway. Some policymaker had not taken into consideration the possibility that such aircraft could not conduct both inflight refuelling and strategic airlift missions at once.

The most pressing problem was that no money was allocated to construct a logistics system capable of supporting Canada's depleted conventional forces in the event of a protracted conventional war lasting longer than seven days. This was particularly the case now that Canadian troops were committed to both Norway and West Germany. There was not enough air or sealift. There were no realistic reinforcement plans for either theatre of war.<sup>189</sup>

As for the commitment to the Central Region, there was two-thirds of a Brigade Group with aging tanks, and three squadrons of now-obsolescent

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189. See Maloney, War Without Battles, pp. 249-330.

CF-104's which were not suited to conventional operations (though they were performing this task anyway). These forces were moved to the rear area in CENTAG and were not given any serious missions or tasks due to their lack of capability and now obsolescent equipment. Even the critical and salient AMF(L) commitment was reduced from two to one battalion group and it was supported with third-rate aircraft, the CF-5, if they could even get over to the operating area.<sup>190</sup>

Canada's armed forces were now capable only of fighting a three-day conventional war with the forces on hand in Europe. Their ability to survive longer than three days was in question. It was next to impossible to transport significant numbers drawn from the Canada-based forces over to Europe in a crisis. Canada could still contribute to countering the Soviet bomber threat (the numbers of enemy bombers remained constant from the 1960s), but without qualitative improvement to ASW and anti-aircraft equipment, Canada's maritime forces were far less capable than before. Canada could still contribute to peripheral peacekeeping missions if the commitments were kept small and of a short duration. In the event of war, there would not be enough mobility to extract them as reinforcements for the main theatre of operations. There was no articulated overall strategic concept governing the rationale or employment of Canada's military forces. As a point of comparison, the Canadian armed forces in the 1950s and 1960s were constructed to fulfill salient roles with specialized and unique capabilities within the context of an agreed-to strategic concept, all of which contributed to achieving Canadian national aims.

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190. Ibid.

In the end, the main problem was that the Trudeau Government did not replace the nuclear forces with equivalent conventional forces to make up for the firepower shortfall, nor did they restructure the Armed Forces to fight within the context of MC 14/3, the agreed-to NATO strategic concept. The existing commitments were lackluster ones and had no real salience within the Alliance. They were mundane and increasingly irrelevant as the equipment necessary to implement them deteriorated over time. National prestige, a precursor for other more tangible benefits, not the least being self-respect, does not accrue to a nation indifferently committed. Trudeau was committed to making Canada the largest of the small nations rather than maintaining Canada as the smallest of the large nations. In this he succeeded but at a cost to Canadian influence and long term military capability.

## CHAPTER 16

### CONCLUSION

The main argument of this study is that Canadian national security policy and the place of nuclear weapons in it during the Cold War forced Canadian policymakers to transcend past Canadian foreign policy methods and objectives. It also forced Canada to take a position of increased importance on the world stage. The three pillars of Canada's strategic tradition (alliance warfare, forward defence, and relative military autonomy) affected the formulation of national security policy by influencing the means by which it was implemented.

In the introduction we examined the existing literature dealing with Canadian Cold War national security policy and derived several attributes of that literature.

- 1) Canada's strategic influence is either minimal or non-existent. Canadian action is constrained by its allies, not necessarily by its enemies.
- 2) The only way to influence larger allies is through Canadian diplomatic participation in alliance systems.
- 3) Great diplomats make great history.
- 4) Military considerations have little or no importance to Canadian diplomatic efforts to secure her objectives through influence since Canadian forces do not serve Canadian purposes.

- 5) The threat is either vague, or irrelevant.
- 6) Canada's relationship with the United States is not as close as many believe, despite the geographical proximity.
- 7) Alternatively, Canada is duped or otherwise manipulated by the United States into serving purely American purposes.

These must be tested against the new information provided in Canadian Shield.

The question of why Canada created a force structure (that is, one of the means of implementing Canada's national security policy) capable of using nuclear weapons and participating in nuclear war if necessary has two components. Canada sought to influence her enemies and her allies.

### Influencing the Enemy: The Threat/Deterrence Problem

Let us deal with the enemies first. Canadian national security policy throughout the period in question was directed towards preventing a war that would affect the freedom, prosperity, and even the continued existence of the Canadian people. This is not merely melodramatic rhetoric given the quantified potential effects of megaton-yield nuclear weapons use against, say, Toronto, Vancouver, or Montreal. The nature of such a war was increasingly intertwined with probable nuclear weapons use directed against Canada and her allies either as the result of a bolt from the blue

surprise attack against North America and/or Europe, by miscalculation during a crisis, or as the result of a response to conventional attack on Europe by the enemy. The only likely enemies capable of conducting such a war against Canadian interests during this period were the Soviet Union and the Warsaw Pact nations.

Canadian national security policy throughout the 1951-1972 period rested on the imperative to deter the Soviet Union from initiating a war against Canada and her allies. The means by which deterrence was to be achieved was always under debate both in an alliance sense and a national sense. In the end, however, Canadian policymakers consistently concluded that the best means by which the enemy could be deterred was to contribute to the defence of North America and Europe through the deployment of high quality military forces equipped with conventional and nuclear weapons operating within an integrated alliance military system, and to participate in peripheral brush fire operations which could affect the integrity of NATO.

This manifested itself in two ways. First it entailed the protection of the main NATO deterrent, USAF's Strategic Air Command, and the protection of the industrial-mobilization base in North America by both air defence and anti-submarine warfare forces. Second, this also entailed providing land and air forward defence forces situated in the NATO Area, specifically, Allied Command Europe's Central Region. Canadian forces deployed to these regions were equipped with both conventional and nuclear weapons so that they could effectively fulfill their commitments to the deterrent system. These commitments were undertaken as extensions of Canada's strategic tradition, namely alliance warfare and forward defence. The difference this time was that Canada sought to prevent war from

occurring, whereas Canada's strategic traditions had developed from wartime experiences which were based on responding to totalitarian threats after war had been initiated.

To what extent did Canada's national security policy influence the Soviet Union and the Warsaw Pact not to attack Canada and her NATO allies? The answer to that question is related to how well deterrence worked as a whole given the nature of Canada's military commitments within the context of the deterrent system. Many people, citizens and scholars alike, debate the efficacy of the NATO deterrent system. The primary argument against deterrence in this debate revolves around the assumption that successful deterrence cannot conclusively be proven. Therefore we cannot know if deterrence worked or not.

There were several ways in which the enemy could extend his influence to Canada. The first was through espionage and subversion. Analysis of this is beyond the scope of this work, but there were extensive enemy activities in Canada during the Cold War. The second was through military means. The enemy could use them to threaten, bully, intimidate, or even directly assault Canada's closest cultural and economic allies in Europe and in North America. The enemy could use subversion first, then 'invite' military forces into newly-Finlandized areas (like the case of Czechoslovakia in 1948). Irrational Soviet leaders could have initiated a surprise nuclear attack on North America to eliminate the United States as a factor and then invade Europe. The possibilities were boundless, and given the actual capability to carry them out coupled with a shocking lack of honesty in their track record of dealing with the Western allies, the Soviets just could not be trusted to behave.

We know that the Soviets and the Warsaw Pact had offensive plans specifically and carefully constructed to invade Europe. We know that they had the forces to do so and that these forces were also specifically constructed to invade the NATO Area. We know that the enemy conducted a massive espionage and subversion effort specifically to prepare for an invasion. We know that they extensively trained to invade the NATO Area. Yet it did not happen. What stopped them from invading?

The lack of will on the Soviet leadership's part prevented them from attacking the NATO Area with military forces. At some point or points during the Cold War, the Soviet leadership chose not to 'flip the switch.' If the existence of NATO's military forces ever contributed to a decision or decisions made by the Soviet leadership not to initiate military action against NATO, we can conclude that those forces contributed to deterring an attack on NATO. Therefore, we will be able to conclude that deterrence succeeded in its objectives, and that Canadian forces which were part of this deterrent effort contributed to the success of the deterrent. At this point, however, no such study on the Soviet leadership has been made.

How did Canadian leaders view the threat and how to deter it?

Attempting to go beyond an open-ended view of deterrence is not a useful proposition. We could, for example, pigeon-hole Canadian civilian policymakers' perceptions of deterrence into something resembling Patrick Morgan's idea of Immediate Deterrence or General Deterrence or by some other deterrent models generated by Herman Kahn.<sup>1</sup> This would not contribute greatly to this discussion, as it would amount to an ex post facto labeling exercise. St Laurent's and Pearson's, let alone John Diefenbaker's,

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1. See Patrick M. Morgan, Deterrence: A Conceptual Approach (Beverly Hills: Sage Publications, 1977) and Herman Kahn, On Escalation (Baltimore: Pelican Books, 1965).

thinking on the matter did not appear to be fueled by such abstractions. The men of the first three Governments examined, St Laurent, Diefenbaker, and Pearson, philosophically saw Soviet totalitarianism as a different but even more frightening version of the fascism that Canada successfully fought against in the Second World War. They were content to leave it at that. It is important to note that these views were not overly influenced by the threat estimates provided to them by military personnel. These estimates merely provided information on how the threat to Canadian interests specifically manifested itself.

The primary exception was Norman Robertson during the Diefenbaker period, who believed that threats to Canadian security came from American overzealousness in what he viewed as provocative activity on the part of Strategic Air Command, and from West Germany's interest in acquiring a nuclear delivery capability under the auspices of NATO. In a way, he pre-dated the dominant thinking of the Trudeau policymakers relating to the concept of mutual stability of the deterrence system.

The Trudeau Government consisted of policymakers who did not have the First or Second World Wars as formative personal experiences. They had no real personal contact with or appreciation for the effects of totalitarianism on individual freedom and values. Unlike earlier policymakers, they were influenced to some extent by bloodless strategic modeling. For example, the concept of a mutually stable deterrent system appears to have predominated in the Trudeau PMO/PCO. Certain Canadian elements of the deterrent system deemed destabilizing (like 1 Air Division and the ASW forces) were eventually removed so that they could not function as influence tools within the Alliance.

Some Trudeau-era policymakers even openly questioned the existence of the threat, while at the same time they conversely argued that the threat was so massive that it could not be defended against, since such a defence was too expensive. Therefore, somebody else would have to defend Canada, while at the same time Canadians could pretend that the threat did not exist.

As for Canada's professional military leadership, the vast majority were convinced as to the efficacy of the deterrent system and were more concerned with the practical aspects of generating and maintaining a force structure that could contribute to the larger deterrent effort than the inner workings of theoretical deterrence. Notably, the idea that the vulnerability of the CF-104 force to IRBM attack might force an early launch of SACEUR's nuclear strike forces which in turn produced instability (as defined by Allison et al.) actually was interpreted by Canadian military leaders as a positive effect, since such uncertainty added to the ambiguity of the deterrent and promoted stability in Europe.

In terms of threat estimates, Canada's military leadership was laudably skeptical about allied attempts to manipulate some intelligence information for domestic political purposes, particularly when this spilled over into alliance strategy formulation: this despite Canada's modest efforts to produce intelligence and her heavy reliance on allies' intelligence. For example, Canadians did not agree with British arguments in 1956-57 which were constructed to justify a British conventional force drawdown in Europe. Similarly, Canadian military personnel did not believe that a bomber gap existed, though they knew there was still a bomber threat and planned for it with the appropriate resources. It was not a case that either the threat existed or it did not. Even though Canada was somewhat

dependent on American and British intelligence estimates, prudent Canadian analysis was conducted, and realistic conclusions were used in the formulation of Canadian national security policy. The air defence system is a case in point.

### Influencing the Allies: Protecting Canadian Interests

The question of how well Canada's military forces contributed to the deterrent effort is more murky and requires much more attention to detail. There is the question of the credibility of the deterrent effort and the balance between achieving that credibility and how much a nation is willing to pay to contribute to it. NATO had to present forces capable of carrying out assertions that the NATO Area would be defended. Those forces had to come from somewhere, and they had to be capable of fighting a war to keep the peace.

Canada's military forces, created by Canadian national security policy, were part of the deterrent effort. Yet they were also used to influence Canada's allies. How well did Canadian policymakers handle this aspect of national security policy? To answer this question, it is necessary to review national security policy under the St Laurent, Diefenbaker, Pearson, and Trudeau Governments in the light of:

- 1) The definition of Canadian interests by the policymakers and how those interests were to be protected.
- 2) The relationship between the civilian policymakers and the professional military leadership in this process.

