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STUDY OF THE POLITICS OF NATIONAL SECURITY
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THE CIVIL DEFENSE SHELTER PROGRAM: A CASE STUDY
OF THE POLITICS OF NATIONAL SECURITY POLICY MAKING

by

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DISSERTATION

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Approved

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TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS	ii
LIST OF ILLUSTRATIONS	vi
INTRODUCTION.	1
Introductory Remarks	
Civil Defense and Overall National Security	
National Security and the Policy Making Process	
Sources and Organization	
Chapter	
I. CIVIL DEFENSE IN HISTORICAL PERSPECTIVE.	17
Introductory Remarks	
Civil Defense in the Pre-Atomic Era	
The Planning Period: 1945-1949	
Organizational Developments: 1945-1949	
Conclusions	
II. SHELTER POLICIES AND PROGRAMS IN THE PRE-FALLOUT PERIOD	68
Introductory Remarks	
Shelter Consideration Prior to the Civil Defense Act of 1950	
The Federal Civil Defense Act of 1950	
The Caldwell Shelter Program: 1951-1952	
The Peterson Program, 1953-1954	
Conclusions	
III. THE EMERGENCE OF THE FALLOUT THREAT AND THE SEARCH FOR AN EFFECTIVE CIVIL DEFENSE PROGRAM	143
Introductory Remarks	
The Emergence of the Fallout Threat	
The Kefauver Hearings: 1955	
The Holifield Hearings: 1956	
The Holifield Hearings: 1957	
Conclusions	

Chapter	Page
IV. THE DEVELOPMENT OF THE FALLOUT SHELTER PROGRAM.	215
Introductory Remarks	
The Technological Basis	
The Eisenhower Shelter Policy: 1956-1960	
The Fallout Shelter Program: 1961-1964	
Conclusions	
V. THE PUBLIC AND THE FALLOUT SHELTER QUESTION	285
Introductory Remarks	
The Basic Need for Shelters	
The Feasibility of Shelters	
Psychological and Social Effects of Shelters	
Mass Public Opinion and the Fallout Shelter Program	
Conclusions	
CONCLUSIONS.	352
BIBLIOGRAPHY	374

LIST OF ILLUSTRATIONS

		Page
Tables		
II-1	Public Opinion Regarding the Likelihood of War. . . .	84
II-2	Cost Estimates of 1951 FCDA Shelter Program Proposal.	112
II-3	Relation Between Anticipation of Own City's Being Bombed and Importance Accorded Civil Defense. . . .	121
II-4	Public Attitudes Toward Building Own Shelter.	121
IV-1	Proposed Fallout Shelter Estimates--1962.	267
V-1	Mutations of Children of Survivors.	301
V-2	Anxiety About War According to Demographic Factors. .	337
V-3	Perceptions of Likely Targets of Attack	341

Chart

IV-1	Life Saving Potential of Fallout Shelter System in Attacks Against Military-Urban-Industrial Targets .	269
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INTRODUCTION

Today, every inhabitant of this planet must contemplate the day when this planet may no longer be habitable. Every man, woman and child lies under a nuclear sword of Damocles, hanging by the slenderest of threads, capable of being cut at any moment by accident, or by miscalculation, or by madness.¹

One of the most fundamental and continuing functions of any state is to maintain a significant level of protection for the people living within its boundaries. Thus, for example, among the basic purposes of the United States, as set forth in the preamble of the Constitution, is to "insure domestic tranquility" and to "provide for the common defense." During the greater part of the nineteenth century the external threat to the United States was virtually nonexistent because of the great distances that separated it from the other power centers of the world and because a world order that was not incompatible with American values and interests was maintained by the European balance of power. Thus the great task of maintaining security could be achieved with a minimum of effort on the part of the American government.

The two world wars shattered the main elements of the pre-1914 international system and the United States was thrust into the position of having to do for itself what had been done so long for it by others. While this in itself constituted a wrenching change from the past, the

¹Address Before the United Nations General Assembly, September 21, 1961. Public Papers of the Presidents: John F. Kennedy (Washington: Government Printing Office, 1962, item 387, p. 620.

new condition was seriously exacerbated by the existence of new and unsettling conditions in the international environment. The world, especially since World War II, has been characterized by massive political unrest and change, deep ideological divisions and bitter national animosities. Above and beyond all of this, there has developed a veritable revolution in the field of weapons technology which has not only eliminated the distance factor in American security, but which has also posed the concrete possibility of the annihilation of a very large portion of the entire population.

Not surprisingly, this course of events has occasioned a profound feeling of insecurity on the part of the American people and the demands upon government to institute protective measures have been both continuous and strident. It is thus that national security policy, by which is meant the maintenance of internal values against external threats, has become one of the great issues of the day. Not only has great energy and treasure been expended in the continuing search for the material means of protection but, given the enormous stakes involved, great attention has been given to the ways in which national security policies have been formulated and executed.

This study is an examination of one small part of the overall national security effort; namely the civil defense shelter policy. The purpose of the study is twofold. First, it is intended to describe and analyze that particular policy in terms of the political forces, both within and outside government, that impinged upon it and shaped its development. In this sense, the study constitutes an

effort to explain why the particular programs developed as they did. Second, the study is intended to serve as a contribution to the understanding of some of the major characteristics of public policy making in general and national security policy in particular. That is to say, the work represents an effort to identify and analyze some of the major techniques of policy making in a pluralistic political system and to ascertain the conditions necessary for those techniques to function effectively.

In this introductory statement it might be well to establish the connection between civil defense shelter policy and overall national security policy; to set forth the writer's general conception of the policy making process; to offer an explanation of why the civil defense shelter program is a suitable topic for study; and to describe the organization of the study as well as the research tools and techniques that have been employed.

Civil Defense and Overall National Security

The objective of a national security system is clearly and obviously to protect the population from the effects of enemy attack. Furthermore, it is generally assumed that such security should not be acquired at the expense of the very values upon which the political system is based. While the types of attack that could conceivably be launched against this nation might vary widely, it is assumed for purposes of this analysis that the major threat would emanate from the use of nuclear and thermonuclear weapons.

It may be said that there exists an entire range of policy alternatives for dealing with the threat of nuclear attack. Theoretically, the options appear to lie along a continuum extending from preemptive war to complete and unconditional surrender. However, for all practical purposes the extreme alternatives have been rejected and post-war American defense policy has generally centered on the concept of deterrence. The basic assumption underlying the deterrent strategy is that, given the nature of nuclear weapons, nuclear war of any sort would be catastrophic to all the parties and that the most effective approach to protection would be through policies and programs that would minimize the chances of such weapons being used at all.

In the absence of satisfactory arms limitation and control agreements, the United States has attempted to develop retaliatory weapons of such enormous destructive capability that a rational decision maker from another nation would hopefully perceive that he would stand to lose more than he could gain by an attack upon the United States. This deterrent capability would thus consist not only of the military hardware itself but also a high degree of invulnerability to an enemy first strike. Furthermore, the strategy of deterrence also heavily depends upon the quality of credibility. That is, the potential attacker must be made to know clearly that the retaliatory weapons do exist, that they are generally invulnerable to a first strike, that the nation possesses the will to retaliate in the

event of an attack, and that the retaliatory blow would inflict unacceptable damage on the potential attacker.

It need not be pointed out, however, that such a strategy runs certain risks. For, as Damon Runyon once put it, in human affairs the odds are five to three against. It always remains within the realm of possibility that an aggressor might launch a nuclear attack regardless of a vast and invulnerable retaliatory capability on the part of the victim. It is rather obvious, for example, that the deterrent idea assumes a high degree of rationality on the part of the national decision makers. But even aside from the possibility of insanity, it should be noted that rationality is closely associated with perceptions which are highly subjective by nature. It is thus quite conceivable for a "rational" policy maker to perceive his country to be in danger of imminent attack and to conclude that preemption was the only means of enhancing his nation's chances for survival. Or it is possible that some technological breakthrough could convince a decision maker that he could strike a first blow without suffering unacceptable retaliatory losses. In any event, despite the existence of elaborate safeguards against accidents, mistakes and misunderstandings, the possibility that deterrence may fail is real enough and it is to this condition that President Kennedy had referred in his United Nations address.

Such a possibility has necessitated the consideration and/or implementation of additional defense systems which, for purposes of discussion, may be categorized as active and passive. The former

would refer to such programs as air defense, anti-aircraft and anti-missile systems, all of which are designed to destroy as many attack vehicles as possible before they arrive on target. Passive defense incorporates a wide variety of measures ranging from warning systems and hardening of retaliatory missile sites to industrial mobilization and civil defense. By civil defense is meant the "protection of life and property by preparing for and carrying out non-military functions to prevent, repair and recover from injury and damage" resulting from acts of war.² Included under this rubric would be the provision of shelter protection for the general population against the effects of nuclear attack.³

In relationship to the overall defense policy, the purpose of both the active and passive defense systems is twofold. First, if the deterrent should fail both systems could conceivably serve to reduce the loss of life and damage to property that would certainly result from such an attack. Second, and perhaps more important, the very existence of such systems could serve to reinforce the deterrent. That is, if a potential attacker could be convinced that an active defense system could partially blunt his initial salvo, he would have additional reason to refrain from attacking in the first place. Similarly, if such an attacker could be made to understand that his first strike would not necessarily destroy the population, the credibility of the deterrent may have been enhanced. In other words, the relative

²U. S. Office of Civil and Defense Mobilization, Annual Report for Fiscal Year 1958. (Washington: Government Printing Office, 1959), p. 1.

³The evolving meaning of "civil defense" will be described in detail in Chapter I of this study.

"safety" of large portions of the population from some of the effects of an attack could serve to convey the impression of a credible willingness to use the retaliatory force if necessary. While it need not be pointed out that such arguments are open to debate, it may nevertheless be concluded that civil defense has a place in overall strategic design and is thus an appropriate object of investigation for the student of the national security policy making process.

National Security and the Policy Making Process

Given the magnitude of the threat to mankind posed by the existence of nuclear weapons in a politically unstable world, it is generally recognized that there is little margin for error in judgments as to which combinations of weapons systems and strategic designs would provide the greatest measure of security under the circumstances. It is therefore understandable that intense interest should be directed not only toward the defense systems themselves, but also toward the manner in which national security policies are formulated and executed.

Ideally, it may be suggested, policies dealing with such crucial matters as the continued existence of the nation should be derived from a "rational" decision making process. That is, a single decision making unit should first put into some kind of order the values which would govern choices. Then all of the advantages, disadvantages and probable results of each possible choice would be surveyed. Finally, the decision making unit would then proceed to

adopt and implement that policy which would best satisfy the demands and values of those on whose behalf the policy is being made.⁴

It perhaps goes without saying that few, if any, public policies are formulated in terms of such an ideal. The extreme complexity of most public policy problems rarely admit to "right" or "wrong" solutions. This is especially so when considered in the light of widely different values, perceptions and interests held by the various participants in the policy making process. Moreover, in the public arena there exist numerous loci of power and influence which sets the stage not only for a great many policy alternatives but also for a state of active competition among them. Under such circumstances the most that might be expected is that policies be judged "better" or "worse" according to some subjective system of values and priorities.

While the synoptic paradigm is not therefore particularly useful in the development of knowledge concerning the realities of the public policy making process, some general frame of reference is necessary to guide the researcher in where to look for what. Such a set of working assumptions about the nature of the policy making process may be drawn from the existing literature dealing with

⁴Such an ideal approach to policy making is labeled "synoptic" and is severely criticized in Charles Lindblom, The Intelligence of Democracy: Decision Making through Mutual Adjustment (New York: The Free Press, 1965), pp. 137-143. A trenchant critique of the rational model of decision making is provided in Martin Patchen, "Decision Theory in the Study of National Action: Problems and a Proposal," Journal of Conflict Resolution, IX (June 1965), pp. 164-176.

national security policy formulation.⁵

The major assumption on which this study is based is that since policy issues are replete with uncertainties and since honest differences of opinions with respect to policy ends and means can and do arise, the making of choices is inevitable. Furthermore, such choices can only be made within the realm of politics--where participating elements interact and bring power and authority to bear on behalf of the respective interests. Since no single element is in possession of all the knowledge or all the power, the essence of the interplay is a process of persuasion, bargaining and compromise. It is thus assumed that public policy is just as much a product of political interaction as pure cognitive activity.

It is further assumed that the policy pattern that emerges from such a process bears a close similarity to what Braybrooke and Lindblom have called "disjointed incrementalism."⁶ Such a pattern exhibits a number of interrelated characteristics which may

⁵Out of the rather large number of studies of the policy making process, the following have been particularly helpful to the writer in the conception and design of the present study: Warner Schilling, Paul Hammond and Glenn Snyder, Strategy, Politics and Defense Budgets (New York: Columbia U. Press, 1962); Samuel Huntington, The Common Defense: Strategic Programs in National Politics (New York: Columbia U. Press, 1961); Raymond Bauer, I. de Sola Pool and L. A. Dexter, American Business and Public Policy (New York: Atherton Press, 1963); Bernard Cohen, The Political Process and Foreign Policy (Princeton, N. J.: Princeton U. Press, 1957); Raymond Bauer and Kenneth Gergen, eds., The Study of Policy Formation (New York: The Free Press, 1968); Roger Hilsman, "The Foreign Policy Consensus: An Interim Report," Journal of Conflict Resolution, III (December 1959), pp. 361-381; Demetrios Caraley, The Politics of Military Unification: A Study of Conflict and the Policy Process (New York: Columbia U. Press, 1966).

⁶David Braybrooke and Charles Lindblom, A Strategy of Decision: Policy Evaluation as a Social Process (New York: The Free Press, 1963), pp. 83-106.

be summarized as follows:

1. Choices are made in a given political environment at the margin of the status quo.
2. A restricted variety of policy alternatives is considered, and these alternatives tend to be small changes in the status quo.
3. A restricted number of consequences are considered for any particular policy.
4. Adjustments are made in policy ends to conform to policy means, with a clear implication of reciprocity between the two.
5. Problems are transformed or restructured in the course of examining relevant data.
6. Analysis and evaluation occur sequentially, with the result that policy consists of a string of amended policies.
7. Analysis and evaluation are aimed toward remedying a negatively perceived situation, rather than a pre-conceived goal.
8. Analysis and evaluation are undertaken throughout society and for that reason the locus of these activities is fragmented.

Civil Defense Shelter Policy as an Object of Study

Civil Defense is a field that does not appear to have attracted a great deal of attention from students of the national security policy making process. There have been occasional periods of interest in the subject, such as the 1961-1963 period when the "great debate" on fallout shelters took place. However, the issues raised at that time were generally normative in nature and, in any event, the interest quickly subsided and civil defense has continued to remain in the shadow of other national security policy issues.

It may therefore be appropriate at the outset of this study to briefly set forth some of the reasons for studying this topic and to suggest what might reasonably be hoped to gain from such a study.

First, and perhaps most obvious, the issue of civil defense poses some interesting questions which should, if nothing else, evoke the curiosity of students of national security policy. If the overall history of national security affairs since World War II is examined, one distinct pattern becomes apparent. Since 1950 there has been a tendency on the part of the Congress and the American people to support virtually every program and project that has been purported to be in the interest of national security, notwithstanding the fact that these activities have involved the expenditure of staggering sums of money. From time to time certain projects have proved to be of dubious technical and military value and in most cases a high degree of obsolescence has been incurred. Spokesmen for the Department of Defense have admitted occasional failures and have explained that the rapid evolution of military technology has made obsolescence unavoidable. In large measure such explanations have been accepted by the Congress and the final judgment on these matters has generally been left to the experts.

Occasionally, voices of protest have been raised against this prevailing pattern of activity. Thus, for example, at the time of this writing there are many people who have questioned the value of deploying the ABM system on technical, economic and political grounds. Similarly, there has been an increasing tendency to question the

judgment of the experts, both military and scientific, on matters of national security policy. However, it is important to remember that this kind of criticism would seem to be the exception rather than the rule throughout the period since 1950.

There has, however, been one clear and continuing exception to the prevailing pattern of acceptance of any and all national security programs; and that is civil defense. While the programs that have been presented to Congress have been extremely modest in comparison with other defense programs, they have been severely criticized and the proposed budgets have been reduced by Congress to an unusual degree. For example, if one takes the total money requests of the various civil defense organizations between 1950 and 1964, it may be determined that Congressional cuts amounted to seventy percent. According to Professor Richard Fenno, the House Appropriations Committee ordinarily appropriates an amount within five percent of the estimates provided by the executive branch.⁷ Not only has civil defense been treated extremely harshly by Congress, but this has been done in the face of the fact that of all the programs designed to provide protection of the citizen against the effects of modern warfare, civil defense is perhaps the most visible to the ordinary citizen and is clearly related to the protective function of government.

Therefore, one reason for studying this subject is to learn what has contributed to this extraordinary state of affairs. It may, of course, be anticipated that one reason for the continued opposition

⁷Richard F. Fenno, The Power of the Purse: Appropriation Politics in Congress (Boston: Little, Brown and Company, 1966), pp. 353-354.

to and rejection of the civil defense proposals has been related to misgivings as to their possible effectiveness. However, similar misgivings with respect to other military programs have not generally led to the same results and it may therefore be surmised that there were also political reasons for what occurred. If this has indeed been the case, then the study of civil defense should serve as a useful case study in bringing into sharp relief those political forces that impinge upon and shape national security programs.

There are, in addition, other reasons for studying this particular subject. First, national security issues are often enshrouded in an aura of secrecy which makes it extremely difficult to determine who the relevant actors are, what it is that they do or do not want, and the patterns of interaction among them. Civil defense, on the other hand, is a relatively open subject and the barriers to the researcher are at a minimum. Second, given the state of military technology today, the role of the scientist in the making of policy has become highly important. In this respect civil defense is no exception. The study of this subject should therefore yield some useful insights into the means whereby scientific ideas are integrated into policy planning. This, in turn, may be useful in the analysis of other public problems with major scientific implications. Third, the civil defense issue has extended over a rather long period of time and the various policies and programs have evolved somewhat slowly. Such a subject may therefore be a useful means of illustrating the pattern of disjointed incrementalism

which Braybrooke and Lindblom suggest is the essence of policy making in a pluralistic society. Finally, the civil defense issue has involved an extensive interaction between the Congress and the Executive. This may perhaps be regarded as an exceptional situation in the field of national security policy in the sense that Congress has usually acceded to whatever the Executive has proposed. However this may not always be the case. At the time of this writing, Congress appears determined to exert a role in an area which had formerly been left to the experts. If this indeed does become the case, then the example of civil defense may provide some insights into the kinds of behavior patterns that might be expected under such circumstances.

Sources and Organization

Government documents constitute the primary source of data used to support this study. Particularly important in this respect are the recorded hearings on the subject of civil defense by several committees of Congress. These hearings, which total more than ten-thousand pages in volume, have been supplemented by numerous reports. In addition to these published sources, the writer was given access to the files of the Military Operations Subcommittee of the House Committee on Government Operations. The most important materials in these files were printed into the subcommittee hearings; however, useful background information was nevertheless acquired. The writer was also provided with a vast amount of data by officials from the

Office of Civil Defense, only a portion of which is cited in the bibliography. Finally, the writer spent approximately three months in Washington during which time a large number of people who have been active in civil defense were interviewed. While specific interviews have been cited in the body of this study, it should be pointed out that many other individuals spent a great deal of time with the writer providing background information and insights that are unavailable from any published source. Unfortunately, for reasons of confidence, not all of this material could be used or all the people identified.

The study is organized on the basis of five major chapters. The first of these is an attempt to place civil defense in historical perspective and to identify those patterns of action, attitude and organization which would have an effect upon subsequent civil defense programs and proposals. The second chapter will analyze the initial consideration given to the shelter question prior to and during the discussion of the Civil Defense Act of 1950. The chapter will also describe and analyze the efforts in the early 1950's to come to grips with the problem of how to protect the population from the known effects of nuclear weapons. The third chapter will discuss the emergence of the fallout threat and the efforts to deal with this new problem. Particular attention in this chapter will be given to the work of the Military Operations Subcommittee to breathe new life into the civil defense program and the reactions of civil defense authorities to those efforts. The fourth chapter will

describe and analyze the evolution of programs designed to protect against the fallout effect during both the Eisenhower and Kennedy Administrations. The fifth chapter will describe the "great debate" on fallout shelters that took place in the early 1960's and will also attempt to assess the impact of the public on the issue of civil defense shelters.

Each of the chapters will contain a number of conclusions based on the materials presented in those chapters. Since this is a study of the process of politics it is not the intention of the writer to judge the merits of the issues or to prescribe approaches for the future. However, it is believed that sufficient data are presented to enable the reader to come to a considered judgment of his own on the normative issues raised in the course of the study.

CHAPTER I

CIVIL DEFENSE IN HISTORICAL PERSPECTIVE

The present study is an examination of the politics of public policy making with respect to certain aspects of the United States Civil Defense program between the years 1950 and 1964. The specific focus of the study will be on the problem of whether and how to provide shelter protection for the people of the United States against the effects of nuclear attack. In the course of this endeavor the various actors in the civil defense drama will be subjected to detailed examination in order to determine why particular courses of action were taken, while various alternatives were rejected or discarded.

However, the point in time to begin a study of what happened during those years is not in 1950, when the Federal Civil Defense Act was passed, but rather at that period when civil defense first became a matter of concern to those responsible for the protection of the lives and property of the nation. Such a problem appeared for the first time, in a relatively minor form, during World War I. It reappeared again, in more serious form, during World War II. With the successful development of the atomic bomb and its use against

Japan in 1945, the potential problems of civil defense were vastly complicated and a very few men began to consider ways of dealing with this new threat. Eventually, in 1950, a law was passed by Congress which appeared to recognize the dangers implicit in the conditions of the nuclear age and established a permanent organization to deal with it. Thus, a considerable amount of activity had taken place prior to 1950 and it is essential to have some idea of what had gone before in order to understand what would occur later. For between World War I and 1950 patterns of thought and action had developed which would continue to seriously affect the shelter program for an indeterminate period of time.

The major thesis to be developed in this chapter is that a good many, though by no means all, of the difficulties experienced in the field of civil defense may be traced to developments that occurred prior to that time. In order to substantiate this contention, three stages of historical development during the pre-1951 period will be examined. The first will be concerned with the evolution of civil defense programs and organizational patterns in the pre-atomic era. The second will consist of the period of planning during the 1945-1949 period when certain officials were attempting to create a theoretical basis for a civil defense program in the light of the development of nuclear weapons. The third stage of this historical evolution will consist of the 1949-1950 period wherein pressure for a civil defense program began to mount and the Federal Civil Defense Act was passed by Congress.

Civil Defense in the Pre-Atomic Era

The problem of civil defense began to emerge at a time when nations at war developed the capability and the will to bypass military forces in the field and initiate direct attacks upon civilian populations. Such a capability was achieved for the first time during World War I. Prior to that time the first and last defense of a nation was its army or navy. As long as the military forces in the field held the line, they served as a barrier between the attackers and the noncombatant population. With the development of the aircraft all of this changed. Now it was possible for an enemy to bypass the front lines and attack targets far distant from the scene of battle.

The noncombatant population was made even more vulnerable by a change of attitude with respect to its status. The rise of mass armies, conscripted from the general population and supported by a massive industrial complex manned by civilians helped to erase the old distinction between combatants and noncombatants.¹ The civilian population had become a major element of power, and if it could be attacked, the military power of the nation would suffer. The non-combatant civilian thus became a "legitimate" target for attack.

By unhappy coincidence, these circumstances converged during World War I and the population of Great Britain was the first to suffer from air attacks. Scarcely six months after the war began, German zeppelins began to attack the coast of England.² During the

¹Quincy Wright, A Study of War, Abridged Edition (Chicago: University of Chicago Press, 1966), p. 73.

²B. H. Liddell Hart, A History of the World War, 1914-1916 (London: Faber and Faber Ltd., 1934), p. 107.

period of hostilities a total of 103 bombing raids were mounted by the Germans, of which 51 were by dirigibles and the remainder by airplanes. A total of 300 tons of bombs was dropped resulting in 4820 casualties, of which 1413 were fatal.³ Measured by present standards, the damage caused by these raids was not particularly serious, although one authority asserts that the production of munitions was reduced by one-sixth because of them.⁴ On the other hand, the raids did cause a diversion of men and material away from the front lines, in addition to having an adverse effect upon civilian morale. An official source states that

By the end of 1916 there were specifically retained in Great Britain for home anti-aircraft defense 17,341 officers and men. There were approximately twelve Royal Flying Corps squadrons, comprising approximately 200 officers, 2000 men, and 110 aeroplanes. The anti-aircraft guns and searchlights were served by 12,000 officers and men who would have found a ready place, with continuous work, in France and other theatres. There was an observer corps of officers and men, and, in addition, some part of the energies of the police force, and of the personnel of the telephone, fire brigade and ambulance services was diverted to home defense activities.⁵

The results of the attacks upon the civilian population ranged from indignation to panic. After one air raid on London in July 1917, some three hundred thousand people used the underground railway stations for shelter at night.⁶ The mere mention of an attack was

³T. H. O'Brien, Civil Defence (London: Her Majesty's Stationery Office, 1955), p. 11.