- 3) The ability of the Canadian armed forces to respond to Canadian interests.

### The St Laurent Government, 1948-1957

The St Laurent Government's definition of Canadian interests included national unity, the rule of law in international affairs, political liberty, the values of Christian civilization, and an acceptance by Canada of international responsibilities. The means by which these interests were to be protected was Canada's participation in NATO. The actual extent of Canadian military participation and relationship to those interests, however, was ill-defined. Charles Foulkes set out to influence NATO's structure, a project in which he succeeded, but this was not enough "definition."

When confronted with an out of area problem in Korea which had ramifications for the defence of the NATO Area, the lack of an appropriate military response exposed the weaknesses of not having ready military forces to protect Canadian interests. It also exposed existing weaknesses in the Canadian national security policymaking structure. At the same time, the United States sought to establish Strategic Air Command facilities in Canada to increase the effectiveness of the nuclear deterrent. A new Canadian interest emerged. In keeping with Canada's strategic tradition of alliance warfare, there was concern on Pearson's part that the Americans might initiate nuclear weapons use without consulting allies. By establishing special criteria over the use of the Goose Bay facilities, Pearson wanted to use this leverage to protect Canadian interests.

The problems in responding to the Korean and NATO commitments drove Canada's military leadership and some civilian defence officials to alter the way in which business was done with high-level civilian policymakers. The most important move was the creation of the Chiefs of Staff Committee and the creation of the Panel on the Economic Aspects of Defence Questions. The presence of General Charles Foulkes on both of these bodies, in addition to the Cabinet Defence Committee and NATO's Military Committee, afforded unprecedented continuity and coordination of Canadian national security policy. It allowed long-term interests to be articulated and protected as long as the structure existed.

Thus, by 1951, NATO and the Canada-US relationship were expressions of the best way to protect Canadian interests. They both fit within the Canadian strategic traditions of alliance warfare and forward defence. New and related Canadian interests emerged, however. In Europe, the primary interest was to protect the NATO Area from Soviet expansionism. The main vehicles for this were NATO military forces (to which Canada contributed) and the NATO strategic concept, which provided a framework for the implementation of deterrence and warfighting if deterrence failed. Canada had an interest in ensuring that the strategy process was not dominated, as it had been during the Second World War, by the United States or the British. The method by which Canadian interests were protected was through direct participation in the strategy formulation process. This fit with all three Canadian strategic traditions.

On the other side of the Atlantic, Canada's interest was defined as protecting North America from air attack. Though a debate emerged over whether the bulk of the protection should go to SAC or the industrial-mobilization base, another long-standing Canadian interest required better

definition: sovereignty. A perception developed that too many Americans visibly defending Canadian interests could be confused with Americans defending American interests at Canada's expense. This was counterproductive in the domestic political arena. Another interest included Pearson's concern that the United States might shift into some form of isolation, a 'fortress America' mentality, which in turn would affect Canada's overseas interests in ensuring that NATO was strong. The method used to protect Canadian interests here included, as with NATO, participation in the strategy process. Again as with NATO, this could be done only if Canada contributed effectively in the air defence system by building effective Canadian air defence forces. The St Laurent Government understood this and responded accordingly.

By 1953-54, the ability of Canadian national security policymakers to respond to change was excellent. The service chiefs consisted of a group of far-sighted men involved at all levels of the process. The civil-military relationship had greatly improved and was cooperative and coordinated. The personal relationships among Pearson, Foulkes, and Campney definitely facilitated the effort.

All three men eventually concluded that the best way to protect all Canadian national security interests was to accept an overall NATO strategic concept that addressed all aspects of these interests. This strategic concept was MC 48, a strategy which was a nuclear strategy with nuclear implications for Canada's future force structure. During the debate over MC 48, a Canadian interest developed in ensuring that nuclear weapons release and use was not merely the prerogative of SACEUR (an American officer), as well as ensuring that the British did not dominate the MC 48 process and dictate the force structure. Once again, the method by which

Canadian interests were protected was through active participation in the process, which was based on the Canadian military contribution to NATO. The results of Canada's input in MC 48 were mixed: The strategy covered Canadian interests as to how Canadian forces would be employed in Europe and North America, but the debate over release of nuclear weapons and the wording injected by the Canadian delegation increased MC 48's ambiguity on the matter, which would pose problems for NATO strategy later on.

In a similar vein, Canada was able to protect her interests during the debate over the evolutionary strategy, MC 14/2 (revised) in 1956-57. The British wanted to decrease their conventional forces and spend the money on their strategic nuclear forces. At the same time, they wanted no emphasis on conventional operations in the NATO Area. They therefore pressed for a new NATO strategic concept. This affected Canadian interests in a number of ways.

First, Canadian policymakers understood that NATO had to have the means to respond to peripheral and small conventional threats to the NATO area so that these threats did not rapidly escalate to general nuclear war. Coupled with this was the realization that strategic nuclear weapons use could not deter all forms of Soviet activity affecting NATO. Secondly, reduction of the British conventional presence in West Germany (though its would increase the ratio of Canadian to British forces and increase Canadian operational influence and saliency) would force Canada to spend even more money to increase her land forces dedicated to the Central Region. This would affect the balance in the Canadian defence programme, with possible detrimental affects on the North American air defence programme which was related to sovereignty. In the case of MC 14/2 (revised), Canadian pressure for ambiguity was directed towards producing

flexibility in NATO strategy. Once again, participation in the process allowed Canadian influence to be exercised. Canadian participation in Europe with effective military forces afforded Canada the right to claim such influence.

Canada now had to modify its force structure so that it could participate in alliance operations within the context of MC 14/2 (revised), and thus protect Canadian interests at all levels. The aspects of a force structure necessary to participate included having the ability to operate in an environment in which nuclear weapons were used by friendly, as well as enemy, forces, and the ability of the Canadian forces to use them. If Canada did not have them, her forces would be second class and thus not salient.

As for the services, the Royal Canadian Navy had a defined area of command which allowed participation at all levels of the alliance strategy process in the Atlantic (SACLANT). The RCN and the RCAF had high quality ASW forces able to operate in a nuclear environment. These factors ensured relative military autonomy. A defined Canadian interest, in addition to direct defence and deterrence of the enemy, was sovereignty. As with the air defence forces, Canada could not be seen to turn over the defence of its coasts to the United States. Eventually, the RCN realized that ASW effectiveness would eventually rest on the ability to use nuclear ASW weapons to protect the SAC and industrial-mobilization bases from missile-launching submarines.

The Army realized early on that ground forces had to have both a conventional and a nuclear capability to respond to different threats. Therefore both capabilities had to be built into the force structure. Canada's land forces in Europe were high quality forces and were salient because of their proportion to allied forces and because of where they were positioned.

The relative military autonomy pillar was protected through Canadian participation in NATO's integrated command structure.

The RCAF in Europe was a conventional fighter force dedicated to protect SACEUR's nuclear capability. It was a salient force because of its numbers, its high quality, and its role. Its relative military autonomy was protected by the NATO command system. As for the RCAF in Canada, its air defence forces had the ability to detect and intercept an air attack against the continent. It had significant numbers and capability in addition to geography (between the USSR and the USA) as salient factors. Its relative military autonomy was protected in that it reported directly to Canada's military leaders as opposed to an alliance command. As with the naval forces, the RCAF recognized that the threat would increase in capability and that the air defence forces had to be able to meet that capability. Therefore, nuclear anti-aircraft weapons would eventually be needed. They would include the BOMARC and the planned nuclear-capable CF-105 Arrow interceptor. On the whole, the armed forces reacted well during the St Laurent years to the changing strategy, which in turn was related to protecting Canadian interests.

#### The Diefenbaker Government, 1957-1963

Two initial problems relating to Canadian interests dominated the first years of the Diefenbaker Government: the Canadian response to MC 70 and the NORAD agreement. Acceptance of the NATO strategic concept MC 14/2 (revised) by Canada accelerated the need to ensure that Canadian forces remained capable of participating effectively in the deterrent system. The

American stockpile agreement cleared the path. In their haste to create an integrated conventional-tactical nuclear force structure in NATO, the Standing Group and SHAPE attempted to impose a certain force structure on Canada. Canada had enough influence to oppose this and then develop a force structure which suited Canadian interests and capabilities.

General Lauris Norstad recognized that Canada was a valuable and influential ally within the NATO structure. Canadian attitudes and moves were critical indicators of allied thinking, and he also believed that Canadian moves influenced other NATO allies. General Foulkes performed a valuable mediation role within the Military Committee. Finally, Norstad also thought that if Canada reduced her NATO commitments, others might do the same. These views were understood by Canadian policymakers and were accurate reflections of the status of Canadian influence.

The best example was the decision to convert 1 Air Division to a nuclear strike force. The quality of Canadian pilots influenced SHAPE to press for such a conversion. NATO standardization, necessary to save money and increase efficiency, was facilitated by Canada's (and to some extent West Germany's) selection of the F-104 as 1 Air Division's strike aircraft. This prompted other allies, particularly the Belgians, the Dutch, and the Italians, to acquire a similar aircraft, while the Norwegians, Danes, Greeks, and Turks followed suit later. It paved the way for these allies to accept the nuclear strike role as well. A spin-off benefit was the economic harvest reaped by Canadian companies and the subsequent employment of Canadians.

The NORAD situation was more problematic. The ability to protect Canadian interests via the use of an integrated air defence system was called into question by the opposition party led by Pearson. Several spurious

charges were made against NORAD which revolved around long-standing Canadian interests relating to who made the decision as to when Canada went to war: Canada or the United States? The NORAD debates implied that Canadian air defence forces would be misused by the Americans and Canada's relative military autonomy threatened. Another problem was that American aircraft equipped with nuclear air defence weapons were protecting Canada, and there was no comparable Canadian capability; therefore Canadian sovereignty was called into question.

The facts were that there was some protection of Canadian interests through participation in an integrated headquarters. The Diefenbaker Government could not, however, avoid the fact that without up-to-date air defence weapons, Canada had by default to turn over the protection of Canadian airspace to the United States. A lesser capability would be a token capability. Canada's military leaders knew, and told the Government, that nuclear air defence weapons were necessary to protect Canadian sovereignty. However, the elimination of the nuclear-capable CF-105 Arrow increased Canada's technological dependence on the United States, thus ceding even more control of Canadian sovereign interests to the Americans. Human pride and domestic political politics conspired to delay acquisition of a new nuclear-capable interceptor. This was a serious loss of influence, not to mention national pride.

The NORAD problem was then followed by the related SAC problem. Again, the question of the definition of Canadian interests revolved around who determined when Canada went to war and to a lesser extent peacetime sovereignty. Rather than viewing NORAD as Canadian participation in the strategic warning process, Diefenbaker chose to view it as an American imposition on Canadian sovereignty. The 1958 Lebanon Crisis alert and the

mis-communication regarding alert consultation aggravated this problem. A further irritant involved External Affairs, whose personnel were trying to find means by which they could influence the American alert system and use this as a tool to 'brake' American 'overzealousness' for 'provocative' action. This was the wrong way to approach the problem and indicates that there was a lack of recognition that technology made sovereignty obsolete in some respects. Similarly, the Diefenbaker Government's attempt to withhold SAC's use of Goose Bay highlighted the ineffectiveness of denial as a means to influence the Americans.

The entire nuclear warhead custody and control problem could have been solved in 1959 once the Americans entangled the nuclear storage arrangements with command control and acquisition arrangements. This allowed Foulkes to exert Canadian influence, this time geographical influence relating to SAC storage and overflights, on the Americans, who at that time were willing to be influenced to the point of giving American nuclear weapons to Canada. Miscommunication prevented this solution from emerging and it was lost by 1960.

Canadian interests were not protected during the debate over control and custody of nuclear warheads since the process delayed the achievement of an effective military force structure. This was a false sovereignty issue, partly the result of Diefenbaker's twisted world view, partly because of red herring manipulation by Norman Robertson. Canadian interests were not in fact threatened by the dual-key system. Similarly, Canadian interests were not protected during the Berlin Crisis in 1961. Again, Diefenbaker, Green, and Robertson disallowed a Canadian force structure capable of efficiently participating in the defence of North America. By disallowing an

effective force structure Canadian sovereignty was in effect given over to the Americans.