⁴Liddell Hart, loc. cit. The author does not cite the basis of this figure.

⁵H. R. Jones, The War in the Air, Vol. III of The Great War, ed. by the Historical Section of the Committee for Imperial Defence (Oxford: The Clarendon Press, 1931), pp. 243-244.

⁶p. R. C. Groves, Behind the Smoke Screen (London: Faber and Faber Ltd., 1939), p. 155.

"sufficient to stampede thousands to these shelters."⁷

While such capabilities for attack were developed during World War I, the United States was never seriously threatened. At no time was invasion even a remote possibility and the normal police and security forces were sufficient to cope with the actual cases of espionage that did occur.⁸ Nevertheless, civilian participation in the defense effort was extensive and some of the experience thus gained would have an impact upon subsequent civil defense organization and programs.

As a result of the fact that the United States was never in serious danger of attack, the civil defense programs assumed an essentially non-protective quality. That is, instead of being mainly concerned with programs designed to alleviate the effects of actual attack, the civil defense effort was largely given over to the mobilization of popular support for the war effort. Immediately following the United States entry into the war, attention was turned to such activities as anti-saboteur vigilance, encouraging men to join the armed forces, facilitating the implementation of the draft, participating in the Liberty Bond drives, and helping to maintain the morale

⁷Ibid.

⁸The extent of German plots, during wartime, is believed to have been grossly exaggerated at the time. Mark Sullivan quotes George W. Anderson, a federal judge and a U. S. Attorney intimately involved in counter-espionage, as saying: "I assert, as my best judgment that more than 90 per cent of the reported pro-German plots never existed. . . ." Mark Sullivan, Our Times: The United States, 1900-1925 (New York: Charles Scribner's Sons, 1933), V, p. 472.

of the soldiers.⁹ As the war progressed, other types of activity were added. The mobilization effort had created serious dislocations in some communities and the large movement of labor created serious health and housing problems. Furthermore, the consumption of resources by the war industries led to shortages of consumer products, while the rapid build-up of industry created inflationary pressures on the national economy. A large number of local civil defense units assisted governmental agencies in dealing with these kinds of problems. For example, civil defense organizations instructed women in the ways to conserve food and encouraged the growing of liberty gardens. They assisted the Departments of Labor and Agriculture in recruiting farm labor; they worked with organizations such as the War Shipping Board to recruit and train workers for war industries; they supplemented various programs aimed at "educating" the people as to the aims and objectives of the war; and they undertook efforts to deal with such problems as rent gouging.¹⁰

It would be difficult, and probably inaccurate, to attempt to summarize the many activities that were subsumed under the heading of civil defense during World War I. However, a detailed analysis of such activities would lead to the conclusion that "civilian defense" during World War I assumed a meaning far broader than

⁹Historians have generally looked disapprovingly upon the excessive enthusiasm with which various "Americanization" programs were pursued, often resulting in suppression, violence and the denial of fundamental liberties. For example, see Samuel Eliot Morison and Henry Steele Commager, The Growth of the American Republic (New York: Oxford University Press, 1962), II, pp. 575-578.

¹⁰Dumas Malone and Basil Rauch, War and Troubled Peace, 1917-1939 (New York: Appleton-Century-Crofts, 1960), pp. 23-32, 41-45.

that of defending the population against the effects of attacks. The question of whether this should be the case was to become the source of controversy during World War II.

The legal basis for civil defense activity during the war was the United States Army Appropriation Act of August 29, 1916. According to this legislation a Council of National Defense was established. Consisting of the Secretaries of War, Navy, Interior, Agriculture, Commerce and Labor, the Council was charged with the responsibility for establishing the "relations which render possible in time of need the immediate concentration and utilization of the resources of the nation."¹¹ To assist the Council in this extremely broad function, the Act authorized the establishment of an Advisory Commission which was composed of seven individuals selected on the basis of their knowledge of several technical fields.¹² Because of the press of duties on the part of the Council members, and in view of the rather extraordinary quality of men serving on the Advisory Commission, the latter became the nexus of the civilian defense effort. As one historian put it, the Commission became the tail that wagged the dog.¹³

In the course of the war, the Council and its Advisory

¹¹Bernard Baruch, American Industry in the War: A Report of the War Industries Board, March, 1921 (New York: Prentice-Hall, Inc., 1941), p. 305.

¹²The Advisory Commission consisted of Bernard Baruch, Daniel Willard of the Baltimore and Ohio Railroad, Hollis Godfrey of Drexel Institute, Howard Coffin, an automobile engineer, Julius Rosenwald of Sears, Roebuck and Company, Mr. Frank H. Martin, and Samuel Gompers. Preston W. Slosson, The Great Crusade and After: 1914-1928 (New York: The Macmillan Co., 1933), p. 54.

¹³Sullivan, op. cit., pp. 377-378.

Commission established several organizations to assist it in its task of mobilizing the American people and harnessing industry to the expanding war effort. Probably the most important of these was the War Industries Board, headed by Bernard Baruch. He described the objectives of the Board in these terms:

The Board was inspired by a picture of our industry so mobilized and with all our conflicting efforts so synchronized, that the fighting forces of the world could tap it at will for such supplies as they needed. This ideal was perhaps never quite attained, but it was the guide. The Board set out to prevent competition among those buying for the war, and to regulate the use by the civil population of men, money and materials in such a way that civilian needs, not merely wants, should be satisfied; and to do all of this with the least possible dislocation and destruction of the essential features of our ordinary industrial life.¹⁴

Other organizations were established by the Council which, though perhaps not so important or powerful as the War Industries Board, are significant in the history of civil defense in the United States.

American entry into the war had stimulated the participation of numerous civic, benevolent and patriotic organizations in war-related programs. Also, state governments expressed interest in making contributions to the war effort. These organizations began to look to Washington for guidance and information and the Council of National Defense responded by encouraging the establishment of state defense councils patterned after the federal example. It also encouraged states to promote similar councils at the local level. The objective of this tri-level system of councils would be to transmit "to the people the needs of the government," and to reflect "back to Washington the moods of the people."¹⁵ The Council also established

¹⁴Baruch, op. cit., p. 29.

¹⁵Sullivan, op. cit., p. 378.

the States Councils Section on April 6, 1917 to provide liaison among the state councils and between the state and federal councils.¹⁶ The practice of working through the federal structure was thus established at an early date and this precedent greatly influenced subsequent civil defense planning.

Shortly after the establishment of the State Councils Section, the Council established the Women's Committee to coordinate and stimulate the wartime activities of the nation's women. Its function was:

. . . to provide a new and direct channel of communications between American women and their government; to enlist the cooperation of all women, whether organized or not, and to ascertain and report upon patriotic work being done by them; to endeavor, through coordination and centralization, to obtain greater efficiency in women's defense work and to impress upon women the importance of all methods of economic warfare.¹⁷

Eventually, on October 1, 1918, the State Councils Section and the Women's Committee were merged and continued to function until the end of the war as the Field Division. It ceased operations when the state organizations disbanded.¹⁸

Little thought was given to questions of defense by American policy makers during the inter-war period. Some professional military personnel were cognizant of the potential of air power and some were disciples of the Italian general Giulio Douhet, the prophet of modern

¹⁶Elwyn A. Mauck, "Civilian Defense in the United States: 1940-1945," (Unpublished manuscript by the Historical Officer of the Office of Civilian Defense, July 1946), p. 17. This study was undertaken under the general sponsorship of the Bureau of the Budget and is regarded as the official account of civil defense activities by the federal government during World War II. The copy examined by the writer was made available from the personal library of Mr. Hubert Gallagher, currently of the Office of Emergency Planning.

¹⁷Ibid., p. 19.

¹⁸Ibid., p. 21, 23.

air power, who argued that future wars would be won or lost in the air and that the key to successful air warfare was the possession of massive strategic bombing capabilities.¹⁹ Attacks by the Japanese in China, by the Italians in Ethiopia, and by the Germans and Italians in Spain seemed to lend credence to Douhet's strategic doctrines. But the American people, though repelled and horrified by the spectacles of mass bombing, were unconvinced that such attacks could ever be mounted against the American continent. Gripped with a determination to remain uninvolved in world politics, secure in their feeling that no significant external threat to the country existed, and preoccupied with their own internal problems, Americans had little interest or inclination to think about the problems of military defense.

With the outbreak of hostilities in Europe in 1939, and the proclamation of a state of emergency in May 1940, interest in the various aspects of defense began to quicken.²⁰ President Roosevelt reestablished the Council of National Defense and its supporting Advisory Commission, which had remained dormant since the end of World War I. To assist the Council in dealing with the many problems of mobilization which had to do with state and local governments, a Division of State and Local Cooperation was established on July 31, 1940.²¹ Since this organization became the nucleus of the Office of Civilian Defense, its functions should be carefully noted. It was to

¹⁹Bernard Brodie, Strategy in the Missile Age (Princeton, New Jersey: Princeton University Press, 1965), pp. 71-106.

²⁰William L. Langer and S. Everett Gleason, The Challenge to Isolation: The World Crisis of 1937 - 40 and American Foreign Policy (New York: Harper and Row, 1964), II, pp. 472-477.

²¹Mauck, op. cit., pp. 32-33.

(1) serve as the channel of communication between the National Defense Advisory Commission and the State defense councils in each State; (2) keep the state and local councils currently informed regarding the national defense program as it develops, particularly with respect to the specific activities in which the cooperation of State and local agencies is required from time to time; (3) receive from defense councils in the States reports upon problems of coordination requiring Federal attention, recommendations for necessary adjustments in programs, suggestions regarding new activities, proffers of facilities or services, and be responsible for their routing and follow-up to ensure appropriate distribution; and (4) clear information between defense councils in different States regarding matters of council organization, administration and activity.²²

The major significance of this list of functions, for purposes of the present analysis, is that civilian defense was still conceived as a broad set of programs to facilitate the mobilization of resources for possible use in wartime. As the head of the Division, Frank Bane, put it, the task "is simply to clear the tracks ahead for Government agencies and for private industry."²³

As the tempo of mobilization increased, so too did the problems of the Division of State and Local Cooperation. Communities across the country, anxious to receive a share of the defense expenditures, put great pressure on the Division.²⁴ Yet, when plants and facilities were installed, the states and localities were slow to deal with the resulting social and economic problems of housing, schools, sewers or public health. While the Division recognized these problems, it had no power to compel the states to come to grips with them.²⁵ On the other hand, when the states did approach

²²Ibid., p. 33.

²³Ibid., p. 34.

²⁴Ibid., p. 33.

²⁵Nehemiah Jordan, U. S. Civil Defense Before 1950: The Roots of Public Law 920 (Washington: Institute for Defense Analyses, May 1966), p. 37.

the Division for guidance, they often found the guidelines too broad to be of any practical use to them.²⁶

At the same time, the entire question of the relation of the national government to the state and local areas was coming to the fore. The principle of a three-level chain of communication from the national government through the states to the local governments, and back again, had been established during World War I and was rigorously adhered to by the Division of State and Local Cooperation. In this connection it is interesting to note that the Division head, Frank Bane, had been Executive Director of the Council of State Governors and had originally been borrowed from that organization to set up the Division.²⁷ On the other hand, some local government officials, led particularly by Mayor Fiorello LaGuardia of New York City, were growing restless under the traditional arrangement. They felt that the state governments tended to be unresponsive to urban needs and that communication through the states with a "score of separate and independent Federal agencies" was a dangerous and unnecessary bottleneck.²⁸ A report on civilian defense was prepared in November and December of 1940 by the Executive Director of the United States Conference of Mayors, Paul V. Betters, in which a recommendation was made for the establishment of a civilian defense agency which could deal directly with local governments.²⁹ The report justified such

²⁶Ibid., pp. 37-38.

²⁷Mauck, op. cit., p. 32

²⁸Ibid., pp. 47-48.

²⁹It should be noted that Mayor LaGuardia, at the time of this report, was President of the United States Conference of Mayors.

an arrangement in these terms:

Aircraft does [sic] not recognize State political boundaries any more than microbes do; and neither do bombs for that matter. For efficient organization it is simply out of the question to expect state agencies, restricted in their functioning to obsolete and archaic political boundaries, to handle the task. . . . It is the intention that the local authorities should be responsible for detailed plans for passive air defense based upon general principles formulated by the [proposed] Federal board, and it should be the responsibility of each regional office to act as the guide, philosopher, and friend of the local authorities while they are working out their detailed plans.³⁰

While the Division was thus experiencing difficulties with both the state and local governments, the emphasis of the entire civilian defense effort was undergoing transformation. The air attacks by the German Luftwaffe upon European cities were making it difficult to ignore the protective aspect of civilian defense. Again, it was Mayor LaGuardia who raised the issue when he sent a committee of firemen to London in October 1940 to study the problem of civilian protection against aerial bombardment. In the preface to a report prepared by his committee, he asserted that:

Modern aerial warfare has placed tremendous responsibilities on the cities and their civilian populations. On the shoulders of local authorities has fallen the whole burden of 'passive' or civil defense--the protection, medical and hospital services, restricting of lighting, protection of transport, armament producing plants and utilities, evacuation and housing, clearance of debris, and other non-combatant tasks.³¹

Concern for protection was also reflected in the issuance by the Division of State and Local Cooperation of a series of bulletins intended to guide states and localities in such activities as blackouts and shelter protection.³² The position of LaGuardia with respect to

³⁰Mauck, op. cit., p. 48.

³¹Ibid., p. 47.

³²Jordan, op. cit., p. 38.

both the substance and organization of civilian defense is summed up in a letter which he addressed to President Roosevelt at the conclusion of the 1941 Conference of Mayors in Ottawa, Canada:

. . . I find that the general agreement among the mayors is that there is a need for a strong Federal Department to coordinate activities, and not only to coordinate but to initiate and get things going. . . . Please bear in mind that up to this war and never in our history, has the civilian population been exposed to attack. [sic] The new technique of war has created the necessity for developing new techniques of civilian defense. It is not just community singing and basket weaving that is needed. True, these are all good. We must be realistic. What is needed is to create a home defense among the civilian population, to be trained to meet any responsibility of an air or naval attack in any of our cities. . . . It is not an easy job to educate, train and prepare cities to meet a situation where bombs explode in their midst, destroying buildings, with hundreds killed and thousands injured. That is the job ahead of us.³³

The overall result of such pressures, coupled with some obvious shortcomings of the Division of State and Local Cooperation, was the establishment of the Office of Civilian Defense by executive order on May 20, 1941. Headed by Mayor LaGuardia, who also continued to serve as Mayor of New York City, the Office of Civilian Defense was organizationally located within the Office of Emergency Planning, Executive Office of the President. The essential duties of the new organization were (1) to promote protective measures and (2) to promote "activities designed to sustain the national morale," and to "provide opportunities for the constructive participation in the defense program."³⁴ The protective function was thus recognized but at the same time the industrial mobilization functions, which played such a large part in the World War I effort, were not included in civilian defense.

³³Mauck, op. cit., p. 55.

³⁴Executive Order No. 8757. 6 Federal Register 2515 (Federal Register, May 22, 1941).

The basic organization of civilian defense in World War II consisted of the Office of Civilian Defense at the federal level and defense councils at the state and local levels. The Office of Civilian Defense had two major operating branches, corresponding with the functional breakdown contained in Executive Order 8757, namely the Civilian Protection Branch and the Civilian War Services Branch. The supervisory responsibilities of the federal government were exercised through nine Regional Civilian Defense Areas, which corresponded geographically with the nine War Department Service Commands. The major function of the regional offices was to coordinate the activities of the state defense councils with those of the Office of Civilian Defense and of the War Department.³⁵

The Executive Order establishing the Office of Civilian Defense may thus be seen as something of a compromise. On the one hand, protective activities were recognized as important elements of a civil defense program, although so too were the various morale building activities of earlier programs. On the other hand, the three level chain of communication was retained by the Order and perhaps even strengthened by the incorporation of the staff of the old Division of State and Local Cooperation into the War Services Branch. This staff, put together by Frank Bane, was strongly committed to working through the traditional channels.

The Office of Civilian Defense operated in an atmosphere of controversy during the greater part of its existence and many attitudes developed during this period spilled over into post-war civil

³⁵Jordan, op. cit., pp. 41-42.

defense policy considerations. On a very broad level, it should be noted that there were those in the country who were opposed to the very establishment of the OCD in the belief that such activities should properly be undertaken by the War Department.³⁶ On the other hand, there were others who regarded the civil defense program as basically political in nature and some of the programs designed to keep the incumbent President in the White House.³⁷

There were also bitter divisions within the OCD with respect to program emphasis and appropriate channels of communications. Mayor LaGuardia, as might have been expected, placed great emphasis upon communication with local government officials and often ignored or bypassed state civil defense organizations, the Executive Order notwithstanding. While this was often heartily approved by local figures, it caused a mounting chorus of protest and indignation on the part of state officials.³⁸ Indeed, when the Bureau of the Budget undertook a study of the civil defense program in November 1941, it found that "virtually every state official . . . made the bypassing of the State his strongest point of complaint," and most of them felt that even though the practices should change, it would be a long time

³⁶Mauck, op. cit., p. 60. While Mauck does not identify who these people may have been, some information can be gleaned from other sources. For example, when a \$100,000,000 appropriation for protection against bombing attacks was approved by the House in early 1942, a provision was attached that would have transferred the OCD to the War Department. This provision was eliminated in conference. U. S. Congressional Record, 77th Cong., 2d Sess., 1942, LXXXVIII, p. 1935. Also the columnist, Walter Lippmann, had earlier urged a similar move. U. S. Congressional Record, 77th Cong., 1st Sess., 1941, LXXXVII, p. 9991.

³⁷Mauck, op. cit., p. 64.

³⁸Ibid., p. 68.

before full confidence could be established.³⁹

Also, as might have been anticipated, Mayor LaGuardia placed major emphasis upon the protection aspects of the civil defense program, while downplaying or ignoring those programs involving large voluntary participation. Such services as physical fitness, welfare, nutrition, child care, housing and consumer advice were regarded by the Mayor as "sissy stuff" and not appropriately a meaningful function for the federal organization.⁴⁰ At one time he is reported to have suggested that all of the key personnel of the former Division of State and Local Cooperation, which more or less comprised the War Services Branch, "find positions elsewhere."⁴¹ The Bureau of the Budget found that the original proportions of the Executive Order establishing the OCD had been largely lost sight of and that there seemed to be "no one concerned with the total package of civilian defense."⁴² Consequently, the Bureau made known its intention of withholding the allotment of funds until the "organization of the Office of Civilian Defense had been completed and the need for additional funds with which to supply additional services had been clearly demonstrated."⁴³

Pressures generated by the Bureau, as well as by large numbers of citizens who wished to volunteer their services to the war effort, eventually yielded results, though not necessarily of the type anticipated. In September 1941 LaGuardia appointed Mrs. Eleanor Roosevelt

³⁹Ibid., p. 70. Mr. Mauck offers no explanation of why such a study would be undertaken after only six months of existence. It does not seem to be unreasonable to surmise that strong pressures may have been brought upon the President by various state governors.

⁴⁰Mauck, op. cit., p. 66.

⁴¹Ibid., p. 69.

⁴²Ibid., p. 71.

⁴³Ibid., p. 72.

as Assistant Director in Charge of Voluntary Participation. Although Mrs. Roosevelt was able to register some solid achievements which were widely acclaimed for their usefulness in meeting community needs, her five-month tenure of office was characterized by incessant and bitter criticism. It may be, in historical retrospect, that part of the criticism heaped upon Mrs. Roosevelt was due to her vulnerability as the President's wife, that much of the real criticism was levied against the New Deal, for which she was a convenient scapegoat. On the other hand, certain programs initiated and appointments made by her were open invitations to criticism. Two such appointments, particularly, caused serious trouble. First, Mrs. Roosevelt helped to secure the services of Miss Mayris Chaney, a professional dancer, "to formulate and direct an OCD recreation program for children."⁴⁴ Second, she assisted in the selection of Mr. Melvyn Douglas, a motion picture actor, to mobilize the voluntary activities of the nation's actors, artists, musicians and writers for civil defense. The ensuing avalanche of criticism in the press and Congress threatened the very existence of the agency. Terms such as "boondoggling," "fan dancers," "strip-tease artists," "piccolo players," "parasites," and "leeches" were liberally used to describe Mrs. Roosevelt's personnel and programs.⁴⁵ In the case of Mr. Douglas, some members of Congress hinted that his "leftist leanings" were turning the OCD into a "pink tea party."⁴⁶

By the time the United States had become actively involved

⁴⁴Ibid., p. 75.

⁴⁵Ibid., pp. 75-76.

⁴⁶U. S. Congressional Record, 77th Cong., 2d Sess., 1942, LXXXVIII, p. 1028.

in hostilities, therefore, the OCD was under attack from several quarters. The prestige of the agency, never particularly high, sank to a low ebb under such assaults. And when it became apparent that the civil defense activities could no longer be handled by part-time directors and volunteers, both Mayor LaGuardia and Mrs. Roosevelt resigned and the former was replaced by James M. Landis, the Dean of the Harvard University Law School.

The task of Dean Landis was to strengthen the demoralized organization and to eliminate those programs which had become the object of public ridicule. Emphasis was first placed upon putting the protective services on a sound basis. At their peak of activity, the protective services involved a Civil Defense Corps of approximately ten million volunteers, of whom some 8,570,000 were actually assigned and performed some specific duty. The Corps provided a number of protective services including 1) a communications system for the entire Corps, 2) facilities for training volunteers in emergency firefighting, 3) instructions in the building of shelters, 4) training in decontamination and the use of gas masks, 5) camouflage of vital facilities, 6) restoration of essential services and 7) evacuation and care of evacuees.⁴⁷ Eventually, as the threat of direct attack upon the United States receded, the office shifted its attention to various morale-building activities.⁴⁸

In August 1943 Landis resigned and recommended that the OCD be abolished as soon as possible. This recommendation was based upon

⁴⁷Jordan, op. cit., pp. 44-45.

⁴⁸Ibid., p. 50.

the assumption that state and local civil defense units had developed to the point that they were "capable of discharging responsibilities that in the last analysis must be theirs."⁴⁹ He also recommended that the coordination function, heretofore carried on by the OCD, be transferred to the War Department.⁵⁰ Landis' recommendations were not immediately acted upon and the OCD continued to function until President Truman abolished the organization on June 30, 1945.⁵¹

The Planning Period: 1945-1949

With the development of the atomic bomb, the problem of protecting the civilian population had become enormously complex in comparison with the preceding period. Not only had the power of the weapons of destruction increased dramatically as a result of technological developments, but the means of delivery had also increased in efficiency. During the course of World War II the range of bombers capable of delivering large payloads had increased to such a degree that few significant targets on the earth's surface could any longer be considered completely safe from attack.

Clearly, these developments called for a major review of the entire concept of civil defense notwithstanding the fact that the nation was no longer engaged in active hostilities. Not only was it necessary to determine, on the basis of the facts available, whether civil defense remained a meaningful goal in the nuclear age, but (assuming some degree of civil defense was possible) what organizational arrangements and operational programs would best achieve

⁴⁹Mauck, op. cit., p. 87.

⁵⁰Ibid.

⁵¹Jordan, op. cit., p. 50.

the desired end. Several such reviews were undertaken during the period under discussion.

The purpose of the present section is to describe the work of a number of groups, operating within the executive branch, which attempted to come to grips with the problems of civil defense in the nuclear age. The reports of these groups, while often strikingly similar to one another, will be examined in some detail because they do generally constitute the basic post-war thinking about civil defense. The story of what happened to these reports is also of considerable interest because it provides an insight into the attitudes and degree of support for the civil defense function among the higher-echelon figures in the Truman Administration. It should be noted that those portions of the various reports and proposals that relate specifically to shelters will not be discussed in detail in this chapter. Such considerations, limited though they may have been, will be more fully described in the following chapter.

The basis for much of the early post-war civil defense planning was developed by the United States Strategic Bombing Survey. In a study of the effects of the atomic attacks on Hiroshima and Nagasaki, published in June 1946, the Survey concluded that it was far from hopeless to attempt to provide protection for civilians against the new weapons. While not discounting the enormous effects of nuclear weapons, the Survey expressed the belief that an equal amount of heat and blast damage could have been inflicted by 210 B-29's at Hiroshima and 100 B-29's at Nagasaki.⁵² The Survey tended

⁵²United States Strategic Bombing Survey, The Effects of Atomic Bombs on Hiroshima and Nagasaki (Washington: Government Printing Office, June 30, 1946), p. 3.

to downgrade the lethal effects of radiation, arguing that "only" two to twenty percent of the casualties had been inflicted by this particular effect.⁵³ The implication of the report was that while the atomic bomb was immeasurably more powerful than any weapon ever used before, "it has limits" which can be taken advantage of by "wise planning."⁵⁴ The report concluded with this recommendation regarding civil defense:

Most important, a national civilian defense organization can prepare now the plans for necessary steps in case of crisis. . . . Two complimentary programs which should be worked out in advance are those for evacuation of unnecessary inhabitants from threatened urban areas, and for rapid erection of adequate shelters for people who must remain.⁵⁵

The work of the Survey spilled over into the area of civil defense planning when the Office of the Commanding General, Army Service Forces, requested that the Provost Marshal General study the problem of civil defense in the light of recent experience and to make recommendations as to which agency should be responsible for future civil defense planning and operations.⁵⁶ The individual selected to direct the study was Lt. Col. Burnet W. Beers, who had also taken an active part in the work of the Strategic Bombing Survey and who was convinced that civil defense against nuclear weapons was both necessary and feasible.⁵⁷ The report of the Provost Marshal General, entitled Study 3B - 1, Defense Against Enemy Action Directed

⁵³Ibid., p. 15.

⁵⁴Ibid., p. 38.

⁵⁵Ibid., p. 41.

⁵⁶Jordan, op. cit., p. 58.

⁵⁷Lyon G. Tyler, "Civil Defense: The Impact of the Planning Years, 1945-1950" (Unpublished Ph.D. Dissertation, Dept. of History, Duke University, 1967), p. 26. Tyler's evidence in this instance is based upon an interview with Col. Beers.

at Civilians, was issued in April 1946 and served as the basis for much of the early post-war thinking about civil defense.⁵⁸

Civil defense in 3B-1 was defined as the "mobilization of the entire population for the preservation of civilian life and property from the results of enemy attacks, and with the rapid restoration of normal conditions in any area that has been attacked."⁵⁹ The report rested on the assumption not only that these two objectives could be achieved, but that the "same passive defense measures that were employed in defense against conventional air raids can be adopted to atomic attack, no matter how intensive."⁶⁰ However, the report warned, if the civil defense program was ever to amount to anything, it would have to be removed from its formerly inferior and haphazard role and recognized by the leadership as an integral and essential element of overall national defense.⁶¹

The basic principle underlying a successful civil defense program was, according to the report, that of self-help. That is to say, the individual is basically responsible for protecting himself and his own property.⁶² However, it is the responsibility of the government to make the principle of self-help operative. According to the

⁵⁸U. S. War Department General Staff, Office of the Provost Marshal General, Defense Against Enemy Actions Directed at Civilians. Study 3B-1 (Washington, D.C., 1946). Hereafter cited as Study 3B-1. This study remains classified. However, it is summarized in Jordan, op. cit. and discussed in considerable detail by Tyler, op. cit. The discussion of the work in this study is based upon these two sources.

⁵⁹Jordan, op. cit., p. 59. Tyler, op. cit., p. 33.

⁶⁰Tyler, op. cit., p. 34. *Italics added.*

⁶¹Jordan, op. cit., pp. 58-59. Tyler, op. cit., p. 31.

⁶²Jordan, op. cit., p. 165.

report, this would involve several governmental programs: a national shelter policy, reserve stockpiles of civil defense supplies, an effective attack warning system, plans for the dispersal of industry and the evacuation of individuals from likely target areas, and training programs in the various civil defense activities such as fire-fighting and rescue work.⁶³ While it was assumed that state and local governments would play an important role in civil defense activities, it was suggested that the backbone of the entire effort would be provided by the military, which would also be available as a mobile reserve to assist communities in meeting firefighting, rescue, emergency medical and welfare needs.⁶⁴

The study found that one of the major weaknesses of civil defense during the war was the "absence of a unified command and authority to enforce the responsibilities allotted to it by the Executive Order, the allotment to it of responsibilities extraneous to actual civil defense matters, and the total lack of advance planning which found the nation unprepared."⁶⁵ Given this assessment of the causes for past failures, the prescription for the future is not surprising: a federal civil defense agency should have command authority; activities should be strictly confined to those connected with the protection of lives and property; and continuous planning should be undertaken by both military and civilian specialists in the field.⁶⁶ Finally, the report recommended, the agency responsible for civil defense should be located within the military establishment and

⁶³Ibid., p. 166.

⁶⁴Tyler, op. cit., pp. 35-36.

⁶⁵Jordan, op. cit., p. 166.

⁶⁶Tyler, op. cit., p. 37.

set up along the lines of the general staff of the War Department.⁶⁷

While 3B-1 made some specific recommendations as to the implementation of its proposals, little or no concrete action resulted therefrom.⁶⁸ At the time the report was issued, public attention was focused upon the Baruch proposals for the international control of atomic energy. At the same time, the nuclear tests at Bikini in June 1946 had convinced many that the destructive threat of the new weapons may have been exaggerated.⁶⁹ Finally, while the War Department seemed to agree with 3B-1 that a single civil defense agency was needed, it was felt that further study was necessary to determine the location of the agency within the bureaucratic framework. On the one hand, regular military officers in the War Department were not as eager as the authors of 3B-1 to assume the additional burdens of civil defense.⁷⁰ On the other hand, civil defense seemed to cut across the interests of so many agencies that the War Department felt that the Bureau of the Budget should study the matter.⁷¹ The latter, however, was hesitant to do so because it was deeply involved at the time in a review of the entire Executive branch under the Reorganization Act of 1945.⁷² Finally, in November 1946, the War Department

⁶⁷Jordan, op. cit., p. 167.

⁶⁸see Jordan, op. cit., pp. 167-170.

⁶⁹Tyler, op. cit., p. 40.

⁷⁰Ibid., p. 38. It should be noted that the authors of 3B-1 were primarily reserve officers, and were perhaps not as sensitive as career officers to the effects of a civil defense program upon traditional civilian-military relations or to the effect of such a program upon their ability to pursue the primary mission of engaging the enemy in the field.

⁷¹Tyler, op. cit., p. 43.

⁷²Ibid., p. 45.

decided to appoint a Civil Defense Board, composed of senior military officers, to study the Department's role in civil defense. The Board, headed by Maj. Gen. Harold Bull, studied the matter in considerable detail and made its report in February 1947. The report was made public one year later.⁷³

The Bull Report did not differ significantly from 3B-1 in terms of its criticisms of wartime programs, its assessment of the need for civil defense, or its general recommendations for future programs. On the other hand, the Bull Board defined the role of the Army in terms much narrower than the earlier report. Convinced that the primary mission of the Army was to meet and engage the enemy, the Board concluded that "major civil defense problems are not appropriately military responsibilities. Such problems are civilian in nature and should be solved by civilian organizations."⁷⁴ Consequently, the Army would be responsible for protective programs on military installations and would become involved in non-military areas only "in the event of a disaster beyond their capabilities to control."⁷⁵ It would be expected that the Army would also carry on research with respect to dispersion, underground sites and other measures for the defense of military forces but that such research would be made available to civilian authorities.⁷⁶ Beyond this, military authorities would not be responsible for civil defense.

⁷³U. S. National Military Establishment, Office of the Secretary of Defense, A Study of Civil Defense. War Department Civil Defense Board (Washington, D.C., 1948). Hereafter cited as the Bull Report.

⁷⁴Ibid., p. 20

⁷⁵Ibid., p. 10.

⁷⁶Ibid., p. 10.

While the Board insisted upon the civilian nature of civil defense, it did recommend that any future agency in this field be established "within the Department of the Armed Forces, with a Director reporting directly to the Secretary of the Armed Forces."⁷⁷ The basic argument underlying this proposal was that it would provide "the necessary integration of personnel and the continuous close contact between the civil and the military in planning and operation. . . ."⁷⁸ A major purpose of a civilian defense agency within the "Department of the Armed Forces" would be to provide comprehensive planning, coordination and technical advice for state and local defense organizations. The federal agency would, however, assume direct control only "when required."⁷⁹

Finally, the Bull Board was convinced that the key to an effective civil defense program was comprehensive and long-range planning. Needs and capabilities would have to be assessed and the interests of various governmental units reconciled within the context of a master plan. Only after such plans had been developed and supported by appropriate legislation could the actual implementation of the programs begin.⁸⁰ Such a process could take a very long time and it was therefore essential that it begin "without delay."⁸¹ The Report concluded with the recommendation that a planning organization be established for this purpose within the War Department or its successor organization.⁸²

⁷⁷Ibid., p. 20.

⁷⁸Jordan, op. cit., p. 72.

⁷⁹Bull Report, op. cit., p. 10. ⁸⁰Ibid., p. 21.

⁸¹Ibid., pp. 19-20.

⁸²Ibid., p. 20.

While the Bull Report was completed in February 1947, no immediate action was taken on it, due largely to the preoccupation of the Administration with the problems attending the unification of the armed forces within the Department of Defense. By the middle of the year, however, the pressures of the "cold war" were beginning to mount and civil defense once again became a relevant, if not vital, issue of concern. Colonel Beers, who had taken an active part in the two earlier studies of civil defense, approached Secretary of Defense Forrestal with the recommendation that civil defense planning be immediately initiated and that a unit for this purpose be established in the Office of the Secretary of Defense.⁸³ Forrestal was receptive to the idea and despite the opposition of the Navy (which preferred that civil defense be located outside the military establishment), the War Council reached the decision in November 1947 that a planning organization be established and that, for the time being, it be located in the Office of the Secretary.⁸⁴ President Truman apparently concurred in the decision.⁸⁵ After a rather lengthy search for a person to head the planning staff, Forrestal persuaded Russell J. Hopley, the President of Northwestern Bell Telephone Company, to take the job.⁸⁶ His appointment as Director of the Office of Civil Defense Planning was announced by the President in March 1948.

The major purpose of the Office of Civil Defense Planning,

⁸³Tyler, op. cit., p. 79. ⁸⁴Ibid., pp. 80, 81-82.

⁸⁵Ibid., p. 82.

⁸⁶Because of his lack of experience in government and in civil defense, Mr. Hopley agreed to take the job only if Col. Beers would be assigned as his personal assistant. Ibid., p. 87.

according to the March 27 memorandum establishing it, was

To prepare, and to submit to the Secretary of Defense, a program of civil defense for the United States, including a plan for a permanent civil defense agency which, in conjunction with the several States and their subdivisions, can undertake those peacetime preparations which are necessary to assure an adequate civil defense system in the event of war.⁸⁷

After six months of study, the Office of Civil Defense Planning submitted a 300-page report, usually referred to as the Hopley Report, which outlined and recommended the adoption of a plan for the organization of a national civil defense program.

The bulk of the Hopley Report consisted of a carefully detailed discussion of each and every position of the recommended civil defense organization at the state and local levels. The Report contained a complete breakdown of the various tasks involved in civil defense as well as an estimate of the manpower requirements for both peacetime operations and for expansion when required in the event of an emergency. As a detailed blueprint for an operational civil defense organization, it was essentially a fulfillment of the recommendations set forth in the Bull Report.

While the details of the Report need not be discussed at this stage of the present study, two points should be emphasized. The Hopley Report, like its predecessors, recommended that a Federal Office of Civil Defense be established. It suggested that either the Executive Office of the President or the Office of the Secretary of Defense would be an appropriate location for the civil defense function. The latter was preferred "since a very large part of the civil

⁸⁷U. S. National Military Establishment. Office of Civil Defense Planning. Civil Defense for National Security (Washington: Government Printing Office, 1948), p. 291. The memorandum it contained as an appendix to the report by the OCDP which will hereafter be referred to as the Hopley Report.

defense program will require continuous coordination with all agencies responsible to the Secretary of Defense. . . ."88 Second, with respect to the responsibility for civil defense, the Hopley Report concluded that "organizing and operating Civil Defense must be the joint responsibility of the federal government, the states and the communities."89 According to this principle, it would be the function of the federal government to "provide leadership and guidance, set patterns and lay down principles," but the "primary operating responsibility for Civil Defense must rest with the state and local governments. . . ."90 Furthermore, the Report stated in unequivocal terms that communications from the federal organization to the local governments must flow through the state governments.91 In this respect the Hopley Report adhered to traditions developed during the two world wars.

The public release of the Hopley Report in November 1948 was a source of consternation to many individuals and agencies both in and out of government. Here was a vast and detailed plan envisaging the possible mobilization of fifteen million people,92 which had been prepared and publicized with little or no consultation with other governmental agencies. Such a program, if implemented, would constitute a severe drain upon limited budgetary resources and could therefore be expected to draw opposition from those agencies engaged in the perennial struggle for funds. There was also a fear that the implementation of such a program would lead to a "garrison state."

⁸⁸Hopley Report, op. cit., p. 18.

⁸⁹Ibid., p. 14.

⁹⁰Ibid., pp. 14-15.

⁹¹Ibid., p. 15.

⁹²Ibid., p. 13.

Walter Winchell, for example, called the Hopley Report "the greatest threat to our liberties since the British burned the White House in 1814" and said that it was worse than anything "ever dreamed of by Hitler and Stalin."⁹³ A similar fear, less graphically articulated, existed within governmental circles. While there is little or no evidence that the military actively sought to assume the burden of civil defense, the considerable evidence to the contrary, the fact remained that the only serious discussion of civil defense had emanated from the Pentagon and the precipitous release of the Hopley Report convinced many that it was part of a power play to bring a civilian responsibility under military control.⁹⁴

The question of where the civil defense function should be located was debated for the next several months. A Task Force on National Security Organization of the Hoover Commission, headed by Ferdinand Eberstadt, agreed with the view, widely held within the government, that it would be unwise to place a traditionally civilian function in the hands of the military and recommended that the responsibility for civil defense be placed with the National Security Resources Board (NSRB).⁹⁵ Secretary Forrestal agreed with this point of view but insisted that civil defense be established as a separate office of the NSRB rather than be absorbed by the Board. The reason-

⁹³Tyler, op. cit., p. 149. Tyler was quoting from the transcript of Winchell's American Broadcasting Company network radio broadcast of November 21, 1948.

⁹⁴Ibid., pp. 168-169.

⁹⁵The Commission on Organization of the Executive Branch of Government, Task Force Report on National Security Organization, Appendix G. (Washington: Government Printing Office, February, 1949).

ing of the people in the Office of the Secretary of Defense was that the Hopley Report had provided the basis for an operational civil defense program. The NSRB, on the other hand, was purely a staff arm of the President and was not intended to provide operational direction of any national security program.⁹⁶ Therefore, to place the civil defense function in such an organization would be tantamount to scuttling the entire effort.⁹⁷ Other agencies, such as the Bureau of the Budget, argued that civil defense was part of the total mobilization package and should thus be assumed by the NSRB without the establishment of any separate agency.⁹⁸ The issue was resolved by the President in March 1949 when he assigned the responsibility for civil defense to the NSRB in the belief that "under the present circumstances the essential need of the Federal Government in the area of civil defense is peacetime planning and preparation . . . rather than the operation of a full-scale civil defense program."⁹⁹ In other words, the proposals of the Hopley Report to implement an operational program had been rejected. Indeed, there is considerable evidence to support the view that the Administration was fearful that a civil defense program, if implemented, would consume a disproport-

⁹⁶At the time, there was considerable confusion as to what the NSRB was supposed to do. President Truman apparently saw its main function to advise the president. In a May 1948 letter the President stated that he "did not intend to vest in the NSRB any responsibility for the coordination of national security programs of the government which require direction over any agency" or "which imply a final power of decision resting with the Board." Tyler, op. cit., p. 166.

⁹⁷Ibid., p. 172.

⁹⁸Ibid.

⁹⁹Letter of March 3, 1949 from President Truman to the Acting Chairman of the National Security Resources Board. Public Papers of the Presidents: Harry S. Truman, 1949 (Washington: Government Printing Office, 1964), item 48, p. 162.

tionate share of available resources and that the transfer of the function to the NSRB was calculated to slow down the impetus provided by the Hopley Report and even to bury civil defense as a significant element of national security policy.¹⁰⁰

Organizational Developments: 1949-1950

The President's March decision to relegate civil defense to a planning role might be expected to have put an end to the matter. But events over the course of the next year and a half forced the Administration to reverse itself on this position. Pressures developed during that time which eventually caused the Administration not only to view civil defense as an operational function but also to produce legislative proposals to establish a permanent civil defense organization. The purpose of this section is to describe the major causes for this abrupt change of policy and to set forth the major provisions of the Federal Civil Defense Act of 1950. This act, it should be noted, established the Federal Civil Defense Administration and remains as the basic legislative authorization of the civil defense program in the United States.

When the responsibility for carrying out the planning activities of civil defense was assigned to the NSRB in 1949, there was every reason to believe that a very small-scale operation was contemplated. William A. Gill, a management analyst who had been "borrowed" from the Bureau of the Budget, was placed in charge of the program. While Gill had had no experience in the field of civil

¹⁰⁰Jordan, op. cit., pp. 87-94. Tyler, op. cit., pp. 180-181.

defense, he seems to have understood the intentions of the Administration to minimize the program but at the same time not to completely abandon it. The basic approach of the NSRB during the remainder of 1949 and 1950 was to delegate the civil defense planning functions to those existing government agencies whose responsibilities might have some bearing upon civil defense in the event of war. As far as the NSRB itself was concerned, Gill recommended that a unit of not more than three people be established to oversee all of the civil defense activities of the various governmental agencies and to maintain contact with and supply information to the states and municipalities.¹⁰¹ Relying on information supplied by such agencies as the General Services Administration, the Department of Defense, the Atomic Energy Commission, and the Public Health Service, the NSRB made available a series of advisory bulletins to the governors covering such questions as the relationship of states with their political subdivisions in matters of civil defense, directions for individual behavior during an atomic attack, suggested state civil defense legislation and source materials on civil defense.¹⁰² One pamphlet entitled "Survival Under Atomic Attack" (NSRB Doc. No. 130) was distributed to more than 250,000 people and was widely reprinted by newspapers and private publishers.

While the NSRB was therefore not inactive in carrying out its responsibilities for civil defense planning, dissatisfaction with its

¹⁰¹Tyler, op. cit., p. 183.

¹⁰²This information was sent to the governors in a series of pamphlets entitled "Civil Defense Planning Advisory Bulletins" (NSRB Doc. No. 121). The first issue is dated October 5, 1949, and subsequent issues extended from that date throughout 1950.

achievements gradually began to develop. In September 1949 the Soviet Union exploded an atomic bomb. Municipal officials began to demand that the "Federal government make clear to the cities of the United States what is expected of them" in preparing for nuclear attack.¹⁰³ Congressman John F. Kennedy made public a letter, addressed to President Truman, in which he warned that the United States was laying itself open to an "atomic Pearl Harbor" by its continued indifference to the civil defense program.¹⁰⁴ In this connection, Kennedy was joined by Bernard Baruch in pressing for a step-up of civil defense planning.¹⁰⁵ In March 1950 the Joint Committee on Atomic Energy held hearings on the civil defense program in which Paul J. Larson, who had recently assumed general supervision of the civil defense activities of the NSRB, defended the status quo and argued that a complete operational civil defense program could very easily lead to a "garrison state."¹⁰⁶ He pointed to the issuance of the advisory bulletins and asserted that they constituted the basis of an adequate program.¹⁰⁷ He also told a closed meeting of the House and Senate Armed Services Committees that a large program would "never be necessary" because state and local governments were expected to do what was necessary.¹⁰⁸ The major criticism of the NSRB effort

¹⁰³Tyler, op. cit., p. 206.

¹⁰⁴New York Times, October 10, 1949, p. 9:1.

¹⁰⁵New York Times, October 31, 1949, p. 41:1.

¹⁰⁶U.S. Joint Committee on Atomic Energy. Hearings, Civil Defense Against Atomic Attack, 81st Cong., 2d Sess., 1950, p. 2.
 Hereafter cited as JCAE, Hearings, Civil Defense Against Atomic Attack.

¹⁰⁷Ibid., p. 5.

¹⁰⁸New York Times, April 1, 1950, p. 13:5.

came from local officials, one of whom asserted that the federal government was shirking its constitutional responsibility to provide for the common defense and that a program based on delegations to organizations which had little interest or competence in civil defense was a "buck passing operation of the first magnitude."¹⁰⁹ A commonly expressed sentiment of the local officials was that "if Washington is not excited about the urgency of such a program, why should we be too disturbed?"¹¹⁰ The Joint committee issued no report on its hearings but the clear inference of the testimony, especially from the non-federal governmental witnesses, was that the civil defense program was in a poor state of affairs and that decisive federal leadership would have to be forthcoming if state and local activities were ever to get off the ground.

Spurred by such criticism, which assumed added significance with the outbreak of the Korean War in June 1950, the NSRB undertook to develop a new and comprehensive plan which would meet the objections voiced earlier. The new plan was submitted to the President on September 8, 1950.¹¹¹ The 162 page plan, commonly referred to as the Blue Book, was a virtual summary of the essentials of the Hopley Report which had been rejected eighteen months earlier.¹¹² Based

¹⁰⁹JCAE, Hearings, Civil Defense Against Atomic Attack, p. 141.

¹¹⁰Ibid., pp. 177-178.

¹¹¹Executive Office of the President. National Security Resources Board, United States Civil Defense. NSRB Doc. No. 128 (Washington: Government Printing Office, 1950). Hereafter cited as The Blue Book.

¹¹²In the rush to complete this plan, the NSRB Chairman, Stuart Symington, summoned the ubiquitous Col. Beers from the Department of Defense to help in the job. Tyler, op. cit., p. 272.

upon the principle of operational control at the state level, the Blue Book recommended the various functions that should be performed at each level of government and made suggestions concerning the organization, command and control of the individual state programs.¹¹³ The services that would be needed in the event of attack were listed in detail,¹¹⁴ and the necessary state legislative provisions were presented in the form of model bills.¹¹⁵ Organization charts for state and local defense agencies were provided as a guide for future planning.¹¹⁶ And general matters relating to over-all civil defense planning were discussed in relation to the probable effects of a nuclear attack.¹¹⁷

According to the Blue Book the responsibility of the federal government would be

. . . to establish a national civil-defense plan with accompanying policy, and to issue informational and educational material about both. The Federal Government will provide courses and facilities for schooling and training, provide coordination of interstate operations, furnish some of the essential equipment, and advise the States concerning the establishment of stockpiles of medical and other supplies needed at the time of disaster.

In matters of civil defense, the Federal Government will deal directly with the State, i.e., with the governor, or if he so delegates, with the civil-defense director.¹¹⁸

In other words, the operational responsibilities of civil defense would rest with the state and local governments and the federal government would assist in ways which it believed to be appropriate. As a corollary to this principle, the military was more or less absolved of responsibility except in terms of warning, technical assistance

¹¹³The Blue Book, pp. 10-13.

¹¹⁴Ibid., pp. 33-103.

¹¹⁵Ibid., pp. 27-30, 135-149.

¹¹⁶Ibid., pp. 124-125.

¹¹⁷Ibid., pp. 106-122.

¹¹⁸Ibid., p. 5.

in training programs, and assisting civil authorities in determining likely target areas.¹¹⁹ Finally, the report recommended that legislative proposals be submitted to Congress providing for the establishment of a Federal Civil Defense Administration which would report directly to the President.¹²⁰

With the exception of the provision for a separate civil defense agency, the Blue Book did not differ significantly from the earlier Hopley Report. In tone, however, the NSRB report was more restrained and put much greater emphasis upon "maximum economy in the use of available men, money and materials."¹²¹ The Blue Book also emphasized the extent of state responsibility much more than the earlier report. Presumably such emphases as these secured the necessary support of the President. Accordingly, on November 30, 1950, Representative Carl Durham of North Carolina introduced H. R. 9798 (The Federal Civil Defense Act of 1950, Public Law 920, 81st Congress, 2d Session). Since this remains as the basic legislative authorization of civil defense activity in the United States, it would be appropriate to consider its major provisions, as well as to note some of the points of issue raised in the course of its deliberation and passage.