Yet at the same time Leger and Ignatieff were still able to exert residual Canadian influence in the NATO forum. They forced the British, French, and Americans to 'NATO-ize' the LIVE OAK contingency planning. This helped propel the acceptance of flexibility in NATO planning and in turn protected the Canadian strategic tradition of alliance warfare, a vital Canadian interest.

Attempts by Howard Green to develop a 'new' Canadian interest,<sup>2</sup> disarmament, were imposed by Green without coordination. They cut across existing Canadian national security policy interests and produced a situation in which Canadian interests were no longer clear to Canadian policymakers or Canada's allies. For example, the acceptance by Green of the Irish Resolution hampered Canada's ability to negotiate with the Americans the command and control arrangements for the nuclear warheads which were in turn necessary to have an effective Canadian force structure and deterrent posture. Similarly, Robertson's opposition to the NATO MRBM programme enhanced the confusion as to what Canadian interests were and called into question Canada's commitment to the nuclear CF-104 force into which Canada had just influenced several European NATO members to buy.

The problems generated by the Diefenbaker-Kennedy confrontation made the formulation and protection of Canadian interests almost irrelevant to Diefenbaker. Consequently, several serious issues were left on the shoulder

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2. That is, provide a new direction for disarmament policy established under Pearson in the 1950s. See Joseph Levitt, Pearson and Canada's Role in Nuclear Disarmament and Arms Control Negotiations 1945-1957 (Kingston: McGill-Queen's University Press, 1993).

of the road. Vital Canadian interests, as developed during the MC 48 and MC 14/2 (revised) and MC 70 debates, were at stake in the 1962 flexible response debate within NATO. Other Canadian NATO interests also included the solidarity of NATO in the face to the existing threat and to ensure that there was no preponderance of German power within NATO. Canadian diplomats found themselves constrained because nuclear warhead acquisition had not proceeded, and because Canada did not have the ability to participate with effective forces and thus meet the commitments she made to NATO. It was a serious blow to Canadian credibility. 1962 marked the decline of Canadian influence on NATO strategic policy formulation.

A worse situation was the Canadian response to the Cuban Missile Crisis in 1962. Not alerting Canadian forces during the crisis did not positively influence American behaviour. It made the Americans feel even more vulnerable. Canadian interests during the crisis were not defined by the Prime Minister beyond the unrealistic expectations that Canada would decide when Canada would go to war in the face of ballistic missile attack by the Soviet Union. Canada's interests by default had to be defined by Harkness and the military leadership. The lack of definition drove Canada's military leaders to take steps to protect Canada's vital interests (the protection of North America) by BOMARC warhead movement to Canada, MB-1 standby arrangements, and nuclear ASW loading. These men had no choice but to take these measures given the gravity of the situation. What exactly is to be done with a democratically elected leader who will not make a decision during a crisis in which the survival of the Canadian people is at stake? This was an unprecedented problem which had to be overcome quickly.

Diefenbaker, Green, and Robertson share the blame for not taking measures to protect Canadian interests. These men, in effect, defined their individual self-interests as Canadian interests and acted accordingly. In his quest for international recognition as a peacemaker, Green utilized obstructionist tactics which ultimately undermined Canada's credibility and thus her ability to influence her allies. Robertson imposed his own views on what Canadian interests were, which involved de Gaulloist tactics to stop what he believed to be American 'provocation.' These measures in turn were directed towards blocking the nuclear weapons agreements which were necessary so that Canadian forces could participate in their stated mission: to protect Canadian interests overseas and at home. In Diefenbaker's case, his self interest was related to his personal inadequacy, his ego, and his inability to effectively deal with his prime antagonists, Pearson and Kennedy.

The armed forces' ability to respond to Canadian interests during the Diefenbaker period was mixed. At the leadership level, Canada's senior elected Ministers of National Defence and the professional soldiers, sailors, and airmen were at a loss as to how to react appropriately to the vagaries of John Diefenbaker's erratic behaviour. Foulkes and Miller, and even Pearkes and Harkness knew that Canada's ability to protect herself as part of the alliance was of paramount Canadian interest. The informal measures taken by the RCN, Army, and RCAF to incrementally improve their posture with regard to accepting nuclear weapons into the force structure should not be portrayed as renegade Strangelovian behaviour undertaken by uniformed warmongers. It is clear that these men had the best interests of the country at heart and responded the best they could given the circumstances. It was simply not acceptable to allow the Prime

Minister to decide on his own that Canadians should not be protected in a deadly nuclear confrontation because his ego was bruised.

The force structure was generally incapable of carrying out Canadian interests if war had started. The decision to scrap the CF-105 and then delay a manned interceptor replacement while delaying a decision regarding access to BOMARC warheads meant that the United States took over protecting Canadian sovereignty. The informal emergency measures taken to provide Canada with a nuclear defence capability were not enough to compensate, though Canada squeaked by in October 1962. Canada was in default of her NATO commitments by not allowing the European-based forces access to nuclear weapons. Canada was also in default of her NORAD commitments by not allowing North American-based forces access to nuclear weapons.

In terms of protecting Canada's cold war interests short of protection from annihilation, the fact that the military forces were actively pursuing nuclear and non-nuclear improvements contributed to maintaining Canada's credibility and influence in alliance circles. This was a wasting asset, however, and Canada was called out on it in October 1962. As for the air defence system, Diefenbaker would have been in a stronger position when dealing with John Kennedy if Canada was fully capable of meeting her air defence commitments. Kennedy could afford to be dismissive of the Canadian Prime Minister. Intransigence with no capability is a poor substitute for having an actual capability and then denying the benefits of that capability to an antagonist who needs it. Geography was not enough.

The Pearson Government, 1963-1967

Pearson's Government was elected in 1963 partially to right the imbalance created by the previous government. This entailed the immediate establishment of concrete Canadian national security interests to replace the amorphous ones of the Diefenbaker Government. This was relatively simple, since it required shifting Pearson's self-interested goals (re-election) and then using this concrete platform to implement them. These interests were defined as repairing the Canada-US relationship and restoring Canadian influence and prestige worldwide. In addition, the Pearson Government formulated another Canadian interest, national unity, in response to Quebec separatism as manifested by the FLQ's revolutionary terrorism.

The immediate means of protecting Canadian interests involved examining, modifying, and then signing the Canada-US Government-to-Government agreement on nuclear weapons access. This grouping of agreements established the command and control arrangements necessary to protect Canadian sovereignty. For example, BOMARC missiles based in Canada or the CF-101B/MB-1 manned interceptor system could not be employed without the express consent of the Prime Minister. Though Canada finally agreed to accept nuclear weapons for the CF-104, Honest John, BOMARC, and CF-101B systems, the ASW forces were left out. This was done for fear of igniting continued domestic debate over the systems, since Pearson wanted to be seen to be adhering to his interpretation of the latter of the law regarding Canada's nuclear commitments. This had detrimental effects on the potential effectiveness of the ASW forces during wartime, though emergency standby arrangements allowed some measure

of nuclear capability and thus permitted these forces to function alongside American naval continental defence forces protecting North America.

By this point in 1963, the inexorable march of American and Soviet strategic nuclear forces towards acquiring massive ICBM and SLBM capabilities produced the elimination of the B-47/KC-97 bomber force and reductions in the B-52-KC-135 force. The Goose Bay nuclear storage and the Northern Tanker Force operating bases ceased to be relevant indicators of American intentions in wartime and thus leverage tools in an Alliance context to the Canadian government.

In Europe, the partially-formed Canadian interest formulated by Norman Robertson which related to constraining a preponderance of West German power within NATO was given some attention. Under Pearson, the Chiefs and External Affairs thought that Canadian participation in the MLF would be a valuable means of exerting influence within NATO. Pearson and Hellyer, however, were more intrigued with the Inter-Allied Nuclear Force idea, since the existing CF-104 force manifested through 1 Air Division would provide as much influence and was already in place. Canada was instrumental in supporting the idea of a NATO nuclear force coordinated with SAC, but Canadian interests were defined as maintaining operational influence over 1 Air Division as opposed to using Canadian positions on the newly-created Joint Strategic Target Planning Staff to push Canadian views on NATO nuclear strategy in a variety of fora. The formation of the Nuclear Planning Group provided Canada with an appropriate venue in this regard. Canadian participation on the JSTPS did, however, represent the ultimate level of operational influence and provided Canada with saliency.

Another factor affecting Canadian interests was Pearson's election promise to re-evaluate Canadian national security policy. Such a potential redefinition of Canadian interests was carried out through the Special Committee on Defence (SCOD), the 1963 Ad Hoc Committee on Defence, Canada's analysis of a new NATO strategic concept, and ultimately by the 1964 White Paper process.

The public and internal forums provided even more confirmation of the relationship between Canadian interests and military forces. In bald language, the committee stated that maintaining effective forces which could contribute to the Alliance was critical to maintaining influence with Canada's allies and for supporting intra-Alliance diplomacy which involved non-military aspects. If Canada did not protect her sovereignty and her interests, her Alliance influence would decrease and perhaps even her national unity. If Canada was to define new interests outside of her traditional European and North American-based ones, a whole new force structure would also be required. On the air defence side, everyone recognized that there would be a decrease in emphasis on air defence in the 1970s, which in turn might affect Canada's ability to influence the United States in a number of areas like trade policy. For the time being, however, NORAD was salient, and it contributed to propping up sagging Canadian prestige in NATO.

The Ad Hoc Committee and the 1964 White Paper also noted that Canada had, in 1963-64, an unprecedented chance to influence NATO strategic policy now that it was once again in flux. The 1964 White Paper reiterated that the ratification and implementation of Flexible Response was of great and long-term Canadian interest, since it was the most promising way of preventing general nuclear war. It also indicated that Canada's forces

should contribute in a positive manner to Flexible Response. They should be updated and remain capable of operations in a nuclear as well as a conventional environment. The main flaws of the 1964 White Paper in pursuing these aims were the lack of emphasis placed on rebuilding the logistics system (which was geared for nuclear war) and complete inattention to the plight of the seriously depleted and demoralized reserve forces. There were also concerns that replacement of 1 Air Division's nuclear strike aircraft with conventional attack aircraft could reduce saliency.

Canada's ability to re-create her force structure to carry out policies which would protect Canadian interests was called into question after 1964, however. There were many reasons for this. First of all, the Pearson Government's national security policymaking process was flawed in that Pearson did not properly coordinate the fiscal aspects of national security policy with those of his Finance Minister. Consequently, this produced a Canadian national security policy which could not be fully implemented with a force structure commensurate with the strategy. This in turn was aggravated by the changes to the national security policymaking process by Hellyer.

The cumulative effect of these changes was to reduce drastically the ability of the professional military leadership to influence that process. The effect of this on the civil-military relationship was devastating over the long term. What had started out as a cordial relationship in the wake of the animosity generated by John Diefenbaker shifted into what eventually amounted to bitter resentment by the services at the cavalier treatment of their leaders by Hellyer. This had the effect of further alienating the two factions in the midst of a crucial NATO strategic reappraisal.

By 1966-67, the Pearson Government redefined Canadian interests around the national unity imperative. The main drivers here were FLQ terrorism, DeGaulle's tactless behaviour during Expo 67, and the effects of Walter Gordon's mismanagement of the Canadian economy. At the same time, Canada was embroiled in a series of international crises which were either outside the NATO Area or on its periphery: ongoing unrest in Cyprus, the war in Vietnam, and the Six Day War in 1967. In effect, the Pearson Government turned away from NATO problems in the Central Region. Though Canada had influenced the creation of the Harmel Report as a means to solving the problem of France's place within the NATO structure, there was almost no apparent effective Canadian influence exercised over the formulation of the MC 14/3 strategic concept or the creation of NATO's Nuclear Planning Group, which were the eventual solutions to years of problems relating to nuclear weapons and conventional force balance. If there was any influence exercised, it was not to the same degree as Canadian influence exerted during the MC 48, MC 14/2 (revised), or MC 70 debates.