The Civil Defense Act defines civil defense in more explicit terms than had previously been used. The term is applied to all activities which are designed and utilized (1) to minimize the effects of an attack, (2) to cope with the immediate emergency conditions

¹¹⁹Ibid., pp. 15-16.

¹²⁰Ibid., pp. 13-14.

¹²¹Ibid., p. 3.

resulting from attack and (3) to effectuate emergency repairs and restoration. Civil defense activity, according to the Act, also includes the following:

(A) measures to be taken in preparation for anticipated attack (including the establishment of appropriate organizations, operational plans, and supporting agreements; the recruitment and training of personnel; the conduct of research; the procurement and stockpiling of necessary materials and supplies; the provision of suitable warning systems; the construction or preparation of shelters, shelter areas, and control centers; and, when appropriate, the non-military evacuation of civil populations); (B) measures to be taken during attack (including the enforcement of passive defense regulations prescribed by duly established military or civil authorities; the evacuation of personnel to shelter areas; the control of traffic and panic; and the control and use of lighting and civil communications); and (C) measures to be taken following attack (including activities for firefighting; rescue, emergency medical, health and sanitation services; monitoring for specific hazards of special weapons; unexploded bomb reconnaissance; essential debris clearance; emergency welfare measures; and immediately essential emergency repair or restoration of damaged vital facilities.¹²²

According to this definition, therefore, civil defense activities formally assumed a protective character and the other non-protective aspects of non-military defense were assumed by other organizations.¹²³

The basic responsibility for operating the civil defense program was "vested primarily in the several states and their subdivisions." The federal government would "provide the necessary organization and guidance; and shall be responsible for the operations of the Federal

¹²²"Federal Civil Defense Act of 1950," Section 3. A copy of this Act may be found in FCDA, Annual Report for 1951 (Washington: Government Printing Office, 1952), pp. 89-105.

¹²³At the same time that P.L. 920 was being considered by Congress, the President established, as part of the Executive Office of the President, the Office of Defense Mobilization (ODM) to "direct, control and coordinate all mobilization activities of the executive branch of government, including, but not limited to, production, procurement, manpower, stabilization and transport activities." Executive Order No. 10193, December 16, 1950.

Civil Defense Administration as set forth in this Act. . . ."¹²⁴

In other words, each state was expected to plan, organize and operate its own program, with the FCDA serving as a source of technical information and providing national policy for the benefit of the individual state programs. In view of the constitutional mandate that the federal government provide for the common defense, as well as the subsequent controversy caused by this portion of the Act, the rationale underlying this provision perhaps requires some explanation.

The decision to allow for a system in which the states would assume primary responsibility was the result of several considerations. First, all of the studies of countries that were subjected to air attack during World War II indicated that success in saving lives was due to the existence of trained and organized groups which were capable of operating at the scene of attack. Without exception, every post-war study had extolled the British operations which were based upon the idea of local self-help. The central government had provided advanced planning and had assisted in the development of local capabilities; but it was the local governments that had successfully carried the burden under attack conditions. Second, as has been indicated, there had developed in the United States a tradition of state and local initiative in this field. The idea that state and local governments were in some way responsible for civil defense would seem to have been widely accepted by 1950. Finally, there had developed a subtle distinction between "common" and "civil" defense. The former implied the protection of common

¹²⁴"Federal Civil Defense Act of 1950," Section 2.

borders; but "civil" defense had come to connote "community" defense in the sense of protecting life, property and other aspects of common life. While the two were obviously not unrelated, there was an apparent belief that the federal government could not or should not divert major resources from the "common" defense, as long as the local governments could, with assistance, provide for "community" defense.

While in 1950 there was little quarrel with the principle of state and local responsibility, a number of municipal officials questioned the arrangement whereby the federal government would deal directly only with the states. In terms that were reminiscent of LaGuardia's criticism a decade earlier, they described as "sheer folly" a program which assumed that the states would assume the burden of civil defense. It was the cities, they argued, that had the most to lose in the event of an attack and it was the cities that possessed the requisite cadres of trained personnel and equipment. The cities, therefore, should have the opportunity to establish direct contact with federal officials.¹²⁵ Two governors, presenting the position of the state governments, not only strongly upheld the established chain of command,¹²⁶ but also argued that to bypass the

¹²⁵U. S. Congress, Senate, Committee on Armed Services, Hearings, Federal Civil Defense Act of 1950, 81st Cong., 2d Sess., 1950, pp. 19-20. Hereafter cited as SCAS, Hearings, Federal Civil Defense Act of 1950.

¹²⁶The two governors were Frank Lausche of Ohio and Val Peterson of Nebraska. The latter became FCDA Administrator in 1953 and served in that capacity until 1957. The argument on behalf of the rigid chain of command was presented by Frank Bane, the Executive Secretary of the Governors' Conference, who had had his problems with Mayor LaGuardia in the World War II OCD organization. Ibid., p. 157.

states would be tantamount to the destruction of the federal system.¹²⁷ The position of the administration was clearly on the side of the states. James J. Wadsworth, the Acting Director of the Civil Defense Administration, stated the position unequivocally:

It is of paramount importance to remember that the chain of command starts at the state level. The Federal Government in its capacity will and should deal only with the State Governors and State civil defense directors. It cannot and has not bypassed them to deal individually with cities and voluntary groups.¹²⁸

To facilitate the federal contribution to the civil defense effort, the Act established a Federal Civil Defense Administration, headed by an Administrator reporting directly to the President. The former's duties were: (1) the preparation of national plans and programs; (2) the delegation of functions to other federal agencies; (3) the provision of civil defense communications and the dissemination of attack warning to the civilian population; (4) the study and development of civil defense measures; (5) the operation of training programs; (6) assisting and encouraging the states to make civil defense compacts; (7) the dissemination of civil defense information to the public; (8) procurement, construction and leasing of materials and facilities for civil defense; (9) the making of financial contributions to the states on the basis of approved programs or projects; and (10) the sale or disposal of surplus civil defense materials.¹²⁹ In addition to these responsibilities, Title III of the Act provides the Administrator with emergency powers in the event of an impending or actual enemy attack. The purpose of the emergency

¹²⁷Ibid., p. 143.

¹²⁸Ibid., p. 57.

¹²⁹"Federal Civil Defense Act of 1950," Title II, Section 201.

section of the Act is to make available to the Administrator the resources of the federal government should an actual attack occur.¹³⁰

To advise and consult with the Administrator on various civil defense matters, the Act established a Civil Defense Advisory Council of twelve members, in addition to the Administrator who would serve as chairman. The Act stipulated that of the twelve members, three would be representative of the state governments and three would be representative of the local governments. These six would be selected by the President from lists prepared by the Council of State Governments, The Governors' Conference, the American Municipal Association and the United States Conference of Mayors.¹³¹ The remaining members of the Council would be selected "among citizens . . . of broad and varied experience in matters affecting the public interest. . . ."¹³² The Advisory Council was added to the Administration bill by the Senate evidently to placate municipal officials who feared that their interests might not properly be considered by the federal and state governments acting in concert.¹³³

These, in very general terms, are the major provisions of the Federal Civil Defense Act of 1950. There were also several important provisions in the Act having to do with shelters. In fact, it may be said that this area of consideration provoked more controversy than any other. However this will be discussed in detail in the following chapter.

¹³⁰Ibid., Title III.

¹³¹"Federal Civil Defense Act of 1950," Title 1, Section 102.

¹³²Ibid.

¹³³SCAS, Hearings, Federal Civil Defense Act of 1950, pp. 142-146.

Conclusions

This chapter began with the assertion that public policies are conditioned, in part at least, by certain historical precedents which may or may not be closely related to the immediate issues at hand. While such a view is hardly distinguished by its originality, this brief review of the evolution of civil defense philosophy and organization lends further credence to this view.

The detailed examination of certain civil defense programs in the chapters that follow will reveal a record which, though far from insignificant, has fallen far short of what supporters of civil defense might have hoped for. It is the opinion of the writer that some of the causes for subsequent civil defense difficulties may be traced to a series of circumstances and developments that have been referred to in the present chapter.

The first rather enduring problem that may be said to have emerged during the period covered by this study has to do with the image or reputation acquired by civil defense during the years of its formative experience. Because of the relative novelty of the civil defense function there was a considerable degree of confusion as to just what it should or should not include. It has thus been shown that the overall trend has been one of narrowing down the scope of the civil defense function. At an early period primary emphasis was given over to the mobilization of people behind the war effort. As the possibilities of actual attack upon the United States increased and as the destructive potential of attack weapons became more manifest,

the emphasis shifted to the protection of civilian populations from the direct effects of enemy attack. However, the mobilization and morale-building activities continued to coexist with the protective activities with varying degrees of emphasis upon one or the other. Thus, for example, as the threat of direct attack began to recede during World War II, morale-building activities appeared to gain in relative importance.

Regardless of which aspect of civil defense may have been emphasized at a given point in time, criticism and/or derision of the efforts was quite common. Mistakes and confusion were not unusual during the days of both world wars. It has been shown that the morale-building activities of various civil defense groups were often referred to as "boondoggles" or as efforts to regiment the American people. The war bond rallies, with their testimonials by returned war heroes, the brass bands and the lines of dancing girls, may certainly have accomplished their immediate purpose. But in historical retrospect, it would appear that they gave civil defense the appearance of consisting of a great deal of ballyhoo. Similarly, a good many thoughtful people may have been skeptical of the value of certain "protective" measures undertaken during World War II under the aegis of civil defense. Regardless of the good intentions of the thousands of air-raid wardens who devoted countless hours patrolling their neighborhoods at night, and regardless of the millions of conscientious families who placed buckets of sand and water in their attics for protection against incendiary bombs, there is very real doubt that

such activities, largely supervised and conducted by amateurs, could have afforded significant protection against an enemy capable of launching massive air attacks upon American cities. What seems to be important to recall is the fact that such activities constituted the only experience that this nation has ever had with civil defense in time of total war. It should also be recalled that men who have been in positions of political power since World War II remember those days and, to many of them, that is what civil defense is all about. The activities of those days constitute "the pictures in their heads," so to speak.

It goes without saying that the means of warfare have changed dramatically since World War II. Most people, and certainly those who are in positions of political power, are well aware of this fact. But there does not appear to exist in all cases an awareness of corresponding changes that have been wrought in the techniques, concepts and professionalization of the civil defense function. When the words "civil defense" are uttered, the old images are conjured up and the gross irrelevance and inapplicability of the old programs are manifest and obvious.

What this means, in view of the writer, is that before the various civil defense programs designed to cope with the perils of nuclear war had even been developed, let alone presented for consideration, there had existed an attitude of skepticism and resistance that often had very little to do with the merits of the actual programs. Such attitudes stem, at least in part, to the images derived

from the wartime civil defense experience.

This particular difficulty was accentuated and perhaps aggravated by a second problem that became apparent during the 1945-1950 period. It is clear from the large number of reports and studies that were undertaken during this period that a great deal of civil defense planning activity was taking place. However, an examination of those studies strongly suggests that the quality of the planning left much to be desired. Specifically, it may be argued that planning in civil defense lagged seriously behind weapons developments and that it was too much concerned with the present and too little with the future. Such publications as the Hopley Report and the NSRB Blue Book may have given lip-service to the idea of nuclear war, but the recommendations appear to be more relevant to conventional attacks than to the actual threat. Even when nuclear weapons were mentioned, it is clear that the planners were thinking of the Hiroshima-type nominal bomb. But there is little reason to believe that weapons development would stop with that particular bomb. It may be true, of course, that civil defense planners were kept in the dark about some technological developments and that they may have been hampered by security regulations. But it is highly doubtful that they were completely unaware of potential developments that would affect civil defense operations in the future. Even articles appearing in the public press suggested that certain problems, such as radioactive fallout, were likely to be of concern in the future.¹³⁴ Similarly, even after the decision had been made to proceed with the development

¹³⁴Edward Teller, "How Dangerous Are Atomic Weapons?" Bulletin of the Atomic Scientists, III (February, 1947), pp. 35-37.

of the hydrogen bomb in late 1949, the plans contained not so much as a hint of things to come. It is therefore quite possible that, for all of the planning that was carried on during the 1945-1949 period, much of it may have been obsolete. To put it another way, civil defense officials may have attempted to make their plans in advance of any attack; however, the plans were designed to cope with present rather than future problems. Not only was this state of affairs unfortunate in itself, but it also added to the "image" problem already referred to. Public officials, examining the publications of civil defense planners, would have had good reason to perceive post-war civil defense activities as a general extension of World War II operations.

A third source of difficulty that continued to plague the civil defense program during the many years ahead arose from the division of responsibility between the federal government on the one hand, and the state and local governments on the other. The arguments with respect to this question have been discussed in some detail and need not be repeated at this point. However, it is imperative to remember that the state and local governments were assigned primary responsibility for the operational aspects of civil defense. Yet, over the years, a strong feeling of mutual suspicion and mistrust had developed between these two levels of government. It is reasonable to conclude that this did nothing to help the cause of civil defense during the years to come.

A fourth, and perhaps most serious problem for civil defense,

that became apparent during the early days of the post-war civil defense activities was the apparent lack of high-level support for the activity. It is perhaps commonplace to point out that the formulation and execution of public policy in the United States requires at some degree of leadership and support from the leaders within the executive branch of government. While this is generally true of most public policies, it is especially so in the field of national security policy. The materials presented in this chapter have led the writer to conclude that executive support for civil defense was, at best, lukewarm during the 1945-1950 period. This was the beginning of a pattern that has continued to characterize the civil defense program throughout the greater part of its existence.

A distinguishing characteristic of the 1945-1949 period is that study after study of civil defense was prepared by various planning groups. Although they may have differed in certain of their recommendations, all of them argued that civil defense was an important aspect of national defense and all of them urged that a beginning be made on the problem of protecting the population of the country against possible attack. Yet top officials continued to debate whether civil defense at the federal level was a planning or an operational program. Similarly, the criticism voiced at the Joint Committee on Atomic Energy hearings that civil defense was a "buck passing operation" certainly seems to be a valid one on the basis of the available evidence. Most of the reports were quietly shelved. Sometimes the excuse for doing this was that high-echelon officials

were preoccupied with other problems. At other times it was said simply that the problem needed more study. This is a familiar pattern of action in government and what it very often means is that there is no very real interest in the subject or that no one is willing to take responsibility for it.

Under pressures generated by the unexpected Russian development of the atomic bomb, together with the outbreak of the Korean War, the Administration finally did act. It produced the Blue Book as well as a bill to establish a permanent civil defense organization. In the opinion of the writer, this was a minimum commitment that was designed to blunt further criticism rather than to provide for a meaningful civil defense program. The Blue Book made clear the intention of the federal government not to become deeply involved in civil defense; furthermore, the legislation was, in part, a guarantee that this intention would be carried out. For example, the decision to completely isolate civil defense from virtually all contact with the Department of Defense certainly would do little in the years ahead to bring about the integration of civil defense with overall national defense. Equally significant, the decision to thrust operational responsibility upon state and local governments was less the result of a belief in the need for local initiative than a desire of the Administration to avoid the expense of a civil defense program. It is quite clear that the states had less money than the federal government and given the perennial shortage of funds in state and local jurisdictions for such needs as schools, roads, welfare and so

forth, it was completely unrealistic to expect that large sums of money would be expended for such projects as bomb shelters.¹³⁵

Thus it may be said that proponents of civil defense faced an uphill battle in 1951. Instead of being launched with a vote of confidence, the civil defense program was burdened with a history of skepticism, inter-jurisdictional rivalries and animosities, lack of top-level executive support and a legislative authorization that could easily be considered a natural barrier to an effective program.

¹³⁵The financial provisions of the Civil Defense Act of 1950, especially with respect to shelters, will be discussed in detail in the following chapter.

CHAPTER II
SHELTER POLICIES AND PROGRAM PROPOSALS
IN THE PRE-FALLOUT PERIOD

Given the will and the capacity of modern states to mount major military attacks upon civilian populations and industrial facilities, various alternative methods of meeting that threat have been intensively studied over the past several decades. However, despite the rapid evolution of military technology, the range of potential defensive responses has remained relatively unchanged. Essentially there exist three major methods or techniques for reducing the vulnerability of population and industrial targets: dispersion, evacuation, and protective shelter.

Civilian and industrial targets are made highly vulnerable by virtue of the fact that they tend to be concentrated within relatively small geographic confines.¹ Accordingly they offer themselves as attractive targets to the potential attacker who is able to maximize his strength by focusing it upon a limited number of locations. Dispersion seeks to use space or distance as a defense. By scattering potential targets over a wide area the overall

¹In 1955 it was estimated that 71 percent of the nation's industrial capacity and 54 percent of the manufacturing workers were located in fifty large metropolitan areas. Commission on Intergovernmental Relations, A Staff Report on Civil Defense and Urban Vulnerability (Washington: Government Printing Office, 1955), p. 20.

vulnerability of the nation is reduced. The attacker is forced to diffuse his offensive power or to concentrate it upon only a small number of targets.

Dispersion is an approach to civil defense that has much to commend it from the standpoint of logic and officials responsible for that program have continued to encourage it. However it faces serious problems. Few facilities can be relocated outside vulnerable areas in peacetime without excessive costs and losses of income. For example, it was suggested as early as 1950 that a program of decentralization involving the 200 American cities with populations of more than 50,000 would cost approximately \$300,000,000.² Furthermore, there would be an understandable reluctance of people to move from an area solely for the purpose of civil defense. Even the federal government has been unable or unwilling, with certain limited exceptions, to move the headquarters of the various executive agencies out of the Washington metropolitan area.³ While there may have been some dispersion as a result of normal economic growth and expansion, the even more rapid growth of metropolitan areas has probably neutralized whatever dispersion may have taken place. Finally, dispersion assumes a limited number of attack weapons, a fairly valid assumption in a period when the manufacture of nuclear weapons was an extremely expensive proposition. However, changing weapons technology

²JCAE, Hearings, Civil Defense Against Atomic Attack, p. 2.

³The FCDA, in order to serve as an example for governmental dispersion, moved its headquarters to Battle Creek, Michigan in 1954. It was found after several years that it was extremely difficult for the agency to carry out its responsibilities from such a location and in 1961 the headquarters was moved back to Washington.

has made this an increasingly dubious assumption.⁴

Evacuation refers to the movement of people out of the areas of potential danger to areas of relative safety. Such evacuation could be considered strategic, tactical or remedial. Strategic evacuation is carried out when a crisis arises which appears likely to result in an attack. Tactical evacuation refers to the movement of people out of a danger area when an attack is imminent or has already been launched. Remedial evacuation would presumably be carried out after an attack has been delivered in order to mitigate or avoid some of the effects of the attack.

Evacuation rests upon the sensible assumption that if an attack occurs, particularly if it is a nuclear attack, the best defense is simply not to be there. While civil defense officials have encouraged evacuation and, for a period made it the cornerstone of the entire civil defense program, it too is plagued with difficulties. In terms of tactical evacuation, a major problem would be to secure sufficient warning time to get a significant number of people out of a given area. Even if warning time were available the number of people and vehicles could be so great that the egress routes might be choked. If the anticipated effects of an attack were expected to cover a large area, as might be the case with radioactive fallout, then the obvious problem would be where the people might be sent. In the case of strategic evacuation, there would be great difficulty in determining when and what people should be evacuated. Or if the attack did not materialize immediately, there would be the question

⁴The multiple warhead missile (MIRV) of the 1960's is an example of the way in which technological advances could cancel out much of the advantage of industrial dispersion.

of how long the evacuees should be kept in the relatively safe areas. Strategic evacuation would also raise formidable problems of dealing with the economic and social dislocations that would invariably attend such a move.

The third alternative, a shelter system, consists of structures which shield people from various weapons effects, plus the supplies and equipment required for survival within the shelters. The effects against which shelters might be designed to protect could theoretically range from radioactive fallout to the blast and thermal effects of nuclear explosions. Since shelters are the main focus of this study they need not be discussed at this point other than to mention that they are an obvious means of reducing the vulnerability of civilian populations and industrial targets. The question of whether and to what extent they should be deployed is essentially a political and economic, as well as technological, one.

An ideal civil defense system would very probably utilize a combination of each of these techniques. The particular mix would depend upon the nature of the threat, the state of defense technology and the various political and economic factors impinging upon decision makers at a given point in time. Since, in historical retrospect, all of these variables have changed with some frequency, the program emphasis has also shifted accordingly.

The purpose of the present chapter is to describe and analyze those policies and program proposals specifically relating to shelters during the period extending from 1949 to the end of 1954. For purposes

of analysis, this period may be referred to as the pre-fallout era during which time the shelter planning assumptions were based upon the blast and thermal effects produced by nuclear or thermonuclear bombs.⁵ The chapter will be divided into four major sections. The first will examine the consideration given to shelter protection in the period prior to the Civil Defense Act of 1950. The second section will deal with the discussions relating to shelters that took place in the course of the legislative proceedings leading to the passage of the Civil Defense Act of 1950. The third section will examine the shelter proposals of the Administration during the 1951-1952 period and the Congressional reaction to them. The final section of the chapter will describe the apparent abandonment of the shelter approach in favor of evacuation during the early years of the Eisenhower Administration. It may be noted at this point that the first two sections of this chapter chronologically overlap certain portions of the previous chapter. However it should be emphasized that what is being con-

⁵From 1951 to 1953 the major concern of civil defense officials was with the "nominal" bomb. This was a weapon that would release the energy equivalent of about 20,000 tons of TNT and was the approximate power of the weapon used at Hiroshima. To achieve the maximum destructive power from such a small weapon it was necessary to detonate it at a considerable height above the earth's surface. The Hiroshima bomb was exploded at an altitude of about 2000 feet. Under such circumstances the amount of material drawn upward into the atmosphere and radioactivated is held to a minimum and the subsequent fallout of such material is generally confined to the areas that have already been devastated by the blast and thermal effects. Fallout was therefore not considered to be a major weapons effect with the "nominal" bomb. With the development of the hydrogen bomb, however, all of this changed. The explosive power of the latter weapon was so enormous that large amounts of debris could be drawn into the atmosphere even though the weapon may have been exploded at considerable heights. Thus fallout became a significant force to be reckoned with. However, there was a delay in making information available on the full dimension of the fallout threat and throughout 1954 the major concern of civil defense officials was still with the blast and thermal effects of both the nuclear and thermonuclear weapons.

sidered in the present chapter is a series of specific program proposals dealing with shelter and not, as in the previous chapter, general organizational principles.

Shelter Consideration Prior to the Civil Defense Act of 1950

In the previous chapter reference was made to a number of studies of civil defense that were carried on during the immediate postwar period.⁶ The major purpose of most of those studies was to define the scope of the civil defense function and to make recommendations with respect to the appropriate organizational framework for carrying it out. With the exception of the Hopley Report all of the studies tended to be somewhat general and few specific recommendations were made regarding protective techniques. However, all of them strongly implied that a workable civil defense program would have to include some type of shelter protection, along with dispersion and evacuation.

The four reports were completed before the Soviet Union had acquired the use of the atomic bomb and, while there was little doubt that this would eventually occur, civil defense planning was lacking in urgency because the need for it was somewhat academic. On September 23, 1949 President Truman announced the Soviet achievement and public concern began to mount. Shortly thereafter the Joint Committee on Atomic Energy announced that it would hold hearings on the state of the nation's civil defense.⁷ While they were originally scheduled

⁶The four reports referred to are the United States Strategic Bombing Survey, Study 3B-1, the Bull Report and the Hopley Report. It may be noted that the USSBS was not exclusively concerned with civil defense. It was more concerned with the effects of weapons used during World War II, and civil defense considerations were only a by-product of the studies.

⁷New York Times, October 11, 1949, p. 2:2.

to begin in October, the hearings did not actually get under way until the following March.⁸ While a good portion of the hearings was held in executive session and the testimony appears to be heavily censored, they do provide a convenient point of departure with respect to administration thinking about civil defense, as well as the concerns of state and local officials.