Canada's force structure was, however, now capable of fulfilling the roles and missions to which Canada committed herself. The Honest Johns and CF-104's, along with 4 Brigade and the ACE Mobile Force commitment, assured effective Canadian participation in the deterrent system in Europe both in conventional and nuclear terms. Even 1 Air Division developed a nascent conventional capability. The air defence forces were finally capable of countering the bomber threat. Land and air transport forces continued to be committed to UN operations on a case-by-case basis. As before, Canada's forces maintained their relative military autonomy through Canadian

participation in integrated alliance headquarters and through technical command and control means in terms of nuclear air defence weapons.

We must consider the possibility that Canada's shift towards isolationism influenced, to some extent, European NATO members' unwillingness not to build up their conventional forces to support the MC 14/3 strategy. It is possible that Canada could have played a role in making MC 14/3 a realistic strategy in the same way that Canada's acceptance of the CF-104 nuclear strike role influenced Europeans to commit to similar missions.

#### The Trudeau Government, 1968-1972

The primary Canadian interest that continued during the Trudeau period was the focus on national unity to contain and eliminate Quebec separatism. The chosen methods were economic growth generated by the search for new markets and moderate economic nationalism to keep United States cultural and economic influence at arm's length. National sovereignty was also posited as a Canadian interest. Prime Minister Trudeau does not appear to have seen these interests as related to Canada's existing national security policy as it related to nuclear weapons.

In two national security policy reassessment studies, STAFFEUR (1969) and the Rationale for Defence Forces (1968), however, professionals noted that the best way to influence the United States and France was to maintain Canadian participation in NATO to counterbalance their power. The lack of interest in national security policy, however, was evident in the Trudeau Government's reaction to the 1968 Czech Crisis. The Government was more

concerned about getting NATO to accept Canadian force cuts than dealing with an alarming crisis which threatened NATO and thus Canadian interests. Even SACEUR's request for more conventional Canadian forces was left unheeded. In effect, the ability of military forces to help Canada apply influence was completely discarded by the Trudeau Government, since some in that government believed that participation in NATO did not positively affect trade policy between Canada and Europe. This highlights the unrealistic expectations on the part of the Trudeau Government relating to influence. It was an either-or proposition for them: either influence is total, or it does not exist.

Ironically, the 'non-alignment,' that is, neutrality option, explored during the Trudeau years, confirmed that effective military forces would be necessary to enforce Canadian sovereignty if Canada was not part of a collective security arrangement. This in turn would exacerbate existing Canadian economic problems. Ironically, Canada would also need an independent nuclear weapons programme to produce the weapons needed to guarantee Canadian sovereignty. Canada could not be neutral and independent without effective military forces. Therefore, Canadian interests, economic and military, were best served by remaining part of NATO, where Canada could get an almost free ride if her leaders chose to do so.

Maintaining the so-called mutually stable deterrence system was floated about as a possible Canadian interest, though it was not formally accepted as such. This thinking prompted calls for the elimination of 'provocative' force structures, particularly 1 Air Division and the ASW forces. Not coincidentally, this was Canada's most salient force.

The force structure implications of the MC 14/3 strategic concept were understood by the Trudeau policymakers. Unfortunately, Flexible Response was rejected as unworkable and too expensive. The alternative, reliance on nuclear weapons, was considered too dangerous. Non-participation was, as we have seen, not an option. The consequence was the reduction of the force structure so that it was economically maintainable but incapable of seriously contributing to the deterrent, in essence a token force.

This contradictory national security policy proceeded since the national security process, already weak under Pearson, broke down completely. The Privy Council Office/Prime Minister's Office, the turmoil within the Department of National Defence and the Canadian Armed Forces, marginalization of professional military advice, coupled to the prospect of unelected civilian advisors supplanting elected representatives and professionals, ensured that this would happen. The non-paper presented in 1969 was the final nail in the coffin of the national security policy process and was a triumph of the amateurs over the professionals.

What of the military's ability to respond to Canadian interests? By 1972, the armed forces were incapable of responding to Canadian interests as defined over the previous twenty years. Without nuclear weapons, they could not participate in a general war either to protect Europe or protect North America. There was some capability with the CF-101B/AIR-2A combination, but there was no ABM system. The maritime forces were not allowed to target enemy missile submarines, and without nuclear ASW weapons or improved conventional ASW weapons, would be incapable of doing so in any case.

Canada could participate in 'signaling' with the ACE Mobile Force and STANAVFORLANT in the NATO Area, but 4 Brigade's ability to fight

beyond three days in a small blocking operation was non-existent. The Canada-based brigades were slashed and their equipment was decrepit. There was no airlift or sealift to move them. There were a large number of CF-5 light attack aircraft, but the ability to move them to Europe on short notice did not exist, and their operational effectiveness was questionable. The small number of CF-104's remaining in Europe (now converted to conventional operations) had decreased lethality in the new conventional environment. The only missions the armed forces were capable of conducting were an aid of the civil power operations to assist the police in containing terrorism in Quebec and to provide some limited coastal surveillance. The capability to conduct peripheral conventional UN operations remained, but such operations were not favoured by the Trudeau Government.

None of these roles had any saliency in NATO, and since influence in NATO was not regarded as useful by the Prime Minister, the entire system was left to decay. The Trudeau Government, in effect, relinquished Canada's hard-won seat at the table and justified it by asserting that the threat to Canadian interests was not imposing enough to warrant deployed effective military forces. In doing so, the level of Canadian international prestige and eventually her self-respect plummeted and then mingled with the nascent colonial inferiority complex that nestled deep within the 'mentalite' of the Canadian populace. This low-level anger was then directed against the United States. No amount of taxpayer money frivolously given away to the Third World by the Canadian International Development Agency (the new 'third arm' of Canadian foreign policy in the 1970s) can really compete with the image of a unified Canada taking her rightful place

in the line with her NATO allies in deterring nuclear annihilation and resisting the march of Soviet totalitarianism.

### Summation: The Nature of Canadian Influence

In general terms, many who have written about Canadian national security policy have been influenced by the emotional aspects of the apparent Canadian subservience to a dominant United States. The sources of this visceral reaction range from abhorrence of American involvement in Vietnam, to the flood of American culture overflowing unchecked into Canada. Clearly, these are expressions of an insecure, post-colonial national mentalite' without an anchor to hold on to.

In addition, many people still choose to believe that the Cold War was initiated by the United States, that the Soviet Union operated in a purely defensive mode, that the threat was exaggerated merely for American economic purposes, and that NATO is strictly an American tool to execute a malevolent world-wide economic agenda. If one adheres to this perspective, it follows that no country can influence the United States (let alone Canada), and that the national interests of American allies do not exist. This perspective, conversely, assumes that total freedom from American domination involves the ability of a nation to make decisions in complete isolation and completely free from outside influence. In other words, Canada is completely under American control, but it should have the ability to completely control its own destiny. This is a completely unrealistic proposition rooted in the revolutionary rhetoric of the 1960s. Influence is not a zero-sum game.

Canadian aims were not grandiose ones. Canadian policymakers merely wanted peace, freedom, and economic prosperity for the Canadian people. These aims appear mundane when compared to the flashy crusade-like expressions of American containment policy emphasizing democratization and capitalization. They may appear boring when compared to the exciting fervor gripping the 1960s Third World revolutionary "movements." They appear violent when compared to providing passive idealistic aid to the Third World. Canada's national security policy aims were, however, realistic and morally acceptable ones.

At the next level, Canadian national aims within NATO revolved around selecting the best strategic concept to meet the threat and by implementing measures to protect Canadian forces from mis-use. The fact that Canadian national security policy aims coincided with American national security policy aims at times does not conclusively prove that Canada was duped or manipulated, nor does it prove that Canada was an American satellite. This was demonstrated time and time again by Canada's participation in the NATO strategic process (MC 48, MC 14/2 (revised), and MC 70) and the NORAD arrangements. Canadian policymakers developed a sophisticated understanding of the implications of a purely nuclear weapons-based strategy and strove for positive change. Canada had a choice and chose to exhibit behaviour consistent with her interests.

At times, Canada even manipulated NATO allies for Canadian national purposes. Examples include the nuclear weapons effects information gathering programme, the creating of informal nuclear capability in the early 1960s, and the F-104G programme.

It is true that missile technology did call into question some aspects of national sovereignty. This should, however, not be deemed a purely

American imposition, given the size and strength of the Soviet nuclear forces and the uncontrollable factor of geographical proximity to the United States. Canada could either choose to participate in her defence or turn it over to the Americans. Independent air and missile defences were not economically feasible, and denying Canadians protection was not morally feasible. The balance struck between the two did produce reliance on American technology and decisions relating to BOMARC and ABM systems. This does not demonstrate complete Canadian reliance on the American whim: It demonstrates the ineffectiveness of the government of the day in ensuring that Canadian interests were protected through vigorous participation in and lobbying for these programmes.

Canada used a combination of approaches to exert influence. There were strategic, technical, and operational special relationships among Canada's armed forces and those of the United States, Britain, and West Germany. The most important one, however, was between the USAF and the RCAF. Canada's civilian policymakers did treat American influence as one of many influences during their deliberations over national security policy and not always as the dominant one. The Diefenbaker Government adopted obstructionist tactics in an effort to pressure the Americans. The approach involving participation and the use of geography as influence tools was used extensively in the debates over the air defence system.

The problem for Canada in this case was that using these methods required a robust national security policymaking apparatus that had long-term interests as the basis for its activity as well as effective military input. Canada started to create one, but it was marginalized and eventually dismantled over the period in question. This ensured that the critical understanding of the relationship between operational forces and national

interests could not be communicated by the professional military representatives to the unelected civilian bureaucracy and the elected civilian officials.<sup>3</sup> The purpose of the armed forces was called into question, and there was no adequate reply, which resulted in their dismantlement.

In the end, the 1952-1972 period marked the peak of Canadian global influence during this nation's short history. The 1950s and 1960s marked a period of unprecedented international involvement which, it is safe to say, Canada made a positive contribution. It is unfortunate that the Canadian government chose to retreat from this prominent position and seek virtual anonymity.

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3. Janne E. Nolan discusses the divergence between American civilian and uniformed nuclear policymakers in Guardians of the Arsenal: The Politics of National Strategy (New York: Basic Books, 1989).

## BIBLIOGRAPHY

### Personal and Association Papers

National Archives of Canada (Ottawa):

The Jeffry V. Brock Papers  
The E.L.M. Burns Papers  
The Brooke Claxton Papers  
The Harry George DeWolf Papers  
The Gordon Churchill Papers  
The John G. Diefenbaker Papers  
The Howard Green Papers  
The Douglas Harkness Papers  
The A.D.P. Heeney Papers  
The Andrew McNaughton Papers  
The Lester B. Pearson Papers

Director General, History (Ottawa):

The Carstairs Arnell Papers  
The Charles Foulkes Papers  
The Max Hendrick Papers  
The Charles Raymont Collection

University of Toronto Archives (Toronto):

The O.M. Solandt Papers  
The C.P. Stacey Papers

Trinity College Archives (Toronto):

The George Ignatieff Papers

Canadian Institute of International Affairs (Toronto):

The John Holmes Papers

University of Victoria Archives (Victoria):

The George Pearkes Papers

Dwight D. Eisenhower Library (Abilene):

The Lauris Norstad Papers  
The Alfred Gruenthal Papers  
The John Foster Dulles Papers

U.S. National Archives and Record Administration (Washington D.C.):

The Lyman L. Lemnitzer Papers  
The Robert S. McNamara Papers

U.S. Navy Operational Archives (Washington D.C.):

The Arleigh Burke Papers  
The Forrest Sherman Papers

Library of Congress Manuscript Division, (Washington D.C.):

The Lynde McCormick Papers.

Yale University (Newhaven):

The Dean Acheson Papers

Archives Record Groups

Director General, History (Ottawa):

The Raymond Collection  
Memoranda of the Chiefs of Staff Committee  
Memoranda of the Joint Planning Committee  
Memoranda of the Cabinet Defence Committee

Dwight D. Eisenhower Library (Abilene):

White House Office: Office of the Special Assistant for National Security Affairs, 1952-61  
White House Office: National Security Council Staff Papers, 1948-61.