The non-administration witnesses appearing before the committee consisted of a small number of representatives of three groups concerned with civil defense: the American Legion, a civilian protection group from New York City, and mayors from several large and medium sized cities. Virtually all the witnesses criticized the federal government for its lack of leadership in civil defense and the most commonly voiced complaint was that little or no information regarding the methods for dealing with an attack was being received from the government in Washington. This complaint was most consistently and articulately expressed by the mayors. The plea was that the federal government should do something, though what that should be was not spelled out in any detail. The only specific reference to shelters was by Mayor Dennis J. Roberts of Providence, Rhode Island. His view was that since the construction of shelters was expensive and since they could at best protect only a relatively few people, no "program for such activities would be practical to undertake under present circumstances."⁹ He did, however, strike a theme that was to become

⁸Part of the delay in beginning the hearings was perhaps due to a jurisdictional dispute between the Joint Committee on Atomic Energy and the Senate Armed Services Committee. The latter argued that civil defense went far beyond the purview of atomic energy. The former obviously won the battle but not the war, since this was the last such hearing by the Atomic Energy Committee.

⁹JCAE, Hearings, Civil Defense Against Atomic Attack, p. 168.

quite common in the early shelter discussions. He suggested that if a city should undertake to construct an underground parking facility, efforts should be made to make it bomb proof in order to serve as a shelter.¹⁰

The administration, for its part, was evidently uncertain as to what kind of a program to recommend or undertake. At the outset of the hearings the NSRB did not stress the shelter approach. In his initial appearance before the committee Paul J. Larsen, the Director of the Office of Civilian Mobilization of the NSRB, referred to four groups of measures subsumed under the heading of civil defense:

(1) Measures to avert an enemy attack such as camouflage, black-outs, aircraft observer systems, and similar quasi-military activities in which civilians may be called upon to assist.

(2) Advance measures for minimizing the effects of an enemy attack, including such measures as civil air raid warning, the dispersion and relocation of facilities, and the prior evacuation of children and personnel not essential to the war effort.

(3) Measures to alleviate, control, and repair the damages resulting from enemy attack, ranging from medical and health services, decontamination, and firefighting to the removal of debris and salvage.

(4) And, in connection with the foregoing measures, a group of over-all measures which we term "general consideration," such as research and development, legislation, organization, training policy guidance, military support, and civil defense requirements.¹¹

Notably absent from this list is any explicit reference to shelters, although the other two major civil defense techniques are mentioned.

Larsen initially emphasized limited dispersion as the most effective means of protection. He recognized that the forceful dispersion of the entire economy would raise grave constitutional and

¹⁰Ibid.

¹¹Ibid., pp. 1-2.

economic problems and seemed to be thinking primarily of moving some federal activities out of downtown Washington.¹² The purpose of this limited dispersion was presumably to serve as an example for the rest of the country. In one of his more exuberant moments he even went so far as to suggest that Vice President Alben Barkley stay out of Washington as much as possible.¹³ There is little evidence to suggest that these ideas were taken seriously. For example, Senator John W. Bricker responded to the idea by saying that there was "no need to relocate the capital, gentlemen . . . No enemy would bomb Washington and deliberately end all this confusion."¹⁴ On the other hand, at least one scientist supported Larsen in his belief that dispersion was the only effective defense against nuclear weapons.¹⁵ In a discussion of the relative merits of dispersion and shelter, Larsen is reported to have explicitly rejected the latter as an inappropriate solution to the civil defense problem.¹⁶

Several reasons for this particular attitude might be suggested. First, the NSRB was apparently having serious difficulties acquiring data on the effects of nuclear weapons from the Atomic Energy Commission and Defense Department.¹⁷ Larsen, who had previously been an Assistant Director of the Los Alamos Laboratory and

¹²Ibid., pp. 2-3.

¹³The Washington Post, February 21, 1950, p. 1:4.

¹⁴The Washington Post, March 20, 1950, p. 7:1.

¹⁵Ralph E. Lapp, "The Strategy of Civil Defense," Bulletin of the Atomic Scientists, VI, (August-September 1950), pp. 241-243.

¹⁶New York Times, June 4, 1950, p. 4:2.

¹⁷Tyler, op. cit., pp. 237-238.

also the Director of the Sandia Atomic Laboratory of the University of California, was privy to a good deal of information, but his staff was not. Furthermore, the information that was made available by the AEC applied to the "nominal" Hiroshima type weapon, even though work had already begun on the hydrogen bomb. Since shelter protection would depend upon fairly precise data as to the nature of the threat, the NSRB could easily have been discouraged from proceeding in that direction.

Second, the information available on possible shelter design indicated that a large shelter program would be very expensive. According to Lyon Tyler, the first estimate of the cost of a nationwide shelter program was \$32 billion over a five year period.¹⁸ Such a program would, of course, have been designed to protect against effects other than fallout and would have provided a degree of protection for large numbers of people. However in the Spring of 1950 there were still a great many people who believed that the greatest danger to the United States was overspending and such a program would certainly not have been balm for their feelings.¹⁹ Furthermore such a program would very likely encounter the opposition of the military which, even before the onset of the Korean war, was attempting to increase its forces-in-being.

The attitude of the administration toward shelters was generally shared by some members of Congress. Atomic Energy Committee

¹⁸Ibid., p. 257.

¹⁹Warner Schilling, Paul Hammond and Glenn Snyder, Strategy, Politics and Defense Budgets (New York: Columbia University Press, 1961), pp. 100-101.

Chairman Brian McMahon expressed his conviction that "any effective digging in . . . is just out of the question. You cannot put America underground. And furthermore, we are not going to go underground for anybody," suggesting that to do so would "make moles of ourselves."²⁰ This attitude was reflected in subsequent hearings on civil defense by other congressional committees. Thus, until at least the beginning of the Korean war shelters seem to have been publicly downgraded by the executive, Congress and the few non-governmental people who expressed an opinion on the matter.

During the summer of 1950, however, a debate was taking place within the NSRB on the relative merits of the several approaches to civil defense. Some officials believed that evacuation was a feasible and useful approach but Larsen considered it to be unworkable.²¹ While, as suggested, Larsen did support the idea of a limited dispersal program, he believed that a complete dispersal program would be impossible because of its economic costs and its effects upon the social and political system. Thus the only alternative that remained was shelter and, by his own admission, Larsen underwent a change of heart on this matter during the summer of 1950. Subsequently he completely embraced the idea of shelters.²² Even in this, however, there was a division of opinion within the NRSB. One group, headed by Larsen, believed that a shelter program should emphasize the construction of large new

²⁰JCAE, Hearings, Civil Defense Against Atomic Attack, p. 138.

²¹Tyler, op. cit., p. 259.

²²Ibid., p. 256. Tyler, who bases his information on a personal interview with Larsen, does not indicate precisely what it was that changed Larsen's mind or when the change actually took place.

shelters especially for that purpose. Another group, headed by Ralph Kaul, the head of the Housing and Communities Facilities Division, argued that the most suitable approach would be to strengthen and make otherwise suitable the existing shelter space that could be found in any American city.²³ During the summer Larsen presented a \$16 billion shelter program to the President in the presence of his military advisors. The plan was bitterly attacked by General Omar Bradley who felt that such a vast sum could more profitably be spent on active military hardware. While the President made no decision, the consensus was that the price was too high.²⁴

In September 1950 the NSRB issued its long awaited Blue Book on civil defense, which has been described in the previous chapter. With respect to specific civil defense measures, the NSRB report refers to and implies some support for both shelters and evacuation. The Blue Book stated that it would be financially impossible to provide shelter protection for people everywhere and that any future program should be designed to provide shelters only in those areas which had been designated as likely targets for attack. In such areas, the report asserted, maximum use should be made of existing shelter space.²⁵ The report noted that shelters were "at best, a defensive measure designed to protect against weapons of uncertain character from an unknown source at an unknown time."²⁶

The Blue Book attempted to differentiate in terms of what kinds of shelters should be considered for use. Three types were recommended. First, maximum strength shelters should be constructed

²³Ibid., p. 257.

²⁴Ibid., pp. 258-259.

²⁵The Blue Book, p. 35.

²⁶Ibid.

"in limited numbers" to give protection to those persons and facilities most important to the continued safety of the community. Presumably these would include, among others, key civil defense personnel and communications facilities. Second, the report recommended shelters of "moderate strength" for the large number of people "in urban centers, factories of strategic importance, and for suburban community protection." This type of shelter might include subways, underground garages, reinforced basements and new reinforced concrete shelters. Third, it was suggested that families and other small groups in residential areas prepare improvised shelters such as reinforced portions of basements, shored-up dugouts and so forth.²⁷ The Blue Book emphasized that before any major construction was undertaken, buildings should be surveyed to determine how much space could serve as shelter with little or no improvement. The report also suggested that the responsibility for research into shelter specifications and design be undertaken by the federal government, but that any actual construction would be undertaken and financed jointly with the states and localities.²⁸

The Blue Book discussed evacuation in extensive, but cautious, terms. It was pointed out that any evacuation activity would be likely to have a disruptive effect upon communities and civilian morale and that it should be undertaken before an attack "only after other means of securing mass safety have been evaluated."²⁹ Presumably the reference here is to strategic evacuation. Tactical evacuation was not discussed at all. Perhaps the attitude of the NSRB

²⁷Ibid., p. 36.

²⁸Ibid.

²⁹Ibid., p. 37.

toward evacuation at that time was summed up in the simple statement that "the Federal Civil-defense agency is not planning for widespread use of this method."³⁰

It should be noted that the NSRB Blue Book was more a series of recommendations than a detailed civil defense plan. It was largely aimed at the criticisms voiced earlier in the year of a lack of federal guidance in the field. However, there was no legislative authorization for a major civil defense program nor had any funds been appropriated by the Congress for the purpose. Beyond this, there were serious technical and economic problems that would have to be dealt with before any of the Blue Book recommendations could be seriously considered.

There were, for example, formidable problems of research design. On the one hand, to design a shelter capable of withstanding a direct hit was impractical, if not impossible. On the other hand, there were real problems in calculating the amount of blast pressure a shelter should be designed to take. The calculation was complicated by the fact that an atomic bomb produces a prolonged pressure pulse instead of the instantaneous blast pressure produced by a conventional explosion. Also an atomic explosion produces a "suction phase" in which the wind would reverse direction and blow with considerable velocity in the direction of the explosion.³¹ This would produce a kind of "squeezing" effect on buildings never before encountered. Complicating the design problems occasioned by such phenomena still further was the possibility of the firestorm. During World War II

³⁰Ibid.

³¹JCAE, Hearings, Civil Defense Against Atomic Attack, p. 51.

conflagrations had occurred in cities such as Hiroshima, Tokyo, Hamburg and Dresden which were of such size and intensity that they literally created their own "fire winds." While the occupants of shelters might well be spared the blast effects, they could perish by suffocation or burns within the shelter itself. A shelter program would also have rest upon reliable information with respect to the location of large numbers of people at given periods of the day and night.

Such problems as these must be recognized in the light of the fact that the NSRB had little information on which to proceed. Little research had been done on the behavior of structures subjected to such phenomena as those just mentioned. What could be, and was, done was to extrapolate relevant data from all that was available; but specifically designed research data were virtually non-existent. For the better part of 1950 the only public source of information had been a brief pamphlet prepared by the AEC for the NSRB entitled Damage From Atomic Explosion and the Design of Protective Shelter.³² In September the AEC made available a much more extensive publication on this subject.³³ However, it should be pointed out that the data in these publications were derived from the Hiroshima type bomb. The AEC had already tested a 47 kiloton device and it had been estimated by the science news editor of the New York Times that the United States

³²A copy of this pamphlet is included in JCAE, Hearings, Civil Defense Against Atomic Attack, pp. 47-61.

³³Los Alamos Scientific Laboratory, The Effects of Atomic Weapons (Washington: Government Printing Office, 1950). This is a 456 page book which has been periodically updated.

would be capable of building a hydrogen device in one instead of three years.³⁴ It may thus be concluded that the data available to NSRB planners in 1950 were dated at best and obsolete at worst.

While perhaps the most appropriate course of action under such circumstances would have been to await the development of further scientific data, the NSRB was continuously subjected to strong pressure to do something specific immediately. Part of this pressure was due to the onset of the Korean war, in addition to the acquisition of an atomic capability by the Soviet Union. As has already been suggested, the mayors appearing before the Joint Committee on Atomic Energy had almost uniformly expressed dissatisfaction with the paucity of information available from the federal government. Municipal officials were also exerting pressure on the NSRB by addressing their inquiries to members of Congress who would forward them on, with appropriate remarks, to the NSRB.³⁵ There was also a quickening of interest in civil defense during the second half of 1950 as evidenced by articles appearing on the subject in newspapers such as the New York Times. Nehemiah Jordan found that of 506 articles dealing with civil defense appearing between January 1946 and December 1950, 70 percent appeared during the last six months of this period. Moreover, "not one of these items reflected opposition to civil defense."³⁶ There was also some agitation from certain respected members of the scientific community. Eugene Rabinowitch, the editor of the Bulletin of the

³⁴New York Times, June 30, 1950, p. 8:4. The first hydrogen device was actually exploded in November 1952.

³⁵Jordan, op. cit., p. 122.

³⁶Ibid., p. 123.

Atomic Scientists called for the immediate development of an effective civil defense program that might serve as a deterrent to the Russians. Such a program, he said, would prolong "peace by making aggression unprofitable."³⁷

The position of the general public with respect to civil defense during this period was somewhat ambivalent. On the one hand, as indicated by Table II-1 there was in September 1950 a rather high expectation that a war involving the United States would occur.

TABLE II-1
PUBLIC OPINION REGARDING LIKELIHOOD OF WAR ^a

"How likely do you think it is that we'll be in for another world war in the next year or two?"

	Sept. 1950	Aug. 1951
Very likely, likely, probably	53%	33%
Depends, maybe, don't know	22	18
Unlikely, probably not, very unlikely	19	46
Not ascertained	<u>6</u>	<u>3</u>
	100%	100%

^aSurvey Research Center, Defense of Our Cities: A Study of Public Attitudes on Civil Defense (Ann Arbor: Survey Research Center, University of Michigan, December, 1951), p. 6.

³⁷Eugene Rabinowitch, "Civil Defense: The Long Range View," Bulletin of the Atomic Scientists, VI, (August-September 1950), p. 227. This entire issue was devoted to a discussion of civil defense.

Furthermore, during this same period, 61 percent of a sample of eleven major cities believed that cities would be "likely" or "certain" targets of such an attack.³⁸ There is additional evidence to suggest that people tend to perceive their own cities as likely targets, whether or not others might think so.³⁹ Moreover, survey data in 1950 reveal that 76 percent of a national sample expressed willingness to work actively in civil defense.⁴⁰ It may be inferred from figures such as these that the public was not completely disinterested in civil defense.

On the other hand, there is evidence to suggest that almost half of the American people were of the opinion that the active military forces were capable of preventing heavy damage in the cities.⁴¹ While it might be misleading to infer too much from such data, it could generally be argued that the American people would not be strongly opposed to civil defense programs urged by the press and articulate members of the public.

Not only was the NSRB under pressure to produce a program, but there was a feeling that it should be developed "with full recognition of the importance of maximum economy in the use of the available supply of men, money and materials."⁴² A large amount of money and materiel was being consumed by the Korean war and there was little

³⁸G. Belknap, Public Thinking about Atomic Warfare and Civil Defense (Ann Arbor: Survey Research Center, University of Michigan, January 1951), p. 41.

³⁹Ibid., p. 45.

⁴⁰Ibid., p. 213.

⁴¹G. Belknap, The Public and Civil Defense, (Ann Arbor: Survey Research Center, University of Michigan, 1952), p. 12.

⁴²The Blue Book, p. 3.

inclination to add to this burden by undertaking a vast civil defense program. Paradoxically, then, the Korean war had provided the immediate impetus for the establishment of a civil defense program; but, at the same time it was also a factor that helped to limit it from the standpoint of effectiveness.

The NSRB responded to these cross pressures with a variety of ideas, all of which had some more or less serious deficiencies. Basement shelters appeared at one time to offer an inexpensive solution. But it was immediately realized that a basement could easily turn into a death trap if the building should collapse, as would be likely, into the basement. Therefore, before such an approach could be recommended, a great deal of research would have to be carried on with respect to the effects of debris loads on various basement structures.

Underground garages were also seriously considered by the NSRB at this early stage. Not only would such structures hold large numbers of people, but they could pay for themselves in peacetime as well. The NSRB actually encouraged the Reconstruction Finance Corporation to loan the city of Boston funds for the construction of such a shelter.⁴⁴ There were, however, serious drawbacks to this approach too. Specifically, the garages might be full of cars which, in turn, would be likely to be full of gasoline. As one observer put it, "All they'd be good for is funeral pyres. It'd be just as sensible to use gasoline storage tanks for shelter."⁴⁵

⁴⁴JCAE, Hearings, Civil Defense Against Atomic Attack, p. 213. From pages 197 to 223 of the hearings there is printed a record of the NSRB presentation at the October 1950 Conference of State Civil Defense Directors.

⁴⁵"Record Reports," Architectural Record, CIX (February, 1951), p. 242.

Still another approach which was designed to reduce the number of shelters that would have to be built was to pinpoint the probable target of an enemy weapon. "Very heavy" shelters might be built in this particular area, allowing, of course, for some margin of error. Lighter shelters would be built outward from the target point.⁴⁶ The difficulty, which was well recognized by the NSRB, was that it was a calculated risk to try to pinpoint such targets. The NSRB also recognized that the success of any such shelter plan would depend upon warning time sufficient to allow people to get to them.⁴⁷ However such an approach seemed to be warranted by the patent impossibility of providing complete protection to all Americans.

In summary, the NSRB was in a difficult position during the fall of 1950. Charged with the responsibility for developing a meaningful approach to the civil defense problem, the NSRB was painfully aware of the fact that insufficient data were available to proceed with a thoroughgoing shelter program. Furthermore, while shelters were regarded at the time as the most effective means of protection, it was generally acknowledged that they would cost substantial sums of money. However, the NSRB was also under pressure to produce an economical program. Finally, political pressures largely connected with the deteriorating military situation in Korea in the late Fall of 1950 were forcing the NSRB to make recommendations before they could be properly supported or justified. Civil defense officials thus laid themselves open to criticisms which spilled over into subsequent years and subsequent programs.

⁴⁶JCAE, Hearings, Civil Defense Against Atomic Attack, p. 211.

⁴⁷Ibid., p. 213.

The Federal Civil Defense Act of 1950

On December 1, 1950 the Federal Civil Defense Administration (FCDA) was established by Executive Order⁴⁸ and four days later Congressional hearings began on the proposed Federal Civil Defense Act. These hearings, conducted by the House and Senate Armed Services Committees, presented the FCDA officials with their first opportunity to present their preliminary proposals regarding a program of shelter protection.

The FCDA proposals, as presented to the committees by Acting Deputy Director James J. Wadsworth, envisaged a two-pronged attack on the problem of shelter protection. One set of activities would be carried out jointly by the federal and state governments and would be largely financed through matching funds. The other group of activities would be carried on by municipalities and individuals with the encouragement and possibly some loan assistance from the federal government.

The major thrust of the joint federal-state program would be the strengthening of existing space which could serve as shelter, such as office buildings, schools and so forth. The assumption behind this approach was that the economy could not support a massive shelter construction program and that a maximum amount of protection could be afforded through the use of existing structures with a minimum expendi-

⁴⁸U. S. President, "Establishing the Federal Civil Defense Administration in the Office for Emergency Management of the Executive Office of the President," Executive Order No. 10186 Federal Register, Vol. XV, No. 235. Also on December 16, 1950 President Truman declared a state of National Emergency and established the Office of Defense Mobilization under the direction of Charles E. Wilson. Proclamation 2914, December 16, 1950. Public Papers of the Presidents: Truman, 1950 (Washington: Government Printing Office, 1960), items 303 and 304, p. 744-747.

ture of funds and diversion of material.⁴⁹ For such a program to be carried out several steps would have to be taken. First a detailed survey of structures would have to be carried out in order to determine just how much potential shelter there was to begin with.⁵⁰ Second, it would be necessary to determine precisely where the shelters should be located. While, according to Wadsworth, the FCDA had determined which cities and general areas would need protection, the specific sites had not been located.⁵¹ The FCDA, it was announced, was working with municipal officials and the Census Bureau on this question.⁵² Finally, it was necessary to develop detailed engineering specifications for shelter design and for determining when a structure constituted a shelter. An arrangement had been worked out, through the Army Corps of Engineers, with Lehigh University to develop "construction criteria, the actual size, weight, stress and all the rest that must go into both family-type and communal-type shelter."⁵³ Additional assistance in this connection was being secured from Great Britain, presumably on the basis of its experience in World War II.⁵⁴

It was estimated by the FCDA that the total cost of the civil defense program, including shelters, would be \$3,100,000,000.⁵⁵ The federal contributions for shelter construction would be \$1,125,000,000, to be matched equally by the state and local government. The research

⁴⁹U. S. Congress, House, Committee on Armed Services, Hearings, Federal Civil Defense Act of 1950, 81st Cong., 2d Sess., 1950, p. 7764. Hereafter cited as HCAS, Hearings, Federal Civil Defense Act of 1950.

⁵⁰Ibid., p. 7765.

⁵¹Ibid., p. 7731.

⁵²Ibid., p. 7766.

⁵³Ibid., p. 7730.

⁵⁴Ibid.

⁵⁵Ibid., p. 7729.

activities would be borne entirely by the federal government.⁵⁶ How much protection would thus be afforded was not indicated.

The second aspect of the FCDA proposal involved activities which would be encouraged by the federal government but which would involve no direct expenditure of federal funds. First, individual home owners would be encouraged to learn about the facts of nuclear attack and then to build their own basement or backyard shelters.⁵⁷ According to Wadsworth a book on this subject was in preparation by the FCDA.⁵⁸ The second proposal was for cities to develop large underground shelters which could also serve as garages. While no federal funds in the form of matching grants would be available for such dual purpose shelters, the FCDA was actively working with the Reconstruction Finance Corporation to enable the latter to extend loans to the municipalities on the grounds that the shelters would be self liquidating.⁵⁹ Again, the question of how much protection would be afforded to how many people was left unanswered.

The non-administration witnesses appearing before the committee consisted mainly of municipal and state officials. Generally speaking, the mayors supported the idea of shelters and were particularly enthusiastic about dual purpose shelters. The position of these officials was put forth most strongly by John B. Hynes, mayor of Boston and representing the American Municipal Association and by Mayor Vincent R. Impellitteri of New York City. These officials

⁵⁶Ibid., p. 7731.

⁵⁷Ibid., p. 7887.

⁵⁸Ibid., p. 7766.

⁵⁹U. S., Congress, Senate, Committee on Armed Services, Hearings, Federal Civil Defense Act of 1950, 81st Cong., 2d Sess., 1950, pp. 130-131. Hereafter cited as SCAS, Hearings, Federal Civil Defense Act of 1950.

expressed the willingness to contribute to the cost of shelter construction, but Hynes suggested that the matching fund arrangement should be on a more flexible basis than the proposed 50-50 formula.⁶⁰ Impellitteri urged that the local share be reduced, primarily on the argument that the localities would have to bear the burden of property acquisitions without the help of matching funds. Their contribution would therefore actually be considerably above 50 percent of the total costs of the shelters.⁶¹

Virtually all municipal officials supported the idea of dual purpose shelters and urged that matching funds also be available for these self-liquidating projects.⁶² In other words, a city would design an underground parking facility which would also serve as a shelter; it would contribute 50 percent (and preferably less) of the cost which, in turn, could be financed through a loan from the RFC. The basic argument behind this idea, aside from the obvious one of helping to alleviate the parking problem in a relatively inexpensive manner, was that such structures would not be idle in peacetime. The same idea was applied by Impellitteri to the New York City subway system. He suggested that excavation of subway extensions be undertaken as part of the shelter program. Once the emergency had ended the subways could be completed for purposes of the rapid transit system.⁶³

⁶⁰HCAS, Hearings, Federal Civil Defense Act of 1950, pp. 7822, 7827.

⁶¹U. S. Congressional Record, 81st Cong., 1st Sess., 1950, XCVI, p. 16961.

⁶²HCAS, Hearings, Federal Civil Defense Act of 1950, pp.7820, 7825.

⁶³U. S. Congressional Record, 81st Cong., 1st Sess., 1950, XCVI, p. 16960.