John F. Kennedy Library (Boston):

National Security Files  
Department of Defense  
Department of State

Lyndon B. Johnson Library (Austin):

National Security File

National Archives of Canada (Ottawa)

RG 2: Cabinet Memoranda and Conclusions  
RG 24: Department of National Defence  
RG 25: External Affairs  
RG 49: Department of Defence Production

Public Record Office, Kew (London):

ADM 204 Admiralty Research Laboratory Files  
ADM 205 First Sea Lord's Records  
ADM 223 Monthly Intelligence Reports  
DEFE 4 Chiefs of Staff Committee Minutes, 1947-1957  
DEFE 6 Chiefs of Staff Committee Joint Planning Staff  
Documents, 1947-1959  
DEFE 7 NATO-general  
DEFE 11 Chiefs of Staff Committee Registered Files, 1946-1964  
DEFE 13 Private Office Papers, 1950-1965

U.S. National Archives and Record Administration (Washington D.C.):

RG 59: State Department  
RG 218: Joint Chiefs of Staff

U.S. Navy Operational Archive (Washington D.C.):

Strategic Plans Division 1945-1955  
CinCLANTFLT Annual Reports, 1946-1970  
CinCPACFLT Annual Reports, 1946-70  
Annual Reports to the Secretary of the Navy 1952-1965

Interviews and Correspondance

Gen J.V. Allard, Canadian Army

Col William J. Anderson, RCAF  
LGen M.R. Dare, Canadian Army  
Air Marshal C. Dunlap, RCAF  
Mr. Keith P. Farrell  
MGen J.C. Gardner, Canadian Army  
Gen Sir John Hackett, British Army  
Col Tom Henry, RCAF  
LGen A. Chester Hull, RCAF  
VAdm Yogi Kaufman, USN  
MGen George Kitching, Canadian Army  
MGen Reg Lane, RCAF  
Col Fred Lockwood, USAF  
G/C Robert Schultz, RCAF  
BGen Herb Sutherland, RCAF  
MGen A.J. Tedlie, Canadian Army

#### Oral Histories

U.S. Navy Operational Archive (Washington):

Anderson, George. Admiral (USN)  
Carney, Robert B. Admiral, (USN)  
Duncan, Charles K. Admiral, (USN)  
Fechteler, William M. Admiral, (USN)

Office of the Secretary of Defense Historical Section:

General L.L. Lemnitzer

#### Published Document Collections

Eisenhower Papers:

Galambos, Louis, et al. The Papers of Dwight David Eisenhower Volume XII: NATO and the Campaign of 1952 Baltimore: The Johns Hopkins University Press, 1989.

Galambos, Louis, et al. The Papers of Dwight David Eisenhower Volume XIII: NATO and the Campaign of 1952 Baltimore: The Johns Hopkins University Press, 1989.

US Joint Chiefs of Staff:

Records of the Joint Chiefs of Staff Part II: 1946-1953 The U.S. and the Soviet Union Lanham, Maryland: University Publications of America, 1979. (microfilm)

Records of the Joint Chiefs of Staff Part II: 1946-1953 Europe and NATO Lanham, Maryland: University Publications of America, 1980. (microfilm)

Records of the Joint Chiefs of Staff Part II: 1946-1953 The United States Lanham, Maryland: University Publications of America, 1980. (microfilm)

Records of the Joint Chiefs of Staff Part II: 1946-1953 Strategic Issues 1 Lanham, Maryland: University Publications of America, 1980. (microfilm)

Records of the Joint Chiefs of Staff Part II: 1946-1953 Strategic Issues 2 Lanham, Maryland: University Publications of America, 1980. (microfilm)

Records of the Joint Chiefs of Staff Part II: 1946-1953 The United States Lanham, Maryland: University Publications of America, 1980. (microfilm)

US Department of State:

Foreign Relations of the United States 1950 Volume I:National Security Affairs; Foreign Economic Policy Washington: U.S. GPO, 1977.

Foreign Relations of the United States 1950:Western Europe Washington: U.S. GPO, 1977.

Foreign Relations of the United States 1951 Volume I: National Security Affairs; Foreign Economic Policy Washington: U.S. GPO, 1979.

Foreign Relations of the United States 1951 Volume II: The United Nations; The Western Hemisphere Washington: U.S. GPO, 1979.

Foreign Relations of the United States 1951 Volume III:European Security and the German Question part 1 Washington: U.S. GPO, 1981.

Foreign Relations of the United States 1952-1954 Volume II: National Security Affairs parts 1 and 2 Washington: U.S. GPO, 1986.

Foreign Relations of the United States 1952-1954 Volume VI: Western Europe and Canada Washington: U.S. GPO, 1986.

Foreign Relations of the United States 1958-1960 Volume VII: Western European Integration and Security; Canada Parts 1 and 2 Washington: U.S. GPO, 1993.

Foreign Relations of the United States 1961-63 Volume XIII: Western Europe and Canada Washington: U.S. GPO, 1994.

Published Official Documents

Department of the Army (US):

The Effects of Nuclear Weapons: 1962 (Washington: Department of the Army, 1962)

The Effects of Nuclear Weapons: 1957 (Washington: Department of the Army, 1957)

Department of National Defence (Canada):

Report of the Department of National Defence For the Fiscal Year Ending 31 March 1950 Ottawa: Queen's Printer, 1950.

Report of the Department of National Defence For the Fiscal Year Ending 31 March 1951 Ottawa: Queen's Printer, 1951.

Report of the Department of National Defence For the Fiscal Year Ending 31 March 1952 Ottawa: Queen's Printer, 1952.

Report of the Department of National Defence For the Fiscal Year Ending 31 March 1953 Ottawa: Queen's Printer, 1953.

Report of the Department of National Defence For the Fiscal Year Ending 31 March 1954 Ottawa: Queen's Printer, 1954.

Report of the Department of National Defence For the Fiscal Year Ending 31 March 1955 Ottawa: Queen's Printer, 1955.

Canada's Defence Programme 1955-56 Ottawa: Queen's Printer, 1956.

Canada's Defence Programme 1956-57 Ottawa: Queen's Printer, 1957.

Defence 1959 Ottawa: Queen's Printer, 1959.

Pearkes, G.R. Statements on Defence Policy and its Implementation Ottawa: Queen's Printer, 1960.

Defence in the 1970's Ottawa: Queen's Printer, 1971.

North Atlantic Treaty Organization:

- SACLANT Information Pamphlet Norfolk, Virginia [unknown year]
- NATO Information Service. The NATO Handbook 1952 Bosch, Netherlands: 1952.
- NATO Information Service. The NATO Handbook 1953 Bosch, Netherlands: 1953.
- NATO Information Service. The North Atlantic Treaty Organization 1956 Bosch, Netherlands: 1956.
- NATO Information Service. The North Atlantic Treaty Organization 1959 Bosch, Netherlands: 1959.
- NATO Information Service. The North Atlantic Treaty Organization 1962 Bosch, Netherlands: 1962.
- NATO Information Service. NATO Basic Documents: 4th Edition Brussels: NATO Information Service, 1989.
- Published Official Histories
- Canada:
- Douglas, W.A.B. The Creation of a National Air Force: The Official History of the Royal Canadian Air Force Volume II Toronto: University of Toronto Press, 1986.
- Goodspeed, D.J. DRB: A History of the Defence Research Board of Canada Ottawa: Queen's Printer, 1958.
- Greenhous, Brereton, Stephen J. Harris, William C. Johnston, and William G.P. Rawling, The Crucible of War 1939-1945: The Official History of the Royal Canadian Air Force Volume III Toronto: University of Toronto Press, 1994.
- Hilliker, John. Canada's Department of External Affairs Volume 1: The Early Years, 1909-1946 Montreal and Kingston: McGill-Queen's University Press, 1990.
- Hilliker, John and Donald Barry. Canada's Department of External Affairs Volume 2: Coming of Age, 1946-1968 Montreal and Kingston: McGill-Queen's University Press, 1995.
- Wood, Herbert Fairlie. Strange Battleground: The Official History of the Canadian Army In Korea Ottawa: Crown Publishers, 1966.

Germany:

Von Roland G. Foerster, Christian Greiner, Georg Meyer, Hans-Juergen Rautenberg und Norbert Wiggershaus. Anfänge westdeutscher Sicherheitspolitik 1945-1956 Band 1: Von der Kapitulation bis zum Plevenplan Munich: R. Oldenbourg Verlag, 1982.

Von Lutz Koellner, Klaus A. Maier, Wilhem Meier-Doernberg und Hans-Erich Volkmann. Anfänge westdeutscher Sicherheitspolitik 1945-1956 Band 2: Die EVG-Phase Munich: R. Oldenbourg Verlag, 1990.

United Kingdom:

Wynn, Humphery. RAF Nuclear Deterrent Forces London: HMSO, 1994.

United States:

Knaack, Marcel Size. Post-World War II fighters Washington D.C.: Office of Air Force History, 1986.

McAuliffe, Mary S. CIA Documents on the Cuban Missile Crisis 1962 Washington D.C.: CIA History Staff, 1992.

Neufeld, Jacob. Ballistic Missiles in the United States Air Force 1945-1960 Washington D.C.: Office of Air Force History, 1990.

Poole, Walter S. The History of the Joint Chiefs of Staff Vol. IV 1950-1952 Washington D.C.: Historical Division Joint Secretariat Joint Chiefs of Staff, December 1979.

Ruffner, Kevin C. (ed) CORONA: America's First Satellite Program Washington D.C.: CIA History Staff, 1995.

Schaffel, Kenneth. The Emerging Shield: The Air Force and the Evolution of Continental Air Defense 1945-1960 Washington D.C.: Office of Air Force History, 1991.

Steury, Donald T. (ed) Intentions and Capabilities: Estimates on Soviet Strategic Forces, 1950-1983 Washington D.C.: CIA History Staff, 1996.

Watson, Robert. The History of the Joint Chiefs of Staff Vol. V The Joint Chiefs of Staff and National Policy, 1953-1954 Washington D.C.: Historical Division, Joint Chiefs of Staff, 1986.

Unpublished Theses and Dissertations

Clark, Robert H. "Canadian Weapons Acquisition: The Case of the BOMARC Missile", unpublished MA thesis, Royal Military College of Canada, 1983.

Eyre, K.C. "Custos Borealis: The Military in the Canadian North", unpublished PhD Dissertation, King's College, 1987.

Ghent, Jocelyn Maynard. "Canadian-American Relations and the Nuclear Weapons Controversy, 1958-1963", unpublished PhD Dissertation, University of Illinois, 1976. University Microfilms International Order Number 76-24,087.

Grimshaw, Louis. "On Guard: A Perspective on the Roles and Functions of the Army in Canada", unpublished MA thesis, Royal Military College of Canada, 1989.

Hennessy, Michael A. "The Rise and Fall of a Canadian Maritime Policy, 1939-1965: A Study of Industry, Navalism and the State", unpublished PhD Dissertation, The University of New Brunswick, 1995.

Rennie, Carl G. "The Mobilization of Manpower for the Canadian Army During the Korean War, 1950-1951", unpublished MA thesis, Royal Military College of Canada, 1982.

Autobiographies and Biographies

Allard, Jean Victor and Serge Bernier. Memoirs Vancouver: UBC Press, 1988.

Bothwell, Robert and William Kilbourn. C.D. Howe: A Biography Toronto: McClelland and Stewart, 1979.

Brock, Jeffry V. With Many Voices: Memoirs of a Sailor Vols 1 and 2 Toronto: McClelland and Stewart, 1983.

Burcuseon, David Jay. True Patriot: The Life of Brooke Claxton 1998-1960 Toronto: University of Toronto Press, 1993.

English, John. Shadow of Heaven: The Life of Lester Person Volume One: 1897-1948 London: Vintage UK, 1989.

English, John. The Worldly Years: The Life of Lester B. Pearson 1949-1972 Toronto: Random House of Canada, 1993.

Gordon, Walter. A Political Memoir Toronto: McClelland and Stewart, 1977.

Graham, Dominick. The Price of Command: A Biography of General Guy

- Simonds Toronto: Stoddart Publishing Co. Ltd., 1993.
- Granatstein, J.L. A Man of Influence: Norman A. Robertson and Canadian Statecraft, 1929-1968 Ottawa: Deneau Publishers, 1981.
- Hellyer, Paul. Damn The Torpedoes: My Fight To Unify Canada's Armed Forces Toronto: McClelland and Stewart, 1990.
- Ignatieff, George. The Making of a Peacemonger: The Memoirs of George Ignatieff Toronto: University of Toronto Press, 1985.
- LaMarsh, Judy. Memoirs of a Bird in a Gilded Cage Toronto: McClelland and Stewart, 1969.
- Martin, Paul. A Very Public Life (2 Vols) Ottawa: Deneau Publishers, 1984.
- Morton, Desmond. "He Did What Had to be Done," The Toronto Star Saturday Magazine 23 June 1990, p. 16.
- Newman, Peter C. Renegade in Power: The Diefenbaker Years Toronto: McClelland and Stewart, 1963.
- Pearson, Lester B. Mike: The Memoirs of the Rt. Hon. Lester B. Pearson (3 Volumes) Toronto: University of Toronto Press, 1972.
- Pickersgill, J.W. My Years With Louis St Laurent: A Political Memoir Toronto: University of Toronto Press, 1975.
- Pope, Maurice A. Soldiers and Politicians Toronto: University of Toronto Press, 1962.
- Reid, Escott. Radical Mandarin: The Memoirs of Escott Reid Toronto: University of Toronto Press, 1989.
- Ritchie, Charles. Storm Signals: More Undiplomatic Diaries, 1962-1971 Toronto: Macmillan, 1983.
- Robinson, Basil. Diefenbaker's World: A Populist in Foreign Affairs Toronto: University of Toronto Press, 1989.
- Shapely, Deborah. Promise and Power: The Life and Times of Robert McNamara Boston: Little Brown and Co., 1993.
- Sharp, Mitchell. Which Reminds Me...A Memoir Toronto: U of T Press, 1994.
- Smith, Denis. Rogue Tory: The Life and Legend of John G. Diefenbaker Toronto: Macfarlane, Walter and Ross, 1995.
- Stursberg, Peter. Lester Pearson and the American Dilemma Toronto:

Doubleday Canada, 1980.

Thomson, Dale C. Louis St Laurent: Canadian Toronto: Macmillan of Canada, 1967.

Trudeau, Pierre. Memoirs Toronto: Maclelland and Stewart, Inc., 1993.

Worthington, Larry. Worthy: A Biography of Major General F.F. Worthington Toronto: Macmillan, 1961.

### Published Secondary Sources

Adcock, Al. Sea King in Action Carrollton: Squadron/Signal Publications, 1995.

Allison, Graham T., Albert Carnesale, and Joseph S. Nye, Jr. Hawks, Doves, and Owls: An Agenda for Avoiding Nuclear War New York: W.W. Norton and Co., 1985.

Andrew, Arthur. The Rise and Fall of a Middle Power: Canadian Diplomacy from King to Mulroney Toronto: Lorimer and Co., 1993.

Anglin, Gerald. "The Russian Subs on Our Coastline," Maclean's 1 April 1951, pp. 14-16.

Arbuckle, Grameme. Badges of the Royal Canadian Navy Halifax: Nimbus Publishing, 1987.

Archer, Bob. "USAFAF 1970-1979: A Decade of Airpower," Wings of Fame: The Journal of Classic Combat Aircraft Vol. 4 London: Airspace Publishing Ltd., 1996 pp. 138-157.

Arkin, William M. and Richard Fieldhouse. Nuclear Battlefields: Global Links to the Arms Race Cambridge: Ballinger Publishing Co., 1985.

Arnold, Lorna. A Very Special Relationship: UK Atomic Warfare Trials in Australia London: HMSO 1989.

Ashworth, Chris. RAF Bomber Command 1936-1968 Somerset: PSL Publishing Ltd., 1995.

Axworthy, Thomas S. and Pierre Elliott Trudeau, eds. Towards a Just Society: The Trudeau Years Toronto: Viking Books, 1990.

Bacevich, A.J. The Pentomic Era: The U.S. Army Between Korea and Vietnam Washington: National Defense University Press, 1988.

- Ball, Desmond and Jeffrey Richelson (eds.). Strategic Nuclear Targeting  
Ithaca:  
Cornell University Press, 1986.
- Bashow, David L. Starfighter Stoney Creek: Fortress Publications, 1993.
- Bauss, W. (ed.) Radio Navigation Systems For Aviation and Maritime Use: A Comparative Study New York: Pergamon Press, 1963.
- Baylis, John. Anglo-American Defence Relations 1939-1984 New York: St. Martin's Press, 1984.
- Becker, Hans-Jurgan. Flugzeuge die Geschichte machen Starfighter F-104  
Stuttgart: Motorbuch Verlag, 1992.
- Berdal, Mats. Forging a Maritime Alliance: Norway and the Evolution of American Maritime Strategy, 1945-1960 Oslo: institutt for Forvarsstudier, 1993.
- Berman, Robert and Bill Gunston. Rockets and Missiles of World War III New York: Exeter Books, 1983.
- Beschloss, Michael R. May Day: Eisenhower, Khrushchev and the U-2 Affair  
New York: Harper and Row, 1986.
- Blair, Bruce. Strategic Command and Control: Redefining the Nuclear Threat  
Washington D.C.: The Brookings Institution, 1985.
- Blair, Bruce. The Logic Of Accidental Nuclear War Washington: The Brookings Institute, 1993.
- Bland, Douglas. The Military Committee of the North Atlantic Alliance: A Study in Structure and Strategy New York: Praeger, 1991.
- Bland, Douglas. The Administration of Defence Policy in Canada, 1947 to 1985  
Kingston: Ronald P. Frye and Co., 1987.
- Bland, Douglas. Chiefs of Defence: Government and the Unified Command of the Canadian Armed Forces Toronto: The Canadian Institute of Strategic Studies, 1995.
- Blight, James G. and David A. Welch. On The Brink: Americans and Soviets Re-examine the Cuban Missile Crisis New York: Hill and Wang, 1989.
- Bonds, Ray (ed.) The Soviet War Machine New York: Chartwell Books Inc., 1976.
- Bothwell, Robert. Nucleus: The History of Atomic Energy of Canada Limited  
Toronto: Toronto University Press, 1995.

- Bothwell, Robert. Eldorado: Canada's National Uranium Company Toronto: University of Toronto Press, 1984.
- Bothwell, Robert. Canada and the United States: The Politics of Partnership Toronto: University of Toronto Press, 1992.
- Botti, Timothy J. The Long Wait: The Forging of the Anglo-American Nuclear Alliance, 1945-1958 New York: Greenwood Press, 1987.
- Boutillier, James (ed.). The RCN In Retrospect, 1910-1968 Vancouver: UBC Press, 1982.
- Bracken, Paul. The Command and Control of Nuclear Forces Newhaven: Yale University Press, 1983.
- Breslauer, Irving. "Fourth Allied Tactical Air Force," Sentinel January 1967, pp. 18-20.
- Brewin, Andrew. Stand On Guard: The Search for a Canadian Defence Policy Toronto: McClelland and Stewart, 1965.
- Brownlow, Cecil. "F-105D's Limited War Capability Boosted," Aviation Week and Space Technology February 25, 1963 pp. 105-111.
- Bruce-Briggs, B. The Shield of Faith: Strategic Defense from Zeppelins to Star Wars New York: Simon and Shuster, 1988.
- Brugioni, Dino A. Eyeball to Eyeball: the Inside Story of the Cuban Missile Crisis New York: Random House, 1990.
- Bryden, John. Deadly Allies: Canada's Secret War 1937-1947 Toronto: McClelland and Stewart, 1989.
- Bryden, John. Best-Kept Secret: Canadian Secret Intelligence in the Second World War Toronto: Lester Publishing, 1993.
- Burns, E.L.M. Megamurder Toronto: Clarke-Irwin and Co., 1966.
- Buteux, Paul. The Politics of Nuclear Consultation in NATO 1965-1980 New York: Cambridge University Press, 1983.
- Caldwell, Dan. "Permissive Action Links: A Description and a Proposal," Survival May/June 1978, pp. 224-239.
- Campagna, Palmiro. Storms of Controversy: The Secret Avro Arrow Files Revealed Toronto: Stoddart Publishing, 1992.
- Canadian Institute of International Affairs, Canada In World Affairs 1961-

- 1963 Toronto: Oxford University Press, 1968.
- Carlson, Adolf. Who Will Stand the Nordic Guard? Kingston: Queen's University Martello Papers, 1991.
- Carroll, John M. Secrets of Electronic Espionage New York: E.P. Dutton Co. Inc., 1966.
- Carter, Ashton (ed.) Managing Nuclear Operations Washington D.C.: The Brookings Institution, 1987.
- Chang, Lawrence and Peter Kornbluh. The Cuban Missile Crisis 1962 New York: The New Press, 1992.
- Charles, Daniel. Nuclear Planning In NATO: Pitfalls of First Use Cambridge: Ballinger Publishing Co., 1987.
- Chayes, Abram and Jerome B. Weisner. ABM: An Evaluation of the Decision to Deploy and Antiballistic Missile System New York: Harper and Row Publishers, 1969.
- Cioc, Mark. Pax Atomica: The Nuclear Defense Debate in West Germany During the Adenauer Era New York: Columbia University Press, 1988.
- Clark, Ian. Nuclear Diplomacy and The Special Relationship: Britain's Deterrent and America, 1957-1962 Oxford: Clarendon Press, 1994.
- Clark, Larry. Doomsday Minus Four: Nuclear Brinksmanship in the Canadian North and Beyond Toronto: Douglas and McIntyre, 1981.
- Clarkson, Stephen. (ed) An Independent Foreign Policy For Canada? Toronto: McClelland and Stewart, 1968.
- Clements, W.I. "The Evolution and Status of Maritime Command," Roundel October 1961, pp. 2-9.
- Cochrane, Thomas, William Arkin, and Robert S. Norris. Nuclear Weapons Databook Volume I: U.S. Nuclear Forces and Capabilities New York: Ballinger Publishing Co., 1984.
- Compare, Tom (ed.). The Navy Blue Book Vol. 1 New York: Military Publishing Institute Inc., 1960.
- Compare, Tom (ed.). The Air Force Blue Book Vol. 1 New York: Military Publishing Institute Inc., 1959.
- Cook, Don. Forging The Alliance: NATO 1945-1950 New York: Ann Arbor/William Morrow, 1989.

Coughlin, T.G. "City in a Mountain," Roundel June 1961, pp. 24-26.

Crane, Brian. An Introduction to Canadian Defence Policy Toronto: Canadian Institute of Strategic Studies, 1964.

Cuthberson, Brian. Canadian Military Independence in the Age of the Superpowers Toronto: Fitzhenry and Whiteside, 1977.

Daalder, Ivo. The Nature and Practise of Flexible Response: NATO Strategy and Threatre Nuclear Forces Since 1967 New York: Columbia University Press, 1991.

Diggle, W.M. "Evolution of the Argus," Roundel May 1958 pp. 2-32.

Dobell, Peter C. Canada's Search for New Roles: Foreign Policy in the Trudeau Era Toronto: Oxford University Press, 1972.

Donnelly, Christopher. Red Banner: The Soviet Military System in Peace and War London: Jane's, 1988.

Dow, James. The Arrow Toronto: James Lorimer and Co., 1979.

Dufek, George J. "Nuclear Power for the Polar Regions," National Geographic May 1962 pp. 712-730.

Duke, Simon. United States Military Forces and Installations in Europe Oxford: Oxford University Press, 1989.

Eayrs, James. Northern Approaches: Canada and the Search for Peace Toronto: Macmillan Company, 1961.

Eayrs, James. In Defence Of Canada: Peacemaking and Deterrence Toronto: University of Toronto Press, 1972.

Eayrs, James. In Defence Of Canada: Growing Up Allied Toronto: University of Toronto Press, 1980.

Eayrs, James. In Defence Of Canada: Indo-China: Roots of Complicity Toronto: University of Toronto Press, 1983.

Farrell, K.P. "The Progress of DDH 280," Sentinel March 1969, pp. 10-13.

Feaver, Peter Douglas. Guarding The Guardians: Civilian Control of Nuclear Weapons in the United States Ithaca: Cornell University Press, 1992.

Fiddell, Phillip. F-104 Starfighter in Action Carrollton: Squadron/Signal Publications, 1993.

Foerster, Schuyler and Edward N. Wright. American Defense Policy (6th Ed.