The state governments were represented by Governors Frank Lausche of Ohio and Frederick "Val" Peterson of Nebraska. Lausche relayed to the Senate committee certain misgivings of the Governors' Conference toward the shelter program. Specifically, the governors were urging that the question of shelter construction and financing be considered apart from the civil defense bill, in order not to delay the passage of the latter.⁶⁴ The feeling of the Governors' Conference was that the shelter program could be criticized on several grounds. First, it would consume scarce resources that were more urgently needed for armaments production. Second, the time required for their construction was such that no protection would be available for several years. Third, they would constitute a burden on the financial resources of the state and local governments. Finally, it was felt that the program would produce a false sense of security such as was induced by the Maginot Line in France.⁶⁵ Lausche suggested that a number of important questions would have to be answered before any shelter program could be undertaken:

To what extent are they necessary and desirable?
 Will they be effective in the saving of lives in case of atomic attack?
 How many shelters would be needed within the critical areas?
 Would there be time for persons to get into the shelters in case of attack?
 What kind of shelters do we need? Should we use to the greatest extent possible existing structures, remodeled with protection in mind? Should we construct facilities that could be used as shelters but that have other regular and continuing uses? Should we design and construct many shelters that have no use other than that of protection? Or, should we do all of these things? And is the suggested financial plan the best plan for all types of shelters?⁶⁶

⁶⁴SCAS, Hearings, Federal Civil Defense Act of 1950, p. 153.

⁶⁵New York Times, December 10, 1950, p. 52:3.

⁶⁶SCAS, Hearings, Federal Civil Defense Act of 1950, p. 140.

While these questions most certainly got to the heart of the debate, Lausche did not attempt to answer them.

Governor Peterson supported Lausche in the belief that any major shelter program should be delayed until it could be more fully justified. On the other hand, he did move somewhat toward the position of the mayors with respect to shelter financing. He seemed to believe that federal funds on a matching basis should be available for both single and multiple purpose shelters. However he suggested that the local share should be considerably higher than 50 percent in the case of self-liquidating projects and lower in the case of single purpose shelters.⁶⁷

While the Civil Defense Act passed the House by a 247 to 1 margin (there was a voice vote in the Senate), it would be a mistake to assume that it was enthusiastically supported in the Congress. There was considerable controversy regarding the division of responsibilities between the federal and state governments, the emergency powers of the administrator and, important for purposes of this analysis, the shelter program.⁶⁸

Perhaps the prevailing mood of the House Armed Services Committee was summed up by Dewey Short, a ranking Republican member, when he said: "I do not like castor oil but sometimes I am forced to take it, and many members of our committee . . . realize that unless properly administered, the door could be open to a lot of vicious

⁶⁷Ibid., p. 152.

⁶⁸Some of the non-shelter controversies connected with the Civil Defense Act are described in detail in the previous chapter.

boondoggling and waste under this measure."⁶⁹ The fear of waste and "boondoggling" stemmed very largely from the proposals of the mayors regarding matching funds for self-liquidating projects. Some legislators had already begun to feel, and apparently strongly resented, the pressure being exerted by the cities and feared that the measure would turn the FCDA into a new WPA. The Federal government, they felt, would be forced to underwrite projects which were solely within the purview of the state and local areas.⁷⁰ Some legislators from rural areas resented the fact that they would thus be forced to devote federal tax funds for projects that were solely for the benefit of the urban areas.⁷¹ As might have been expected, the representatives from large states and cities favored the proposal and Representative Jacob Javits of New York City offered an amendment that would have permitted matching grants for self-liquidating projects. It was defeated.⁷²

The other major concern among the legislators was that the shelter program would simply be ineffective. Leading the attack was Representative Charles H. Elston of Ohio. While admitting that the Armed Services Committee had not been given a very clear picture of the shelter program, he nevertheless concluded that so little time would be available in the event of an attack that either too few people would be able to get to the shelters or that a city would have to be "completely covered with shelters to take care of everybody."⁷³

⁶⁹U. S. Congressional Record, 81st Cong., 1st Sess., 1950, XCVI, p. 16829.

⁷⁰Ibid., pp. 16835, 16844.

⁷¹Ibid., p. 16836.

⁷²Ibid., pp. 16843-16845.

⁷³HCAS, Hearings, Federal Civil Defense Act of 1950, p. 7885.

There was also the fear that large amounts of money would be expended for shelters and they would never be used; hence the term "boondoggle."⁷⁴ Although the idea of basement shelters in private homes seemed to be endorsed by the House Committee chairman, Carl Vinson,⁷⁵ even this was attacked by some legislators on the basis of their fear that the buildings would collapse into the basements.⁷⁶ The garage-shelter idea was regarded as ineffective because of the oft-suggested idea that the structures would be filled with cars at the very time they would be likely to be needed.⁷⁷

It may be noted at this point that regardless of the modesty of the FCDA proposals, members of Congress appear to have believed that a massive program was being contemplated. The source of this fear, ironically, was the non-federal government sector. Yet the reaction to this fear continued to plague the FCDA for several years.

Despite such misgivings the Federal Civil Defense Act of 1950 (P.L. 920) was approved by the Congress and signed into law by President Truman on January 12, 1951. As finally completed, the law contained several provisions regarding shelters which can be briefly summarized.⁷⁸ First, the Administrator was authorized to develop "shelter designs and protective equipment and facilities." [Section 201 (d)] Second, the Administrator was authorized to make financial

⁷⁴Ibid.

⁷⁵Ibid., p. 7887.

⁷⁶U. S. Congressional Record, 81st Cong., 1st Sess., 1950, XCVI, p. 16834.

⁷⁷Ibid.

⁷⁸The text of the Federal Civil Defense Act of 1950 is included in FCDA, Annual Report for 1951 (Washington: Government Printing Office 1952), pp. 89-108.

contributions to shelter projects. However no federal funds could be spent for the acquisition of land for the shelters nor for projects which would be designed for use in whole or in part for purposes other than civil defense or for projects which would be self-liquidating. Funds thus contributed by the federal government were to be matched equally by the state or local governments and the distribution of funds would be on the basis of urban populations in the critical target areas in each state. [Section 201 (i)] Finally, the law authorized the Reconstruction Finance Corporation to make loans for civil defense projects to the extent that financing was not otherwise available. [Section 409] Generally speaking, these provisions more or less incorporated the thinking of the FCDA.

The Caldwell Shelter Program (1951-1952)

While the passage of P.L. 920 may have been something of a victory for the FCDA, any shelter program would depend upon the availability of funds in order to become operative. For the next two years FCDA officials repeatedly attempted to gain congressional support for the shelter program that had been authorized but on each occasion their request for funds was denied in its entirety. Despite the fact that the FCDA's proposals were rejected by the Congress, the nature of the proposals, the manner in which they were presented and the congressional response to them tell a good deal about the politics of civil defense in this early period.

In view of the strong reservations toward the shelter program

that had been expressed in the course of the committee hearings and floor debate on the enabling legislation, it might have been anticipated that civil defense officials would have been cautious in their approach to Congress, setting forth only those programs which could be reasonably justified and defended. Also since the new FCDA Administrator, Millard Caldwell, had formerly served as a member of the House Appropriations Committee, the administration spokesmen might have been expected to evidence some sensitivity to the thinking of that committee and particularly that of its powerful chairman, Clarence Cannon of Missouri. The record strongly suggests, on the contrary, that the proposals were either hastily drawn up and/or were unimpressively presented. The essence of the FCDA recommendations became apparent only over the course of several budgetary hearings. Similarly, while hostility toward the shelter program on the part of some committee members was apparent from the beginning, the underlying reasons for this hostility emerged only gradually as the specificity of the FCDA proposals increased.

The first public discussion of the shelter program, following the passage of the Civil Defense Act, took place in March 1951 when the FCDA made its debut before the House Appropriations Committee. At that time the administration had requested \$403 million for civil defense, of which \$250 million was for protective shelter. In addition to this was a \$2.7 million request for protective construction research. In view of the fact that this initial hearing set the pattern and tone for a great many subsequent hearings, it deserves careful analysis.

A proposal to implement a program of shelter protection would presumably be based primarily upon the assumption that a potential enemy possessed the capability of launching a major attack upon the continental United States. While such an assumption was implied by Administration witnesses, it was not explicitly stated in either the House or Senate testimony on the initial requests. What Administrator Caldwell did say was that in the event of an attack by the Soviet Union, 70 percent of the attacking aircraft would succeed in penetrating American defenses and delivering their bombs on target.⁷⁹ His source for this information was Air Force Chief of Staff Hoyt Vandenberg. However it should be pointed out that a "kill" ratio of 30 percent was considered by airmen as very good performance based upon the experiences of World War II.⁸⁰ But the statement did not necessarily mean that the U.S.S.R. possessed such an attack capability at the time. Later Caldwell said the idea of deep underground shelters had been abandoned because of a lack of time in meeting the immediate threat.⁸¹ The implication of such a statement was that the Soviet Union did possess an actual attack capability. Such an impression may have been reinforced by the remarks of knowledgeable legislators,

⁷⁹U. S. Congress, House, Committee on Appropriations, Hearings, Third Supplemental Appropriation Bill for 1951, 82d. Cong., 1st Sess., 1951, p. 558. Hereafter cited as HCA, Hearings, Third Supplemental Appropriation for 1951.

⁸⁰Bernard Brodie, Strategy in the Missile Age (Princeton: Princeton University Press, 1959), p. 114. During World War II an American raid on Schweinfurt was described as a "disaster" because of a 30 percent loss of aircraft.

⁸¹HCA, Hearings, Third Supplemental Appropriation for 1951, p. 589.

such as Atomic Energy Committee Chairman, Brian McMahon, who said on the floor of the Senate that no one should doubt the ability of the Soviet Union to "drop a number of bombs" on the United States and that the existence of Soviet nuclear stockpiles and delivery vehicles was "a matter of fact, not of opinion."⁸²

Notwithstanding these implications and assertions, there is reason to suggest that such a capability did not exist at the time and that the absence of such a threat could go a long way toward explaining the lack of overt support for the program from the various elements of the executive branch. During the early months of 1950 a joint State-Defense Department study group had met to consider overall foreign and military policy in the light of the recent atomic explosion and the collapse of the Nationalist government on the mainland of China. The result of this review was a paper that is generally referred to as NSC-68.⁸³ The paper argued that the Soviet Union was gaining strength vis-a-vis the United States and that by 1954 would be capable of launching a major nuclear attack upon this country.⁸⁴ In view of Soviet intransigence and bellicosity, coupled with its growing military power, the paper recommended a large-scale build-up of military and general strength for the purpose of "righting the power balance."⁸⁵ Such a major rearmament program would have meant, in the

⁸²U. S. Congressional Record, 82d Cong., 1st Sess., 1951, XCVII, p. 5063.

⁸³The major source for information concerning this document is Paul Y. Hammond, "NSC-68: Prologue to Rearmament," in Warner Schilling, et. al., Strategy, Politics and Defense Budgets (New York: Columbia University Press, 1962), pp. 267-378.

⁸⁴Ibid., p. 313.

⁸⁵Samuel Huntington, The Common Defense: Strategic Programs in National Politics (New York: Columbia University Press, 1961), p. 51.

words of President Truman, "doubling or tripling the budget, increasing taxes heavily and imposing various kinds of economic controls."⁸⁶ Such a program would be directed against a threat which would not, in the judgment of the authors of NSC-68, come into existence until 1954.

The Administration was considering the economic and political feasibility of a major peacetime buildup when, in June 1950, the Korean war began. Thereupon a program of rearmament was undertaken which had two related, but distinct, objectives. One was to build up forces sufficient to deal with the situation in Korea; the other was to increase overall American strength to deter the Soviet Union when she would have the capability of attacking the United States. The Administration initially believed that the Korean war would last but a short time, but that the general rearmament program would extend over the course of several years.⁸⁷ When the military situation in Korea deteriorated during the Winter of 1950-51 the Administration moved the year of critical danger of Soviet attack from 1954 to 1952. When the situation stabilized in Korea during the Spring of 1951 (at which time the first hearings on shelters by the Appropriations Committee were held) the critical date was pushed back again to 1954.⁸⁸

Congressional support for rearmament was enthusiastic at the onset of the Korean war. This was undoubtedly due to the fact that American soldiers had been physically committed to battle and it is

⁸⁶New York Times, June 8, 1952, p. 67:1.

⁸⁷U. S. Congress, House, Committee on Appropriations, Hearings, The Supplemental Appropriation Bill for 1951, 81st Cong., 2nd Sess., 1950, pp. 7-8, 16, 21. Hereafter cited as HCA, Hearings, Supplemental Appropriation for 1951.

⁸⁸Huntington, op. cit., p. 61.

almost axiomatic for the Congress to support the military in such circumstances. But as the military situation began to stabilize in the Spring of 1951 congressional support for large military measures began to slacken. There is evidence to suggest the possibility that many members of Congress did not clearly distinguish between the Korean buildup and the long-term rearmament program.⁸⁹ When the immediate threat of a Chinese-North Korean victory appeared to be receding, many such people simply felt that the need for further spending no longer existed.⁹⁰ To confuse the issue even more, the Chairman of the House Appropriations Committee, Clarence Cannon, exhibited his own perception of the threat. While he recognized that there had been a grave danger of a general war at the time of the Chinese entry into the Korean war, such danger had passed by the Spring of 1951. He further argued that the period of maximum danger had been early 1951 and that as the United States grew in strength during the course of that year, the Soviet Union would grow relatively weaker. He therefore believed that the "balance of power" would have been stabilized by the end of 1951 and the need for a long range build-up beyond that time would thus have been obviated.⁹¹

Thus the basic assumptions underlying a large-scale shelter program in 1951 were, at the very least, confused. The FCDA was arguing that the threat was immediate and that it would be continuing. Clarence Cannon, while agreeing that there was an immediate danger,

⁸⁹HCA, Hearings, Supplemental Appropriation for 1951, pp. 9-22.

⁹⁰Huntington, op. cit., p. 63.

⁹¹U. S. Congressional Record, 82nd Cong., 1st Sess., 1951, XCVII, p. 3531.

did not agree that it would be a continuing one. The National Security Council, finally did not believe that the period of maximum danger of Soviet attack would arrive until 1954. The fact that such views existed helps to explain not only why the appropriation of funds was not recommended by the congressional committees but also the lack of overt support for the program from the executive.

Given the possibility of a Soviet attack, regardless of the year, the problem of the FCDA was to develop effective counter-measures. As has already been pointed out, the choice of techniques of protection are generally limited and by the time of the first appropriation hearing, the FCDA had given up any idea of evacuation⁹² and had embraced the concept of shelters. Shelters were to remain at the heart of civil defense planning until the end of the Truman Administration.

In their initial appearances before the Appropriations committees, FCDA witnesses were far less specific in terms of what they wanted to do than what they did not want to do. In his prepared statement before the House Committee, Administrator Caldwell went to great lengths to point out that the FCDA had abandoned the idea of "deep underground shelters" for large numbers of people. This decision, he asserted, had been made for several important reasons. First, in view of the short warning period that was anticipated at the time, it was questionable whether a sufficient number of people could get to the shelters in time to warrant the large expenditure of funds for them. Second, there was some doubt as to whether the construction of

⁹²U.S., Congress, Senate, Committee on Appropriations, Hearings, Third Supplemental Appropriation Bill for 1951, 82nd Cong., 1st Sess., 1951, p. 679. Hereafter cited as SCA, Hearings, Third Supplemental Appropriation for 1951.

such shelters could be completed in time to meet the immediate threat of Russian nuclear attack. Third, it was believed that a deep shelter program would consume a disproportionate share of the available labor and material in the country.⁹⁴ Beyond these reasons, Administrator Caldwell addressed himself to the overall economic implications of a deep shelter program:

Let me say that it has been roughly estimated that \$3,000,000,000 would probably protect 1 percent of our people if it were put into deep community shelters, while to fully protect them all would cost nearer to \$300,000,000,000. It is a fantastic sort of thing.⁹⁵

In view of the enormous costs of such a program, coupled with certain Congressional opposition, the FCDA had decided to concentrate on the improvement of existing space which could serve as shelter and to devote "more time to training people what to do and how to do it rather than digging holes in the ground."⁹⁶

While such talk may have been edifying to the economy-minded committee, it is unclear just what kind of a shelter program had been abandoned. The analysis in the previous section indicated that the FCDA had been thinking of a limited shelter program all along. The figure of \$1,125,000,000, while a substantial sum of money, did not imply a massive program. The program that had been previously outlined centered on the improvement of existing structures and did not

⁹⁴HCA, Hearings, Third Supplemental Appropriation for 1951, p. 589.

⁹⁵Ibid., p. 592. Pressed by the Senate Committee as to what the \$300 billion would do, Caldwell replied that it would probably save "25 to 30 percent, but not more than that. . . ." SCA, Hearings, Third Supplemental Appropriation for 1951, p. 681.

⁹⁶HCA, Hearings, Third Supplemental Appropriation for 1951, p. 592.

envisage large underground shelters being built especially for that purpose. The only program that the FCDA could have been "abandoning" was the garage-shelter idea which had not involved the direct expenditure of federal funds in any event.

The specific nature of the "revised" shelter policy and the means to carry it out were not spelled out in the initial hearings. That is, the record does not reveal how and to what extent the existing structures were to be strengthened, how much protection would thus be afforded or how much such a program would cost. There is, in fact, every reason to believe that the FCDA was still in the process of developing data on these and other questions. Following the passage of the Civil Defense Act in January the FCDA began to work with engineers, architects and others to come up with ideas on a shelter program.⁹⁷ During April 1951 (after the hearings had begun) a Technical Conference of a group of professional and key advisors was held to make specific recommendations. The report of this conference which, according to an authoritative source, had great influence upon the FCDA, stated that the prime objective of civil defense should be:

- prompt designation
- of best available shelter
- in existing structures
- in critical areas
- for every person
- at earliest possible time
- after warning.⁹⁸

⁹⁷FCDA, Annual Report for 1951, op. cit., p. 50.

⁹⁸Associated Universities, Inc., Reduction of Urban Vulnerability. Part V of the Report of Project East River (New York: Associated Universities, Inc., July, 1952), pp. 90-91. Hereafter cited as Project East River, V.

The conference recommended that manuals for shelter construction be prepared and "concurred in the proposal of a confidential sampling survey to find out the order of magnitude of the shelter program. . . ."99

The suggestion that the FCDA did not have the data to support a shelter program at the time of the hearings is further suggested by a statement made by Assistant FCDA Administrator Justice Chambers in September that ". . . on shelters, about six months ago, I think it is reasonable to say at that time [March 1951] we did not know too much where we were going. . . ."100 Finally, it should be noted that the information being developed for the FCDA by Lehigh University was transmitted during the entire course of 1951 and was therefore not completely available at the initial hearings.¹⁰¹ A clue to the intended procedures to be followed in implementing a shelter program was provided for the Senate Appropriations Committee in April 1951. Specifically, FCDA witnesses described an over-all three step process for implementing a plan of shelter protection. First, public buildings would be surveyed and, where possible, strengthened to provide adequate shelter. Second, if the need for shelter space still existed, privately owned structures would be similarly identified and strengthened. Finally, if shelter space was still insufficient to meet the needs

⁹⁹Ibid., p. 90.

¹⁰⁰U. S. Congress, Senate, Committee on Appropriations, Hearings, Supplemental Appropriation Bill for 1952, 82d Cong., 1st. Sess., 1951, p. 685. Hereafter cited as SCA, Hearings, Supplemental Appropriation for 1952.

¹⁰¹HCA, Hearings, Third Supplemental Appropriation for 1951,
p. 625.

then specifically constructed sites would have to be prepared.¹⁰² Still unanswered by FCDA spokesmen was the question of how all of this was to be done and with what results.

The members of the committees were interested in learning how the specific figure of \$250 million for shelters was arrived at and what it would accomplish. The position of the administration was that a program of improving existing shelter space was going to be very expensive. Acting Assistant Director Wadsworth offered an "educated guess" that it would cost approximately \$150 per person.¹⁰³ Even if building modifications were confined to critical target areas the total program could easily amount to many billions of dollars. The \$250 million request was therefore seen as a small beginning part of the total program and would, in itself, provide protection for only "a small number of people."¹⁰⁴ The essence of the FCDA argument for the \$250 million at that particular time was that according to P.L. 920 any shelter activity would be a joint undertaking involving states and localities on a 50-50 basis. It was argued that in order to provide the states with an incentive and an example, federal funds should be made available at once even though the technical groundwork had not yet been completed. The fear was expressed that the states were already financially burdened and that failure to appropriate federal funds would provide already harassed state legislatures

¹⁰²SCA, Hearings, Third Supplemental Appropriation for 1951, p. 670.

¹⁰³HCA, Hearings, Third Supplemental Appropriation for 1951, p. 632.

¹⁰⁴Ibid.

with an excuse to do likewise. This would, he said, spell the complete end of the shelter program.¹⁰⁵ The \$250 million request could thus be viewed as "earnest money" on the part of the federal government rather than a supportable estimate.¹⁰⁶

The reactions of the committee members to the FCDA presentation was, at best, mixed. Chairman Cannon expressed satisfaction that no massive construction effort was contemplated and that this policy "shift" would make it unnecessary for Congress to appropriate large amounts of money for that purpose.¹⁰⁷ Administrator Caldwell may have dampened Cannon's delight, however, by pointing out that shelter construction might still be necessary and that, in any case, the locating and strengthening of existing shelter space would probably be just as expensive as "digging a hole in the ground and pouring it full of concrete."¹⁰⁸ The ranking minority member of the committee, John Taber, expressed concern over the vagueness of the FCDA proposals. When, in response to a direct question, Wadsworth admitted that he

¹⁰⁵Ibid., pp. 612, 631. It is interesting to note that the congressional cuts of shelter funds did not provoke a good deal of overt comment from state officials other than those directly responsible for civil defense. The protests that were expressed were aimed instead at cuts in funds that were intended for the acquisition of equipment, such as firefighting apparatus, which of course would have been of use to communities for purposes other than civil defense.

¹⁰⁶Wadsworth later told the Senate committee that the Bureau of the Budget had cut the FCDA shelter request from \$500 million to \$250 million not because the program was unsound but because it did not feel that the FCDA request could be obligated during Fiscal 1951. SCA, Hearings, Third Supplemental Appropriation for 1951, p. 685.

¹⁰⁷HCA, Hearings, Third Supplemental Appropriation for 1951, p. 590.

¹⁰⁸Ibid., pp. 590, 591. In subsequent hearings, Cannon expressed the understanding that Caldwell had said that shelters had been abandoned altogether, an understanding certainly not supported by the record of these hearings.

didn't know what the \$250 million was to be used for, Taber asserted that "unless we have some idea of what you are going to do, it would seem to me as if it were quite peculiar for us to allow anything of that character. I have never known that to be approached in that way."¹⁰⁹ Senator Guy Cordon, a member of the Senate Appropriations Committee, expressed a similar view in the floor debate on the appropriation bill.¹¹⁰

On the other hand, it may be noted that at no time did either committee overtly question the efficacy of the civil defense idea nor did they question the proposition that shelters were an appropriate protective measure in the nuclear age. While the committees appeared interested in some of the details of the program and were disturbed by the inability of the FCDA witnesses to provide answers to their specific questions, they stopped short of asking some very obvious ones. For example, they did not raise any questions on the issue of whether the Soviet Union was capable of attacking the United States. Nor did they raise the question of how the FCDA intended to obligate funds for shelter protection before the basic research had been completed. Although the AEC had a testing program in progress, the effects of nuclear explosions on the types of structure typically found in American cities had not been specifically studied.¹¹¹ The committee did not pursue this line of questioning nor did FCDA officials

¹⁰⁹Ibid., p. 631.

¹¹⁰U. S. Congressional Record, 82d Cong., 1st Sess., 1951, XCVII, p. 5110.

¹¹¹The first time that ordinary houses and shelter structures were actually subjected to test conditions was Operation Doorstep, an atomic test carried out at Yucca Flats in March 1953. This operation was part of a test series given the code name of Upshot-Knothole.

volunteer any such information.¹¹²

In its report, the House committee recommended that \$75 million be appropriated for shelters, a reduction of 75 percent of the amount requested.¹¹³ The committee justified this unusually large cut by noting that the FCDA plans "appeared to be nebulous in nature and to have been coordinated only slightly with the military forces of the nation."¹¹⁴ The report suggested that shelters were likely to be expensive and that unless firm control over the program was maintained they could result in "astronomical costs."¹¹⁵ Nevertheless the committee did feel that sufficient information was available for the FCDA to proceed with "the survey of existing shelters and where possible to strengthen them to serve as shelter areas."¹¹⁶ The Senate version of the bill recommended that no funds be made available for shelters.¹¹⁷ The latter version was accepted in conference.