- Baltimore: Johns Hopkins University Press, 1990.
- Foot, Rosemary. The Wrong War: American Policy and the Dimensions of the Korean Conflict, 1950-1953 Ithaca: Cornell University Press, 1985.
- Fournier, Louis. FLQ: The Anatomy of an Underground Movement Toronto: NC Press, 1984.
- Fricker, John. "Lockheed F-104 Starfighter," Wings of Fame: The Journal of Classic Combat Aircraft Vol. 2 London: Airspace Publishing Ltd., 1996 pp. 90-100.
- Friedman, Norman. The Naval Institute Guide to World Naval System Annapolis: Naval Institute Press, 1989.
- Friedman, Norman. The Postwar Naval Revolution Annapolis: Naval Institute Press, 1989.
- Frost, Mike and Michel Gratton. Spyworld: Inside the Canadian and American Intelligence Establishments Toronto: Doubleday Canada Inc., 1994.
- Gaddis, John Lewis. The United States and the End of the Cold War: Implications, Reconsiderations, Provocations New York: Oxford University Press, 1992.
- Gaddis, John Lewis. We Now Know: Rethinking Cold War History Oxford: Clarendon Press, 1997.
- Gaffen, Fred. In The Eye of the Storm: A History of Canadian Peacekeeping Toronto: Deneau and Wayne, 1987.
- George, Alexander L. and Richard Smoke. Deterrence in American Foreign Policy: theory and Practise New York: Columbia University Press, 1974.
- Gellner, John. Bayonets in the Streets: Urban Guerillas at Home and Abroad Toronto: Collier-Macmillan Canada Ltd., 1974.
- Geraghty, Tony. Beyond The Front Line: The Untold Exploits of Britain's Most Daring Cold War Spy Mission London: Harper Collins Publishers, 1996.
- German, Tony. The Sea Is At Our Gates: The History of the Canadian Navy Toronto: Maclelland and Stewart, Inc., 1991.
- Ginter, Steve. McDonnell Banshee no publishing data, 1980.
- Granatstein, J.L. Canadian Foreign Policy: Historical Readings Toronto: Copp-Clark, 1986.

- Granatstein, J.L. The Generals: The Canadian Army's Senior Commanders in the Second World War Toronto: Stoddart Publishing, 1993.
- Granatstein, J.L., and Norman Hillmer. For Better or For Worse: Canada and the United States to the 1990s Toronto: Copp Clark Pitman Ltd., 1991.
- Granatstein, J.L., and Robert Bothwell, Pirouette: Pierre Trudeau and Canadian Foreign Policy Toronto: U of T Press, 1990.
- Gray, Anthony. The Penetrators New York: G.P. Putnam and Sones, 1965.
- Green, Bill. The First Line: Air Defense in the Northeast 1952 to 1960 Fairview: Wonderhorse Publications, 1994.
- Gribikov, Anantoli I. and William Y. Smith. Operation ANADYR: U.S. and Soviet Generals Recount the Cuban Missile Crisis Chicago: Edition q Inc., 1994.
- Griffiths, R.W. "King Neptune," Sentinel July-August 1968 pp. 6-8.
- Gwynn, Richard. The Northern Magus Toronto: Maclelland and Stewart Inc., 1980.
- Haftendorn, Helga. NATO and the Nuclear Revolution: A Crisis of Credibility, 1966-1967 Oxford: Clarendon Press, 1997.
- Halle, Louis. The Cold War As History (revised) New York: Harper Perenial, 1991.
- Hansen, Chuck. U.S. Nuclear Weapons: The Secret History New York: Orion, 1988.
- Harrison, Michael M. The Reluctant Ally: France and Atlantic Security Baltimore: Johns Hopkins University Press, 1981.
- Harvey, Frank. Strike Command: America's Elite New Combat Team New York: Duell, Sloan and Pierce Publishers, 1962.
- Haydon, Peter T. The 1962 Cuban Missile Crisis: Canadian Involvement Reconsidered Toronto: Canadian Institute of Strategic Studies, 1993.
- Head, Ivan and Pierre Trudeau. The Canadian Way: Shaping Canada's Foreign Policy, 1968-1984 McClelland and Stewart Inc., 1995.
- Henkin, Louis (ed). Arms Control: Issues for the Public Englewood Cliffs: Prentice-hall Inc., 1961.
- Holloway, David. Stalin and The Bomb: The Soviet Union and Atomic Energy 1939-1956 Newhaven: Yale University Press, 1995.

- Holloway, David. The Soviet Union and The Arms Race New Haven: Yale University Press, 1983.
- Holmes, John W. The Better Part of Valour: Essays on Canadian Diplomacy Toronto: McClelland and Stewart, 1970.
- Holmes, John. W. The Shaping of Peace: Canada and The Search For World Order Vols 1 and 2 Toronto: University of Toronto Press, 1979.
- Howard, Michael, George J. Andreopoulos, and Mark R. Shulman (eds.). The Laws of War: Constraints on Warfare in the Western World New Haven: Yale University Press, 1996.
- Hubbard, Kenneth. Operation GRAPPLE: Testing Britain's First H-Bomb London: Ian Allen Inc., 1985.
- Isby, David C., and Charles Kamps Jr. Armies of NATO's Central Front London: Jane's, 1985.
- Isby, David C. Weapons and Tactics of the Soviet Army (fully revised edition) London: Jane's Publishing Co., 1988.
- Jackson, Robert. Strike Force: the USAF in Britain Since 1948 London: Robson Books, 1986.
- Jackson, Robert. Canberra: The Operational Record Washington D.C.: The Smithsonian Institution, 1989.
- Jockel, Joseph T. No Boundaries Upstairs: Canada, The United States and the Origins of North American Air Defence, 1945-1958 Vancouver: UBC Press, 1987.
- Jockel, Joseph T. Canada and NATO's Northern Flank Toronto: York University, 1986.
- Jordan, Robert S. Political Leadership in NATO: A Study in Multinational Diplomacy Boulder: Westview Press, 1979.
- Jordan, Robert S. (ed.) Generals in International Politics: NATO's Supreme Allied Commander Europe Lexington: the University Press of Kentucky, 1987.
- Kahn, Herman, On Escalation Baltimore: Pelican Books, 1965.
- Kanarowski, Stanley M. The German Army and NATO Strategy Washington D.C.: National Defence University Press, 1982.
- Kealy, J.D.F. and E.C. Russell. A History of Canadian Naval Aviation Ottawa:

Queen's Printers, 1965.

Keating, Tom. Canada and World Order: The Multilateralist Tradition in Canadian Foreign Policy Toronto: McClelland and Stewart, 1993.

Keaveney, Kevin. McDonnell F-101B/F Arlington: Aerofax Ltd., 1984.

Kinney, Bert. F-89 Scorpion Waukesha: Detail and Scale Publications, 1992.

Kissinger, Henry. Nuclear Weapons and Foreign Policy Washington: Council on Foreign Relations, 1957.

Kramer, Mark. "The Lessons of the Cuban Missile Crisis for Warsaw Pact Nuclear Operations," Cold War International History Project Bulletin Spring 1995 Issue 5, pp. 112-113.

Kronenberg, Vernon J. All Together Now: The Organization of the Department of National Defence in Canada 1964-1972 Toronto: Canadian Institute of International Affairs, 1973.

Lacouture, Jean. DeGaulle: the Ruler 1945-1970 New York: W.W. Norton and Co., 1992.

Larouche, Richard. "NATO Standing Naval Force Atlantic," Sentinel 1987/5 pp. 2-5.

Lee, A.M. Chatham: An Airfield History Fredericton: Unipress Ltd., 1989.

Legault, Albert and Michel Fortmann. A Diplomacy of Hope: Canada and Disarmament, 1945-1988 Kingston: McGill-Queen's, 1992.

Levant, Victor. Quiet Complicity: Canadian Involvement in the Vietnam War Toronto: Between the Lines Press, 1986.

Levitt, Joseph. Pearson and Canada's Role in Nuclear Disarmament and Arms Control Negotiations 1945-1957 Kingston: McGill-Queen's, 1995.

Lockwood, Jonathan, and Kathleen Lockwood, The Russian View of U.S. Strategy: Its Past, Its Future London: Transaction Publishers, 1993.

Lumsden, Ian (ed) Close the 49th Parallel etc: The Americanization of Canada Toronto: University of Toronto Press, 1970.

Lyon, Peyton V. Canada and World Affairs 1961-1963 Toronto: Oxford University Press, 1968.

Lysell, R.I. "Standing Naval force Atlantic: An Element of NATO Deterrence Worth Strengthening," Canadian Defence Quarterly Vol. 13 No. 3 Winter 1983/84 pp. 33-36.

- Maier, Klaus, and Norbert Wiggershaus, (eds) Das Nordatlantische Bundnis 1949-1956 Munich: R. Oldenbourg Verlag, 1993.
- Maloney, Sean M. War Without Battles: Canada's NATO Brigade in Germany, 1951-1993 Toronto: McGraw-Hill Ryerson, 1997.
- Maloney, Sean M. Securing Comand of the Sea: NATO Naval Planning, 1948-1954 Annapolis: Naval Institute Press, 1995.
- Maloney, Sean M. "Dr. Strangelove Visits Canada: Projects RUSTIC, EASE, and BRIDGE 1959-1966," Canadian Military History Spring 1997.
- Maloney, Sean M. "Notfallplannung fur Berlin: vorlaufer der Flexible response 1958-1963," Militargeschichte Heft 1.1 Quartal 1997 7 Jahrgang.
- Martin, Laurence. NATO and the Defence of the West New York: Holt, Rhinehart and Winston, 1985.
- Massey, Hector J. (ed) The Canadian Military: A Profile Toronto: Copp Clark Publishing Company, 1972.
- May, John. The Greenpeace Book of the Nuclear Age: the Hidden History, The Human Cost New York: Pantheon Books, 1989.
- McCandie, Ian (ed) Forty Years 1953-1993: A Pictoral Overview of the Canadian Forces Stationed at 4 Wing/CFB Baden-Soellingen, West Germany Ottawa: Esprit D' Corps, 1993.
- McLin, John B. Canada's Changing Defence Policy 1957-1963 Baltimore: Johns Hopkins, 1967.
- Mendl, Wolf. Deterrence and Persuasion: French Nuclear Armament in the Context of National Policy, 1945-1969 London: Faber and Faber Ltd., 1970.
- Miksche, F.O. Atomic Weapons and Armies London: Faber and Faber, 1955.
- Miller, Jay. Lockheed Martin's Skunk Works: The Official History (Updated Edition Leicester: Midland Publishing Ltd., 1996.
- Mills, Carl. Banshees in the Royal Canadian Navy Willowdale: Banshee Publications, 1991.
- Merchant, Livingston T. (ed.). Neighbors Taken For Granted: Canada and the United States New York: Frederick Praeger Press, 1966.
- Middlemiss, D.W. and J.J. Sokolsky, Canadian Defence Decisions and Determinants Toronto: Harcourt Brace and Jovanovich, 1989.

Midgley, John J. Deadly Illusions: Army Policy for the Nuclear Battlefield  
 London: Westview Press, 1986.

Milberry, Larry. The Canadair Sabre Toronto: CANAV Books, 1986.

Milberry, Larry. The Avro CF-100 Toronto: CANAV Books, 1986.

Milberry, Larry. Sixty Years: The RCAF and CF Air Command 1924-1984  
 Toronto: McGraw-Hill Ryerson, 1984.

Mills, Carl. Banshees In The Royal Canadian Navy Toronto: Banshee  
 Publication, 1991.

Milroy, W.A. "Exercise RISING STAR," Canadian Army Journal October 1955,  
 pp. 4-15.

Milroy, W.A. "Exercise MORNING STAR," Canadian Army Journal October  
 1956, pp. 2-15.

Minifie, James M. Peacemaker or Powder Monkey: Canada's Role in a  
 Revolutionary World Toronto: McClelland and Stewart, 1960.

Morgan, Patrick M., Deterrence: A Conceptual Approach Beverely Hills: Sage  
 Publications, 1977.

Muir, Malcolm. Black Shoes and Blue Water: Surface Warfare in the United  
 States Navy, 1945-1975 Washington D.C.: Naval Historical Center, 1996.

Myer, Stephen M. Soviet Theatre Nuclear Forces Part I: Development of  
 Doctrine and Objectives London: International Institute for Strategic  
 Studies, 1984.

Myer, Stephen M. Soviet Theatre Nuclear Forces Part II: Capabilities and  
 Implications London: International Institute for Strategic Studies, 1984.

Nash, Knowleton. Kennedy and Diefenbaker: The Feud That Helped Topple a  
 Government Toronto: Maclelland and Stewart, 1990.

Nicks, Don. Lahr Schwarzwald: Canadian Forces Base Lahr 1967-1992 Ottawa:  
 [no pub data] 1993.

Nolan, Janne E. Guardians of the Arsenal: The Politics of Nuclear Strategy  
 New York: Basic Books, 1989.

Norris, Robert S., Andrew S. Burroughs, and Richard W. Fieldhouse, British,  
 French and Chinese Nuclear Weapons Boulder: Westview Press, 1994.

Nossal, Kim Richard. The Politics of Canadian Foreign Policy Scarborough:  
 Prentice-Hall, 1985.

Oldfield, Barney. "The Lance: Shoot and Scoot," NATO's Fifteen Nations April-May 1975 pp. 78-82.

Organ, Richard, Ron Page, Don Watson, and Les Wilkenson. Avro Arrow: The Story of The Avro Arrow From its Evolution to its Extinction (revised edition) Erin: The Boston Mills Press, 1992.

Oulton, Wilfred E. Christmas Island Cracker London: Thomas Harmsworth Publishers, 1987.

Pearson, Geoffrey. Seize the Day: Lester B. Pearson and Crisis Diplomacy Ottawa: Carleton University Press, 1993.

Peden, Murray. Fall of an Arrow Toronto: Stoddart, 1987.

Peebles, Curtis. Guardians: Strategic Reconnaissance Satellites Novato: Presidio Press, 1987.

Petit, Jean-Jacques. "Le F-100 dans l'Armee de l'Air," Le Fanas De l'Aviation No. 282, Mai 1993, pp. 50-57.

Polmar, Norman. The Ships and Aircraft of the U.S. Fleet 14th ed. Annapolis: Naval Institute Press, 1987.

Polmar, Norman (ed). Strategic Air Command: People, Aircraft and Missiles Baltimore: Nautical and Aviation Publishing Co., 1979.

Porter, Gerald. In Retreat: The Canadian Forces in the Trudeau Years Toronto: Deneau and Greenberg, 1978.

Rankin-Lowe, Jeff. "Royal Canadian Air Force 1950-1959 Part II," Wings of Fame: the Journal of Classic Combat Aircraft Volume 3 London: Aerospace Publishing Ltd., 1996.

Reid, Escott. Time of Fear and Hope: The Making of the North Atlantic Treaty, 1947-1949 Toronto: McClelland and Stewart, 1977.

Richelson, Jeffrey T. and Desmond Ball. The Ties That Bind: Intelligence Cooperation Between the UKUSA Countries Boston: Allen Unwin, 1985.

Roberts, K.G. "Air Defence Goes Underground," Roundel September 1963, pp. 8-13.

Robinson, Robert. USAF in Europe 1948-1965 Carrollton: Squadron/Signal Publications, 1982.

Robinson, Robert, and David Menard. F-100 Super Sabre Carrollton: Squadron/Signal Publications, 1992.

- Rosenberg, David Alan. "The Origins of Overkill: Nuclear Weapons and American Strategy 1945-1960," International Security Spring 1993 no. 4. pp. 12-70
- Rosenberg, Howard L. Atomic Soldiers: American Victims of Nuclear Experiments Boston: Beacon Press, 1980.
- Rosenberg, Tina, The Haunted Land: Facing Europe's Ghosts After Communism New York: Vintage Books, 1995.
- Ross, Douglas A. In The Interests of Peace: Canada and Vietnam, 1954-73 Toronto: University of Toronto Press, 1984.
- Saffer, Thomas H. and Orr Kelley. Countdown Zero: GI Victims of U.S. Atomic Testing New York: Penguin Books, 1982.
- Sagan, Scott D. The Limits of Safety: Organizations, Accidents, and Nuclear Weapons Princeton: Princeton University Press, 1993.
- Sarin, Oleg and Lev Dvoretsky, Alien Wars: The Soviet Union's Aggressions Against the World 1919-1989 Novato: Presidio Press, 1997.
- Saul, John Ralston. Voltaire's Bastards: The Dictatorship of Reason in the West New York: Vintage Books, 1992.
- Schwartz, David N. NATO's Nuclear Dilemmas Washington: Brookings Institution, 1983.
- Shaw, E.K. There Never Was An Avro Arrow Toronto: Steel Rail Educational Publishing Ltd., 1979.
- Smith, Dan. Pressure: How America Runs NATO London: Bloomsbury Publishing Co., 1987.
- Smith, Denis. Diplomacy of Fear: Canada and the Cold War, 1941-1948 Toronto: University of Toronto Press, 1988.
- Sokolsky, Joel J. Seapower in the Nuclear Age: The United States Navy and NATO 1949-1980 Annapolis: Naval Institute Press, 1991.
- Sokolsky, Joel J. and Joseph T. Jockel (eds). Fifty Years of Canada-United States Defence Cooperation: The Road from Ogdensburg Lewiston: The Edwin Mellen Press, 1992.
- Soward, Stuart. Hands To Flying Stations: A Recollective History of Canadian Naval Aviation Volume II: 1955-1969 Victoria: Neptune Developments, 1995.
- Stacey, C.P. Arms, Men and Governments: The War Policies of Canada 1939-

- 1945 Toronto: The Queen's Printer, 1970.
- Stacey, C.P. Canada and the Age of Conflict Volume 2: 1921-1948 The Mackenzie King Era Toronto: University of Toronto Press, 1984.
- Stares, Paul. Command Performance: The Neglected Dimension of European Security Washington D.C.: The Brookings Institution, 1991.
- Stewart, Grieg. Shutting Down the National Dream: A.V. Roe and the Tragedy of the AVRO Arrow Toronto: McGraw-Hill Ryerson, 1988.
- Stewart, Larry. (ed). Canadian Defence Policy: Selected Documents 1964-1981 Kingston: Queen's, 1981.
- Stromseth, Jane E. The Origins of Flexible Response Oxford: Oxford University Press, 1988.
- Sullivan, Jim. S2F Tracker in Action Carrollton: Squadron-Signal Publications, 1990.
- Sullivan, Jim. Skyraider in Action Carrollton: Squadron-Signal Publications, 1983.
- Thordarson, Bruce. Trudeau and Foreign Policy: A Study in Decisionmaking Toronto: Oxford University Press, 1972.
- Tow, William and Douglas Stuart. The Limits of Alliance: NATO Out of Area Problems Since 1949 Baltimore: Johns Hopkins, 1990.
- van de Werve, P.A. "The Royal Netherlands Air Force," The Royal Air Forces Quarterly Vol. 1 Summer 1962 No. 2 pp. 99-105.
- Wall, Irwin M. The United States and the Making of Postwar France, 1945-1954 New York: Cambridge University Press, 1991.
- Walt, Stephen M. The Origins of Alliances Ithaca: Cornell University Press, 1987.
- Warnock, John W. Partner to Behemoth: The Military Policy of a Satellite Canada Toronto: New Press, 1970.
- Weisgall, Jonathan M. Operation Crossroads: The Atomic Tests at Bikini Atoll Annapolis: Naval Institute Press, 1995.
- Wells, Robert, and C.R. Whiting. Early Warning: Electronic Guardians of Our Country Englewood: Prentice Hall, 1962.
- Whittaker and Gary Marcuse, Cold War Canada: The Making of a National Insecurity State, 1945-1957 Toronto: University of Toronto Press, 1994.

Winkler, Allan M. Life Under a Cloud: American Anxiety About the Atom New York: Oxford University Press, 1993.

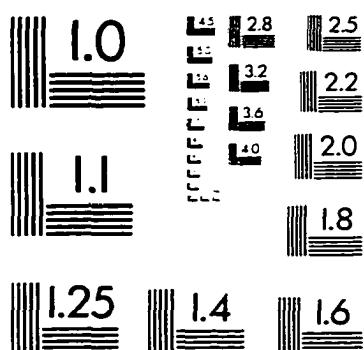
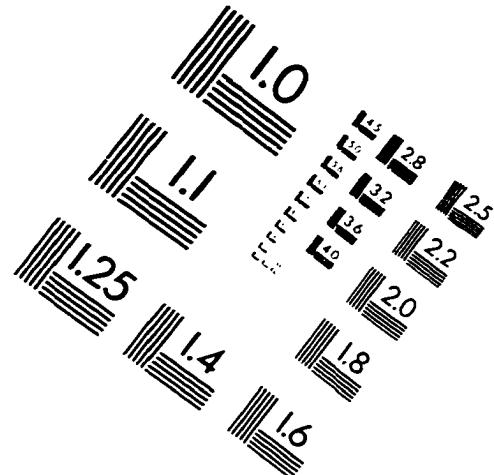
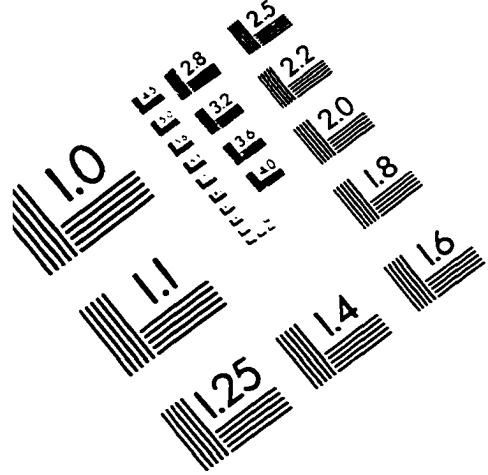
Worley, Marvin L. New Developments in Army Weapons, Tactics, Organization, and Equipment Harrisburg: The Military Service Publishing Co., 1958.

Yeager, Chuck and Leo Janos. Yeager: An Autobiography New York: Bantam Books, 1985.

Yenne, Bill. Aircraft of the U.S. Air Force and Its NATO Allies New York: Gallery Books Inc., 1987.

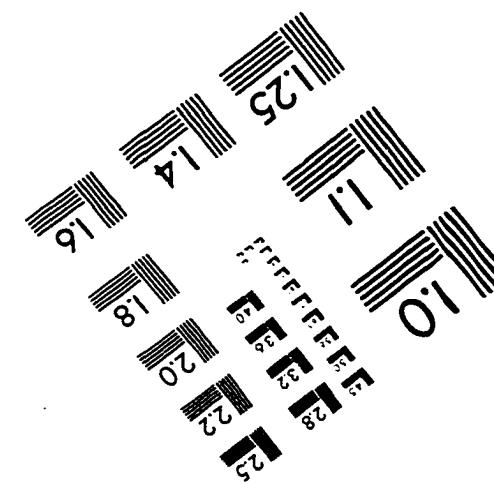
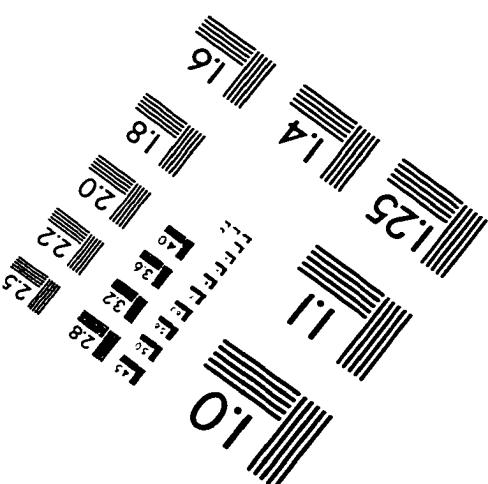
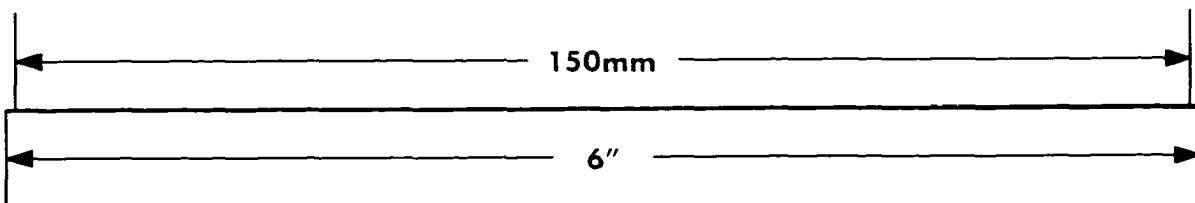
Zaloga, Steven J. Target America: The Soviet Union and the Strategic Arms Race 1945-1964 Novato: Presidio Press, 1993.

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