The second confrontation between the FCDA and Congress took place in August and September of 1951 when the supplemental estimates for Fiscal 1952 were under consideration. While the results were the same as in the earlier proceedings, in the sense that \$250 million was

¹¹²In justice to both the administration and Congress, it should be remembered that these hearings took place at a time when secrecy on atomic matters was a preoccupation of the United States Government.

¹¹³U. S., Congress, House, Committee on Appropriations, Third Supplemental Appropriation Bill for 1951, 82d Cong., 1st Sess., 1951, House Report 298 to accompany H.R. 3587, p. 40.

¹¹⁴Ibid., p. 36.

¹¹⁵Ibid., p. 38.

¹¹⁶Ibid.

¹¹⁷U. S., Congress, Senate, Committee on Appropriations, Third Supplemental Appropriation Bill for 1951, 82d Cong., 1st Sess., 1951, Senate Rept. 308 to accompany H.R. 3587, p. 4.

requested and nothing was appropriated, the second round was significant in at least two respects. First it is evident that the FCDA had by that time developed the outlines of a coherent shelter program and was prepared to provide overall cost estimates on the basis of preliminary research. Second, Congressional criticisms of the civil defense idea became much more explicit than they had been earlier. The criticisms were not only directed at the FCDA programs, or the lack of them, but also at the basic efficacy of the civil defense effort.

In an apparent effort to meet the House committee's criticism of a lack of coordination between civil and military defense, Administrator Caldwell attempted to persuade the committee that the very existence of a viable defense system rested on the ability to continue industrial production. To the degree that such a capability could be maintained, the nation would be that much stronger from the military point of view. He asserted that a shelter program would not be able to protect every man, woman and child in the country; to try to do so would constitute an intolerable burden on the nation's economy. Therefore, the aim of the shelter program should be to maintain productive capabilities.¹¹⁸

With the primary objective of protecting only those persons vital to defense production, the FCDA had concluded that the industrial strength of the nation was concentrated in 54 target areas, which contained 69 cities. According to census data these critical target areas contained an aggregate population of 62,000,000 people of which

¹¹⁸SCA, Hearings, Supplemental Appropriation for 1952, p. 716.

half, or 31,000,000, were concentrated in highly congested areas of industrial and commercial activity. These 31,000,000 people were considered to be the potential targets of attack and it was toward them that the shelter program was to be directed. It was suggested that the remaining people in the target areas would be "sufficiently dispersed to make reasonable protection possible by other means."¹¹⁹

The FCDA estimated that 16,000,000 of the 31,000,000 people to be provided shelter protection could be accommodated in existing buildings. Of this number some (2,000,000) could be sheltered in buildings requiring no modification at all. An additional 6,000,000 could be sheltered in buildings requiring "minor" modification. Finally, 8,000,000 could be protected in building requiring "major" modification.¹²⁰

What all of this meant was that 16 million people could be sheltered in existing buildings requiring major, minor, or no modifications. The remaining 15 million people would require newly constructed shelters. Using cost estimates provided by Lehigh University research, the FCDA attempted to project the costs of such a program. They are set forth in Table II-2.

¹¹⁹Ibid. The data on population were developed by the Census Bureau on the basis of a sample of 10 cities, Ibid., pp. 669-670. The figures cited above may be tentative because they differ slightly from those presented in the FCDA Annual Report for 1951, which was published in early 1952. See FCDA, Annual Report for 1951, op. cit., pp. 50-51.

¹²⁰Ibid.

TABLE II-2
 COST ESTIMATES OF 1951 FCDA SHELTER PROGRAM PROPOSAL ^a

Type of Shelter	Number of Persons	Cost/ Person	Total Cost	Federal Share
No modification	2,000,000	--	--	--
Minor modification	6,000,000	\$10	\$60,000,000	\$30,000,000
Major modification	8,000,000	40	320,000,000	160,000,000
New shelters	15,000,000	90	1,350,000,000	675,000,000
	<u>31,000,000</u>		<u>1,730,000,000</u>	<u>865,000,000</u>

^aSCA, Hearings, Supplemental Appropriation for 1952, p. 671.

According to the FCDA:

The cost estimates, design criteria and construction standards, the census material, and all the other basic data were developed by the Lehigh University Institute for Research, the Bureau of the Census and the Federal Civil Defense Administration staff. The data has [sic] been on two occasions analyzed, evaluated and finally approved by the Atomic Energy Commission, the Department of Defense, the Corps of Engineers, the Bureau of Standards, the American Institute of Architects, the American Society of Civil Engineers, and others.¹²¹

Such a program would, according to FCDA spokesmen, be carried out in three steps. The first would be engineering surveys to locate and mark shelters which would require no modification. The second step would be to complete the modifications on those buildings that required them. The third and final step would be the construction of

¹²¹Ibid., pp. 717-718.

"simple group shelters--not mass shelters--to meet the deficiency."¹²²

This, in general terms, was the essence of the shelter program proposal that was submitted for congressional approval in the Fall of 1951. It, together with requests for \$250 million, was resubmitted in 1952 and once again in 1953.¹²³ While there were thus numerous occasions and opportunities to examine the question systematically, the Congress never did so. Nevertheless the proposal was repeatedly rejected in its entirety. The congressional criticisms that were apparently at the basis of the rejection were not so much directed toward the specifics of the program but rather toward the civil defense effort as a whole.

Possibly one reason why the program proposals were never seriously questioned is that they were not put forward with clarity by the administration spokesmen. From the House hearings in August 1951 it is virtually impossible to tell that there was any shelter program at all. The Senate hearings, held in September, provide a full description of the program but it should be noted that the

¹²²U. S. Congress, House, Committee on Appropriations, Hearings, Supplemental Appropriation Bill for 1953, 82d Cong., 2d Sess., 1952, p. 10. Hereafter cited as HCA, Hearings, Supplemental Appropriations for 1953.

According to Project East River, the Lehigh University, report on which the FCDA proposal was based, was "a study of mathematical probability, testing a series of assumptions to examine some broad policy questions: what design of communal shelters; how strong to build the shelters; how to obtain maximum protection for limited funds; what returns in terms of casualties may be expected for various levels of expenditure. . . . The Lehigh report is not intended to be taken literally, but is a working. . . . In sum [it] represents not a complete method of establishing a shelter program but rather a refined analysis procedure to be used to test policy assumptions." Project East River V, pp. 94-95.

¹²³The 1953 estimates were presented by the outgoing Truman Administration and were modified by the Eisenhower Administration before being considered by Congress.

description was printed into the record at the very end of the hearings. The program was not discussed by the FCDA witnesses nor was it questioned by Congress. Again, in the 1952 hearings, held in June and July of that year, the program was briefly noted in the prepared introductory remarks of Administrator Caldwell but was not discussed by him. Similarly, the committees asked only the most perfunctory questions about it at those times.

On only one occasion during the four hearings mentioned above did a committee member raise questions that would seem to be directed at the FCDA proposals. In August 1951 Chairman Cannon noted that it had been his understanding that the idea of communal shelters had been abandoned by the administration. Wadsworth replied that the dual purpose garage-shelters had indeed been ruled out but that shelters that could accommodate three or four hundred people were still very much a part of the FCDA plans. In this connection he mentioned the figure of \$90 per person as the cost of such shelters. Cannon's reaction was that such an amount would "seem to be prohibitive, when you think of the number of cities in the United States that would be subject to attack. . . . It would be a stupendous undertaking both in construction and cost."¹²⁴ Appropriately, Wadsworth pointed out that the \$90 per person shelters would be constructed for only fifteen million people but he did not explain how this figure was arrived at nor did he take the opportunity to elaborate on the FCDA plans. That the program was not understood is illustrated by Cannon's question

¹²⁴U. S., Congress, House, Committee on Appropriations, Hearings, Supplemental Appropriation Bill for 1952, 82d Cong., 1st Sess., 1951, pp. 669-670. Hereafter cited as HCA, Hearings, Supplemental Appropriations for 1952.

regarding who would be "preserved" and who would comprise the "remaining 135 million [who] would be exposed."¹²⁵ Indeed, Cannon's general reaction to what seemed to be the FCDA program was that it appeared to be superficial and based upon insufficient research.¹²⁶ Such questions and views would seem to have been an obvious reflection of the sketchy way in which these basic program proposals were presented to the committees.

The views and superficial questions expressed by committee members could also have been due to a skeptical attitude toward the entire civil defense effort or toward shelters in general. Such skepticism was, of course, quite evident in the debate on the enabling legislation. It remained submerged, however, during the initial budgetary hearings and only reemerged again in subsequent sessions.

Probably the most fundamental criticism of the civil defense program, from the standpoint of both substance and source, was the suggestion by Chairman Cannon that no civil defense program, regardless of how much money was spent on it, could possibly do the job. His reasoning was that an attack upon the United States would be a catastrophe of the first magnitude and that if it did ever occur any advance planning would have been but "a drop in the bucket" relative to the need. Therefore, he argued, the most effective way of dealing with the problem would be to build up and maintain the military strength of the nation to such a degree that no other country would dare to launch an attack in the first instance. "That," he said, "is the best civil defense."¹²⁷ A similarly negative view of any civil

¹²⁵Ibid., p. 671.

¹²⁶Ibid., p. 672.

¹²⁷Ibid., p. 697.

defense was expressed in the Senate hearings.¹²⁸ Not only is this kind of criticism extremely difficult to answer, but it has been voiced continuously throughout the history of the various civil defense programs. The fact that it was voiced so strongly by one of the most powerful members of the House at such an early date did not augur well for the future of the FCDA.

Another similar criticism expressed by some congressmen was based on the idea that shelters would simply be a colossal waste of money. Significantly, one congressman who essentially expressed this view was Albert Thomas of Texas. Thomas served, until his death in 1966, as the chairman of the Independent Offices Subcommittee which has reviewed the FCDA budget from 1954 to the time of this writing. In 1952 Thomas first told a story and expressed an opinion that was to be repeated on many subsequent occasions. He recalled meeting a former mayor of Hamburg and, said Thomas, the conversation went as follows:

I said, "Well, we are confronted with two or three problems in spending a tremendous amount of money shoring up buildings and building shelters, and stockpiling critical materials, and building warehouses to put them in." As quick as a flash he said, "Yes, and you are getting ready to throw away a whole lot of money." He said, "Do you know, we lost perhaps as many people, if not more people, in bomb shelters from bombing as we lost on the outside of the bomb shelters?" Then he pointed to one of the big catastrophes in Hamburg, where two or three thousand were killed in one of the bomb shelters.

He went on to say--and I am quoting you literally what he said, "In case of a bombing raid the best place to be is right out there," and he pointed to his office door, "Right in the middle of the street. That is the safest place to be."

¹²⁸SCA, Hearings, Supplemental Appropriations for 1952, p. 673.

I said, "Mr. Mayor, that is all right, but what is the defense against the bombing?" He said, "There is no defense for it, but there is one that is going to ameliorate it."

I said, "What is that?" He said, "You have simply got to have the best air force in the world and it has to be better organized so that when they are attacking you can just get in there and shoot them down." He said, "Spend your money not on shelters, and not on this and the other, but on air force stopping them before they get set."¹²⁹

Another question that was constantly raised with respect to the overall program concerned the high degree of public apathy. The implication was that it was of very little value to invest large amounts of money in programs that would possibly be ignored by the people. For example, Representative Michael Kirwan of Ohio complained that a plane had dropped leaflets in his district describing the importance of civil defense and urging the people to attend a scheduled meeting on the subject. He said that only thirty people made an appearance and concluded from that incident that something was terribly wrong with a program that produced such niggardly results.¹³⁰ Clarence Cannon also noted such apathy and concluded that it was due to the fact that Americans had never before been subjected to attack and that they found it incomprehensible that such a thing could ever happen.¹³¹ Representative Norris Cotton of New Hampshire suggested that a good deal of the apathy was due to the fact that people couldn't take civil defense seriously as long as it was organizationally divorced from the Department of Defense. His feeling was that civil defense could never be sold to the American people as long as the

¹²⁹HCA, Hearings, Supplemental Appropriations for 1953, p. 26.

¹³⁰HCA, Supplemental Appropriation for 1952, p. 625.

¹³¹Ibid., p. 614.

military held aloof from it.¹³² It is thus apparent that the committee members perceived a state of apathy on the part of the American people. But they were unimpressed with the suggestion of the FCDA that the unwillingness of Congress to appropriate funds had contributed to such a mood.¹³³

Questions such as these, of course, were directed at the civil defense program as a whole and not at the specific shelter proposals that had been more or less articulated by the FCDA. It is evident, however, that key members of Congress such as Cannon and Thomas were not at all convinced of the value of civil defense. Under the circumstances, therefore, it is hardly surprising that they did not subject the FCDA proposals to careful scrutiny. It is also not particularly surprising that the appropriations committees voted "not one thin dime" for shelters during the Caldwell administration.

The congressional attitudes were extremely formidable barriers to the shelter advocates but they need not necessarily have stopped the program so completely. If there had been some sort of groundswell of public support for shelters, the FCDA might have at least been forced into stating its plans more articulately and the Congress would have been compelled to offer some justification for its actions in completely denying the requested funds. Such pressure was not forthcoming. While there was no overt opposition to civil defense expressed during the course of the various appropriations hearings, neither was there enthusiastic support for the specific shelter programs of the FCDA.

¹³²Ibid., p. 635.

¹³³Ibid., p. 608.

One group of people who testified on the question of civil defense during the Caldwell years were municipal officials as well as state and local civil defense directors. The degree of their support was, at best, lukewarm. For example, Mayor Vincent Impellitteri expressed general support for shelters but deplored the high costs that cities would be forced to bear in order to implement them.¹³⁴ A similar sentiment was expressed by Brig. Gen. Clyde Dougherty, Civil Defense Director of Detroit. He said that he had not been convinced that it would be "practical or logical" to construct only single purpose shelters and suggested that if indeed this was the policy then a more generous federal contribution of funds was called for.¹³⁵ At another point there was included in the record a statement by Robert Moses who argued that if cities were to invest in shelter construction and an attack did not occur, the public would "expect something of value for huge expenditures on a shelter program." He urged that subways be improved for this purpose.¹³⁶ On the other hand a respected civil defense official, Lt. Gen. C. R. Huebner, the Director of the New York State Civil Defense Commission, may not have helped the cause of the shelter advocates when he told Representative Thomas that "probably the best shelter that you can get from an atomic bomb is a slit trench with overhead cover that can be constructed in a backyard. . . ."¹³⁷ The impression given by the testimony of such officials is that cities and states would have extreme difficulty in

¹³⁴Ibid., pp. 723-724.

¹³⁵Ibid., p. 715.

¹³⁶HCA, Hearings, Supplemental Appropriations for 1953, p. 56.

¹³⁷Ibid., p. 51.

financing their portion of any contemplated shelter program.

Various groups occasionally expressed general support for civil defense but had little to say specifically about shelters. The American Legion, the American Municipal Association, the Governors' Conference and the United States Conference of Mayors were among these groups. There was only one person from a professional association who expressed an opinion to the committee during the two years under study. A letter was addressed to the Senate Appropriations Committee by Howard T. Fisher, Chairman of a subcommittee on civil defense of the American Institute of Architects. The essence of his remarks is that while the idea of shelters was supported by the Institute, it was believed that the FCDA was recommending measures that had been inadequately researched. He urged that additional funds be made available for that purpose.¹³⁸

While Administrator Caldwell attempted to persuade the Congress that people throughout the country were keenly interested in civil defense, the information available does not unequivocally support such a position. As Table II-3 indicates, the people who feared an attack on their own cities did rank civil defense fairly high on the list of their concerns. On the other hand, in 1952, 60 percent of Americans believed that the active military defenses would allow only a "few or not many (1/3 or less)" of the attacking aircraft to penetrate to their targets. Only 13 percent thought that "most or many or all (2/3 or more)" would get through.¹³⁹ While Table II-4

¹³⁸SCA, Hearings, Supplemental Appropriations for 1953, pp. 449-453.

¹³⁹Stephen B. Withey, Survey of Public Knowledge and Attitudes Concerning Civil Defense (Ann Arbor: Survey Research Center, September, 1954), p. 60.

TABLE II-3

RELATION BETWEEN ANTICIPATION OF OWN CITY'S BEING BOMBED
AND THE IMPORTANCE ACCORDED CIVIL DEFENSE ^a

Importance accorded civil defense as a community problem	Likelihood of Own City Being Bombed		
	Yes Definitely	Yes, Qualified	No, Definite or Qualified
Rated first	36)	29)	16)
Rated second	21) 57%	19) 48%	22) 38%
Rated third or fourth (not mentioned)	28	37	44
Rated last	15	15	18
	100%	100%	100%
Number of cases	169	460	244

^aG. Belknap, *The Public and Civil Defense*, (Ann Arbor: Survey Research Center, 1952), p. 32.

TABLE II-4

PUBLIC ATTITUDES TOWARD BUILDING OWN SHELTER ^a

CD officials say that it would cost about \$200 for a family to build a reasonably safe air raid shelter. Do you think you are likely to build a shelter within, say, the next year?

	N	%
Yes, likely	37	2.4
No	1456	94.2
No opinion	49	3.2
Other	3	0.2
	1545	100.0

^aAmerican Institute of Public Opinion, Poll No. 517, July, 1953, (Unpublished).

reflects data collected in 1953, there is little reason to believe that such attitudes toward home shelters were significantly different during the period under discussion.

In view of the general absence of external pressure on behalf of a shelter program the field was left to the FCDA and Congress. The result of the confrontation between these two entities was the complete rejection of the Caldwell program. But if there remained any spark of life after this series of events, it was soon extinguished by the advent of the Eisenhower Administration in January 1953.

The Peterson Program (1953-1954)

Former Nebraska governor Frederick "Val" Peterson took office as FCDA Administrator in February 1953 and remained in that position until July 1957. During that period there were a number of important changes in military technology which had significant consequences for civil defense. The hydrogen bomb had become operational by 1954.¹⁴⁰ The full dimension of the radioactive fallout threat became public knowledge in 1955. The Soviet Union had developed an intercontinental ballistic missile by 1957 and was to place an earth satellite into orbit only a few months subsequent to Peterson's departure from office. The continuing problem for the FCDA during those years was to keep abreast of the rapid developments and to devise appropriate means of dealing with them. In addition to the technological challenges, the FCDA was required to develop a program that would conform to the "New

¹⁴⁰Robert Gilpin, American Scientists and Nuclear Weapons Policy (Princeton: Princeton University Press, 1962), p. 122. The hydrogen bomb had first been successfully tested in November 1952 at Eniwetok Atoll as part of Operation Ivy. A 15 megaton "droppable" hydrogen bomb was exploded in March 1954.

Look" national security policy that was being developed by the Eisenhower Administration.

As a result of their initial assessment of the Soviet threat to the United States, President Eisenhower and his advisors had concluded that the country faced a dual problem: economic and military. On the economic side there was great fear that a large scale and sustained program of military expenditures would eventually bring about an economic disaster. The President is said to have believed, even prior to his inauguration, that the United States must have sufficient military strength but that a "prodigal outlay of borrowed money on military equipment could in the end, by generating inflation, disastrously weaken the economy and defeat the purpose it was meant to serve."¹⁴¹ Henceforth national security programs would be judged on economic as well as military criteria.

From the military point of view the Eisenhower Administration adopted what has been called the "long haul" approach. The Truman Administration had assumed that the military power balance was unstable and would continue to be so until the anticipated acquisition by the Soviet Union of atomic-air capabilities in 1954 was matched by the United States development of a conventional military capability. Thereafter the danger would continue to be very great but would be minimized by a fairly stable balance. The Eisenhower Administration, on the other hand, assumed that stability was inherent in the situation existing in 1953. The Soviet Union lacked atomic-air capabilities

¹⁴¹C. J. V. Murphy, "The Eisenhower Shift," *Fortune*, LIII (January 1956), pp. 86-87. A similar concern on the part of the Truman Administration during the period of 1949-1950 is described and discussed in Warner Schilling, et al., *op. cit.*, pp. 105-107.

and the United States lacked conventional military power. The Eisenhower Administration differed from its predecessor in believing that the Soviet Union was unlikely to develop an atomic-air capability in the near future and it would therefore be unnecessary to institute military programs beyond those that were currently economically feasible.¹⁴²

The civil defense implications of such a policy were of considerable significance. On the one hand, the emphasis upon economy would make it difficult to secure administration support for measures that would require large expenditures of funds. On the other hand, a policy which depreciated Soviet atomic-air capabilities and which assumed that they would not significantly increase in the foreseeable future tended to undermine the rationale of any civil defense program.

During his tenure in office (1953-1957) Governor Peterson first deemphasized the mass shelter approach and advanced the idea of evacuation as the primary means of saving lives in the event of an attack. This was largely a matter of emphasis, however, since shelters were never completely ruled out by the FCDA and important research on shelter design and structure took place during Peterson's term of office. When the full effects of thermonuclear weapons were made known by the Atomic Energy Commission in 1955, the FCDA officials again began to reemphasize the need for shelter protection. In contrast to the earlier Caldwell program, however, such shelters were designed to protect mainly against fallout rather than heat and blast

¹⁴²Huntington, *op. cit.*, pp. 64-69. In order to maintain the logic behind this policy approach, it was necessary for the Eisenhower administration to depreciate Soviet achievements in the technological field.

and were considered to be an adjunct to evacuation procedures.

In his initial appearances before the House and Senate Appropriations committees in June and July of 1953, Peterson affirmed that the new administration continued to regard civil defense as vitally important. It was essential, he said, to maintain the "home front" and that was why the civil defense effort continued to have the strong support of military leaders.¹⁴³ But while civil defense would be necessary to maintain civilian morale and to keep open the lines of production, Peterson emphasized that it need not cost a good deal of money "relative to other aspects of our total national security program."¹⁴⁴

A substantial portion of Peterson's comments before the House Committee was directed against the shelter program of his predecessor at the FCDA, Millard Caldwell. He argued that the FCDA had gotten off to a bad start in 1950 with "all of its talk about America going underground." While this could indeed be done, it would cost "untold billions of dollars." Furthermore, the FCDA did not at that time understand the full effects of nuclear weapons nor did it have adequate data on the behavioral characteristics of shelters under the impact of nuclear explosions. Thus, for example, it would be quite possible for people in a subway shelter in New York City to be buried under 75 to 100 feet of rubble piled up in the streets and therefore

¹⁴³U. S., Congress, Senate, Committee on Appropriations, Hearings, Supplemental Appropriation Bill for 1954, 83d Cong., 1st Sess., 1953, p. 132. Hereafter cited as SCA, Hearings, Supplemental Appropriations for 1954. This interpretation of the military position was at variance with the commonly held assumption that the military was, at best, lukewarm toward the entire civil defense effort.

¹⁴⁴Ibid., p. 135.

suffocate. Or, he said, it might be possible for an enemy to drop a bomb in the harbor, thus causing a "tidal wave" which would drown everyone in the shelters.¹⁴⁵ Not only was there a lack of knowledge with respect to shelter construction and characteristics, but it was extremely questionable in the mind of Peterson whether "the American economy . . . [could] stand the expense that would be involved in building bomb shelters for all the people of the great cities of America."¹⁴⁶ In view of such misgivings Peterson had directed the FCDA to reevaluate "the entire shelter program in the light of recent weapons developments, new estimates of warning time and various tests and studies affecting shelter requirements."¹⁴⁷ In view of the current state of knowledge Peterson said that he could not request any funds for the purpose of shelter construction. He went even further in commending Congress for its wisdom in disallowing the previously recommended programs:

I particularly have in mind the repeated requests . . . for \$250 million for large public shelters. You will find no requests in this budget for a very sound reason. The vast improvement in the destructive power of nuclear weapons would turn such shelters into death traps in our large cities. Our research in this whole public shelter area is inadequate and too incomplete at this time to ask you to invest that kind of money in large public shelters.¹⁴⁸

¹⁴⁵U. S. Congress, House, Committee on Appropriations, Hearings, Supplemental Appropriations Bill for 1953, 83d Cong., 1st Sess., 1953, p. 228. Hereafter cited as HCA, Hearings, Supplemental Appropriations for 1954.

¹⁴⁶SCA, Hearings, Supplemental Appropriations for 1954, p. 150. It should be noted that such criticisms, like those of Caldwell in 1951, were not directed at anything that had been specifically recommended by the FCDA. The "huge" shelter program seems to have emerged as something of a convenient "straw man."

¹⁴⁷HCA, Hearings, Supplemental Appropriations for 1954, p. 224.

¹⁴⁸Ibid., p. 221.

In subsequent appearances before the Appropriations committees Peterson continued to attack the idea of deep underground shelters in rather florid language. For example, in discussing the experience of Sweden where large underground shelters had already been constructed, Peterson said that "to go down deep under the ground . . . would require . . . that we go down 75 or 80 feet, plus or minus. There we would have to build vast concrete catacombs, reinforced with steel, equipped with air conditioners, sanitary facilities, and communications facilities. It would take untold billions of dollars."¹⁴⁹ Such a project, he said, would not be economically feasible, "although protectionwise it is absolutely sound."¹⁵⁰ Perhaps his basic position on deep underground shelters was summed up in his remark that "there will be no digging holes to fill holes in the new civil defense program."¹⁵¹

On the other hand, despite such attacks on the shelter program, Peterson did not rule them out altogether. Throughout his tenure in office he continued to press for funds for shelter research. In his requests for Fiscal 1954, \$477,000 was allocated for the purpose of studying the effects of nuclear explosions on various types of structures such as brick and wood frame houses as well as above and below ground shelters.¹⁵²

¹⁴⁹U. S. Congress, House, Committee on Appropriations, Hearings, Supplemental Appropriation Bill for 1955, 83d Cong., 2d Sess., 1954, p. 152. Hereafter cited as HCA, Hearings, Supplemental Appropriations for 1955.

¹⁵⁰Ibid.

¹⁵¹HCA, Hearings, Supplemental Appropriations for 1954, p. 221.

¹⁵²Ibid., p. 257.

In addition to research in shelter design, Peterson did emphasize the desirability of small family type shelters which would, of course, be built with private funds. In justification of such a recommendation he asserted that

The experiments in Nevada have shown conclusively that any family is wise if it creates a shelter in the basement, possibly just a lean-to shelter against the cellar wall, by throwing up some rough boards against the wall, or by building a box-type shelter at the least possible cost, or by building a more elaborate concrete shelter, if it cares to, outdoors or a slit trench. Experience has shown that these will save lives.¹⁵³

The question of why privately constructed shelters would save lives while mass shelters constructed with public funds would be potential death traps was ignored by Mr. Peterson.

Finally, Administrator Peterson kept open the possible future need for shelters. He suggested that if no warning could be anticipated in the future "eventually America will have to face the problem of going underground. It is possible to go in far enough to protect yourself against atomic bombs or any other kind of bombs."¹⁵⁴ He also recognized the possibility of intercontinental ballistic missiles "in 15 or 20 years," in which case the FCDA "would be back in the same position as we are today . . . and we would have to take the best cover we could."¹⁵⁵ And even if sufficient warning time were available, there would still be a need for shelter. "There will," he said, "always be people who must, for reasons of duty or inability to move,

¹⁵³Ibid., p. 228. The Nevada experience referred to by Peterson was Operation Doorstep at Yucca Flat in March 1953. Several houses were subjected to atomic exposure.

¹⁵⁴SCA, Hearings, Supplemental Appropriations for 1954, p. 149.

¹⁵⁵Ibid., p. 150.

remain near the most likely aiming points. It would seem to be within our economic means to finance this necessary minimum of protection."¹⁵⁶ He further hedged against the circumstances in which shelters might be necessary when he stated, in 1954, that shelters could not be considered "out" except from the standpoint of cost and he asserted that "I am not conscious of anything that has been taught in civil defense that has been made completely obsolete by the development of hydrogen weapons. However the emphasis has changed. . . . Now . . . if there is an atomic attack on Washington. . . , there are only three things you can do--there are three alternatives: die, dig, or get out."¹⁵⁷

Since a substantial amount of "digging" had been ruled out, the only alternative that remained was "getting out." Although Peterson did not explicitly advocate a policy of evacuation in the June-July 1953 hearings, he did hint at it, and subsequent testimony makes it clear that a decision to adopt an official policy of evacuation had been made by that time. What Administrator Peterson did say to Congress in 1953 was that there was a possibility of increasing the warning time of an impending attack from 15-30 minutes to 1-6 hours.¹⁵⁸ If the warning time could thus be increased, he said, "we eliminate . . . the necessity for these huge mass shelters because it would be possible

¹⁵⁶FCDA, Annual Report for 1953 (Washington: Government Printing Office, 1954), p. 6.

¹⁵⁷U. S. Congress, Senate, Committee on Appropriations, Hearings, Supplemental Appropriation Bill for 1955, 83d Cong., 2d Sess., 1954, p. 472.

¹⁵⁸HCA, Hearings, Supplemental Appropriations for 1954, pp. 231, 245.

to evacuate our downtown areas."¹⁵⁹

Subsequently Peterson made it known that the change in emphasis from shelters to evacuation had begun in November 1952 when the FCDA learned that very high yield fusion weapons were being used.¹⁶⁰ Peterson asserted that he was much impressed with the films of Operation Ivy which he had viewed in March 1953 and that he concluded then and there that there was only one way to ensure survival from such an explosion and "that is simply not to be there."¹⁶¹ Consequently, the FCDA began an intensive study of the possibilities of evacuation. When "several high level continental studies" in 1953 determined the importance and feasibility of increasing the warning time of an impending attack to 2-6 hours, the FCDA began "urging State and local directors of civil defense to proceed with such [evacuation] planning."¹⁶²

In January 1953 the final reports of Project East River became available to the FCDA. This study was carried out by more than

¹⁵⁹SCA, Hearings, Supplemental Appropriations for 1954, p. 150.

¹⁶⁰HCA, Hearings, Supplemental Appropriations for 1955, p. 166.

The difference between "fission" and "fusion" should be briefly noted. In nuclear fusion a pair of light nuclei unite (or fuse) together, to form the nucleus of a heavier atom. When such nuclei combine, there is released a tremendous amount of energy. For example, the fusion of all the nuclei present in a single pound of deuterium, the hydrogen isotope, would release the energy equivalent of 26,000 tons of TNT.

In contrast to this combining process, fission consists of the splitting of a heavy element, usually uranium. As each nucleus is split, neutrons break loose and energy is released.

The "A-Bombs," such as those used against Japan during World War II were fission bombs. Hydrogen or thermonuclear weapons are fusion weapons and their explosive power is considerably greater than fission weapons.

¹⁶¹Ibid., pp. 150, 151.

¹⁶²Ibid., p. 166.

one hundred scientists and experts on all aspects of the civil defense problem. Headed by Maj. Gen. Otto L. Nelson (Ret.), the study had been commissioned by the FCDA, the Office of Defense Mobilization and the Department of Defense. The ten-volume study was described by Peterson as "one of the most thorough studies in the whole area of nonmilitary measures," and was considered to be the "Bible" of the civil defense field.¹⁶³ The implication of his remarks was that the major findings of Project East River had generally been accepted as the basis for FCDA planning.¹⁶⁴ Yet an examination of relevant portions of that report reveals that very little was said about evacuation. It was, in fact, asserted that while an increased warning period "may reduce the load on shelter areas and increase some form of pre-attack evacuation, . . . it will leave substantially unchanged the planning policy of locating shelter areas within five to fifteen minutes of those to be sheltered . . ."¹⁶⁵ The Report also noted the long range population patterns which indicated an increased density of populated areas.¹⁶⁶ The implications of such a trend for evacuation are clearly implied. The emphasis of that portion of the Report dealing with the reduction of urban vulnerability was upon the dispersal of targets and sheltering of the population. Based upon studies carried out in Boston and New York City, the authors of the Report concluded

¹⁶³HCA, Hearings, Supplemental Appropriations for 1954, pp. 219, 231.

¹⁶⁴The FCDA annual report of 1953 asserted that Project East River had "aided tremendously in expediting realistic Civil Defense planning and operation. FCDA, Annual Report for 1953, op. cit., p. 1.

¹⁶⁵Project East River V, pp. 51-52.

¹⁶⁶Ibid., pp. 20-21.

that shelters had a high lifesaving potential and were at the same time economically feasible.¹⁶⁷ Of course, it should be noted that such studies were carried out during the era of the "nominal bomb" and, as Governor Peterson later said, the existence of the hydrogen bomb changed the entire texture of the debate.¹⁶⁸ Nevertheless it is perhaps significant that the most authoritative study available to the FCDA did not seem to convey a great sense of hope for the evacuation approach.

While evacuation may have been open to grave reservations, when Peterson appeared before the House Appropriations Committee for the second time in May 1954 he stated that the program for planned evacuation had been endorsed by the National Security Council and that the budget being presented was "based on the philosophy or concept of evacuation."¹⁶⁹ While recognizing that the evacuation of entire populations was the "toughest challenge ever given to our local governments," Peterson expressed the belief that it would work, provided that there was adequate warning time, that civil defense officials were geared to the procedures, and that an informed public was thoroughly drilled in evacuation procedures.¹⁷⁰ With respect to warning time, Peterson expressed certainty that it would be improved: "When that [warning system] is completed . . . then we can put the evacuation policy into effect permanently."¹⁷¹ With respect to the immediate

¹⁶⁷Ibid., pp. 15, 88.

¹⁶⁸HCA, Hearings, Supplemental Appropriations for 1955, p. 146.

¹⁶⁹Ibid., pp. 147, 153.

¹⁷⁰SCA, Hearings, Supplemental Appropriations for 1955, pp. 464, 465.

¹⁷¹Ibid., p. 474. Italics added.

task at hand, the job of the federal government was to work out the "concept" of evacuation; that of implementing it belonged to the state and local governments.¹⁷² Accordingly in the 1954 budget the FCDA requested \$100,000 for research on evacuation problems, particularly in the field of traffic flows out of the major cities of the United States.¹⁷³

The reaction of the Appropriations committees to the FCDA deemphasis of shelters was generally favorable, as might have been expected. Chairman Cannon described Peterson's condemnation of the shelter programs of his predecessor as "practical a point of view as any man I ever heard discuss it before this committee." He once again referred to the previously proposed "tremendous system of shelters" that was "utterly beyond the range of possibility" and he again expressed his dismay at cities rushing in "to cooperate with the thought of securing free shelters which could be used for automobile parking and other civic purposes."¹⁷⁴ Representative H. Carl Anderson of Minnesota similarly attacked shelters as death traps which would prevent people from moving to safer places and Peterson expressed general agreement with him.¹⁷⁵

On the question of evacuation, the reaction was somewhat more mixed. On the one hand Congressman Taber believed that the concept of evacuation would fit in rather nicely with local responsibility, since

¹⁷²HCA, Hearings, Supplemental Appropriations for 1954, p. 170.

¹⁷³Ibid., p. 163.

¹⁷⁴HCA, Hearings, Supplemental Appropriations for 1954, p. 242.

¹⁷⁵Ibid., p. 235.

local governments would be largely responsible for carrying it out.¹⁷⁶ On the other hand, Cannon raised questions about the possibility of adequate warning time, especially in view of the "intimation that the plane is already obsolescent in the delivery of the atomic bomb and delivery . . . would be by guided missiles, by robot planes."¹⁷⁷ Also, both Cannon and Anderson expressed the view that in the event of an atomic attack the highways would be clogged and evacuation would be extraordinarily difficult, if not impossible.¹⁷⁸

Notwithstanding such reservations regarding evacuation, that approach was to remain at the heart of civil defense planning until the problem of fallout became a matter of public knowledge in February 1955. Aside from the research activities that have been mentioned, concern for shelters generally faded into the background. No funds were requested or granted for shelter construction. Thus at the end of 1954 things were more or less where they had been at the beginning of 1950 as far as the implementation of a shelter program was concerned. Shelters remained as one of the major techniques of civil defense; a good deal more about the nature of the threat was known; and some of the advantages and disadvantages of shelters were more fully appreciated than they had been five years earlier. But no construction had been undertaken and the shelter program appeared to be defunct at the end of 1954. The emergence of the fallout threat resurrected the shelter issue in the following year.

¹⁷⁶HCA, Hearings, Supplemental Appropriations for 1955, p. 169.

¹⁷⁷HCA, Hearings, Supplemental Appropriations for 1954, pp. 241, 242.

¹⁷⁸Ibid., pp. 243, 248.

Conclusions

This chapter has been concerned with the initial efforts to come to grips with some of the civil defense problems occasioned by the existence of nuclear weapons. Given the development of these weapons, civil defense officials were charged with the responsibility of devising means for reducing the loss of life and property in the event of an attack upon the country. One obvious technique for accomplishing this objective was through a system of shelter protection. Such a system was proposed, but it was totally rejected. In assessing the material presented in this chapter, that rejection was the function of a combination of factors.

There were, of course, formidable technological problems in the design and implementation of a shelter system. The period covered by this chapter was one in which fallout had not yet become a significant factor in civil defense planning. The shelter system was therefore oriented toward the blast and thermal effects of nuclear weapons. To develop an effective shelter against such effects constitutes an engineering problem of almost insuperable magnitude. However difficult the design problems were, they were complicated by additional problems. First, not a great deal was known about the effects of nuclear weapons: what structures would hold up and what would not. Controlled experimental data were virtually nonexistent. The data problem was accentuated by the difficulty in securing a free flow of information to those people who would need it. There was fear that

any leak of atomic information would benefit the potential enemies of the country. While there is no reason to question the sincerity of those who thought that way, the fact does seem to be that shelter design was hampered by a lack of up-to-date information. And even if civil defense officials were in possession of important information, they were often prevented from discussing or disseminating it because of security regulations. The technical problem was complicated still further by the high rate of technological change. No sooner would countermeasures be formulated than they would become obsolete by some advance in weapons technology.

It is therefore possible to conclude that the technological difficulties were so staggering that they could not be satisfactorily resolved. But that, in itself, is not sufficient to explain why no shelter program was undertaken at all. It is, after all, fairly common to undertake partial measures in the face of technological difficulties. Instead, the major explanation for the failure to implement a shelter program lies in the political area.

First, there was a problem of timing. There is every reason to believe that the NSRB and its successor agency, the FCDA, would have preferred to do further research before recommending a specific program. However, in the 1950 period, pressures were being generated which forced the FCDA to offer proposals before they had been carefully thought through or became fully supportable. This pressure was largely the result of a mood of apprehension following the Soviet explosion of an atomic bomb and the beginning of the Korean War. A

different kind of pressure continued after the passage of the Federal Civil Defense Act of 1950. That law had provided for an arrangement of matching grants for shelter construction. Unless the states and localities contributed 50 percent of the cost of shelters, there would be absolutely no program. Given the perennial problem of finances at the local level, FCDA officials were justifiably fearful that the tempered enthusiasm surrounding the passage of the Civil Defense Act would evaporate unless federal funds were forthcoming immediately. They were thus, again, put in the position of asking for money which they were not yet capable of justifying.

It should also be noted that the initial request for funds came at a period when Congress was growing restive with respect to defense spending. At the beginning of the Korean war Congress had been most generous because what had occurred in Korea appeared to be an obvious act of aggression which American soldiers were helping to resist. But by the spring of 1951 the military situation appeared to be improving and some Congressmen, such as Clarence Cannon, looked forward to a leveling off of expenditures. The moment for introducing proposals for a long range shelter program was therefore not particularly propitious.

Second, the failure to implement the shelter program can also be associated with the lack of general public support for it. Much has been said regarding the apathy of the American people toward civil defense. This may have been, as Clarence Cannon suggested, a function of the fact that Americans have never been subjected to

attack and find it difficult to imagine any circumstances in which they would be. Or it might be, as Caldwell suggested, that when citizens saw that Congress was not sufficiently concerned to act, they too lost interest. But perhaps one additional point needs to be mentioned. The American people had been asked, and had agreed, to support an active military force that was almost without precedent in terms of costliness. They had repeatedly been told that their tax dollars had purchased a defense system that was second to none in the world. It was little wonder, and hardly surprising, that they failed to become enthusiastic about a program that was based upon the assumption that the active military forces would either fail to deter an attack or fail to stop it once it had been launched.

Of course, it needs to be recognized that the relationship or linkage between public opinion and a specific national security policy is very difficult to establish. But in the absence of strong public pressure for a shelter program the field of debate was left to a relatively small number of people and groups.

Third, at least a portion of the blame, if it may be referred to as such, for the failure to implement a shelter program may be attributed to what Gabriel Almond has called the articulate public. Interestingly, there was no virulent opposition to civil defense among interest groups and only mild questioning of the idea of shelters. The strongest misgivings with respect to the latter were expressed by the state governors during the hearings on the Civil Defense Act. Such reservations may not have helped the cause of

shelters--but they were not as damaging as the testimony of municipal officials who, paradoxically, were strongly in favor of shelters. Specifically, the municipal officials' emphasis on dual purpose shelters so disturbed the Congress that throughout the period under discussion the congressmen reacted against the ideas of those officials rather than the proposals of the FCDA. Images were invoked of a massive shelter program, untold billions of dollars being poured into underground garages, "boondoggling," and New Deal schemes. Such images helped to preclude the rational consideration of the FCDA proposals.

It may also be suggested that despite the expressions of support by the municipal officials, it is questionable whether they would have been able to put up the 50 percent share of the shelter costs that was required by law. That such might have been the case is suggested by the repeated pleas of these officials to change the matching fund formula because of the pressing financial burdens of the municipalities.

Fourth, it is very obvious that Congress was highly instrumental in the defeat of the shelter program. The conclusion derived from this analysis is that the Appropriations committees were determined not to authorize funds for shelters regardless of the nature of the FCDA proposals. There was a belief, particularly held by key committee members such as Cannon and Thomas, that shelters would be ineffective and that funds would be better spent on active military hardware. To this must be added Cannon's own perception that the

severe crisis facing the country in 1951 would soon be passed and the need for shelters would thus be obviated. There was also the conviction, repeatedly expressed, that any shelter program would necessarily have to be "huge" and inevitably open to "boondoggling." The committees continued throughout the period to studiously ignore what the FCDA was proposing. Given such an orientation by important congressional committees, there would seem to have been little chance that any program, however well designed and presented, would ever be approved.

Fifth, the executive did very little to help its own cause and, indeed, the behavior of its spokesmen may have had a great deal to do with the actions of Congress. It was pointed out in the previous chapter that top-level officials in the Truman Administration had been unenthusiastic about civil defense even before the passage of the Federal Civil Defense Act of 1950. There is no reason to believe that they had experienced a change of heart either when the Act was being considered or during the remainder of the Administration. For example, their insistence that no funds be allowed for dual-purpose shelters was sufficient, almost in itself, to preclude local participation in any shelter program. It may be true that part of this attitude was due to Congressional fears of "boondoggling"; however, it also served as a convenient way of avoiding the expenditure of funds that would have had to come out of the budgets of other federal agencies. The Eisenhower Administration was obviously cool to the entire shelter idea from the very beginning and made no effort to

hide this fact. Thus, it is clear that throughout the period under discussion the proponents of shelters were forced to operate without the support of higher-echelon officials of both the Truman and Eisenhower Administrations.

The FCDA position was further compromised by conflicting views of the threats facing the United States. During the Truman Administration there existed a widespread view that the year of maximum danger was, in 1950 and 1951, still some time off and this may have dampened any enthusiasm that may have existed for a crash program. On the other hand, Caldwell strongly implied that the major threat to the nation was immediate and this was ostensibly one of the reasons for his "rejection" of a massive construction program. To confuse matters still further, the Eisenhower Administration tended to depreciate Soviet attack capabilities and this, in turn, tended to undermine the entire rationale of the civil defense effort.

Finally, the officials of the FCDA itself may be said to have done an unusually bad job of presenting their case to the Congress. In their early appearances before the Appropriations committees, the FCDA officials were clearly unprepared to describe or justify their proposals. In fact, they gave the appearance of having made important decisions with respect to the revision or abandonment of previous programs; however, an examination of the record often reveals that what they were apparently discarding had never been proposed in the first place. In subsequent appearances, when the FCDA officials had developed at least the outlines of a program, they

failed to present the proposals in a coherent fashion. It is little wonder, therefore, that Congress failed to raise relevant questions about the proposals. It is quite possible that at least some committee members were unaware that any specific proposals existed.

In attempting to explain this apparent ineptitude, it is difficult to resist the temptation to suggest that the FCDA itself was not committed to the idea of shelters. Had the FCDA truly believed in what it was proposing, the very least that it could have done was to make a reasonable effort to make certain that Congress understood the proposals. There is no evidence that even this was done. In view of the other barriers to the acceptance of the shelter program that have already been mentioned, it is possible to exaggerate the importance of this failure on the part of the FCDA. Yet the FCDA actions do suggest that the lack of enthusiasm for shelters that existed elsewhere in the Truman Administration may also have characterized the FCDA.

In sum, the failure to implement a shelter program during the 1950-1954 period was due to a combination of technological and political factors. Until the proponents of a shelter program could begin to generate pressure, there was little or no chance that shelters would again be seriously considered. Such pressure did begin to develop in 1955 and this will be the subject of the next chapter.

CHAPTER III

THE EMERGENCE OF THE FALLOUT THREAT AND THE SEARCH FOR AN EFFECTIVE CIVIL DEFENSE PROGRAM

During the latter part of 1954 it appeared as though there would be little or no further consideration of the shelter program. The FCDA had embarked upon a policy that concentrated heavily, if not extensively, upon evacuation. Not only was this approach very much in consonance with the general emphasis of the Eisenhower Administration upon economy, but it also seemed to satisfy the parsimonious members of the appropriations committees of Congress. At the same time, the general public remained apathetic about the entire question of civil defense, and groups and individuals having an interest in the subject were generally quiescent.

Within the first few months of 1955, however, interest in civil defense began to quicken. The immediate cause for this renewed interest was the release, on February 15 of that year, of official information regarding radioactive fallout from nuclear weapons tests conducted eleven months earlier. One week after this announcement by the Atomic Energy Commission the Senate Armed Services Committee opened hearings on the civil defense implications of the new threat. The

hearings were subsequently broadened to include a general review of the overall civil defense program. While the committee appears to have acquiesced in the evacuation approach to civil defense, some questions were raised as to whether it was being executed in a sufficiently vigorous or systematic manner. On the other hand, the proceedings revealed certain doubts as to the efficacy of evacuation and it was apparent that not everyone was uniformly satisfied with this approach.

One individual who took decided umbrage at the entire evacuation approach was Congressman Chet Holifield of California. As a ranking member of the Joint Committee on Atomic Energy he was acutely aware of the perils of atomic warfare and had long been a vociferous advocate of a strong civil defense program. However, Holifield was convinced that evacuation was not a proper solution to the civil defense problem. Subsequently, as chairman of the Military Operations Subcommittee of the House Committee on Government Operations, he undertook an extensive investigation of the entire civil defense program. During the course of these hearings, conducted throughout the first half of 1956, he vigorously pressed for a shelter program and sought to undermine the credibility of the evacuation approach. He continued his efforts in 1957, holding additional hearings on a committee-sponsored bill that would, among other things, legally bind the civil defense organization to provide shelters as the core of any future civil defense program.

For the FCDA the period extending from 1955 to 1958 was one

of policy flux, during which heavy pressure on behalf of shelters emanated from outside the executive branch. Initially, the FCDA strongly defended the evacuation approach, although it appeared to recognize the need for some kind of shelter in the face of the fall-out threat. By 1956 it was publicly advocating a "balanced" evacuation-shelter policy. In 1957 the FCDA began to deemphasize evacuation while at the same time pressing for a large-scale shelter program within administration circles. Finally, in 1958, the organization appears to have more or less abandoned the evacuation idea and proposed a limited fallout shelter program. While this answer to civil defense needs did not satisfy such critics as Congressman Holifield, it did represent a significant change in the administration's civil defense policy.

The focus of the present chapter is upon the period 1955 to 1957 during which shelters largely replaced evacuation as the central concept of civil defense. The purpose of the chapter is to describe and analyze the pressures, largely emanating from Congress, that in part moved the FCDA in that direction. While reference will be made to the executive response to these pressures, a detailed analysis of the evolution of shelter policy within the executive branch will be provided in the following chapter.

The chapter will be divided into four parts. The first will describe the emergence of the fallout threat which occasioned the initial reexamination of civil defense policy. The second section will assess the activity of the Senate Armed Services Committee in

bringing to light the reaction of the FCDA to the fallout threat and the initial criticisms of the evacuation approach. The third section will consider the work of the Military Operations Subcommittee in bringing pressure to bear on behalf of a shelter program in 1956. The final section will examine the work of that committee in 1957.

The Emergence of the Fallout Threat

On March 1, 1954 the United States detonated a nuclear device at the Atomic Energy Commission (AEC) test site in the Marshall Islands. The explosion, code-named Bravo, produced at least two unanticipated results. First, the detonation yielded about fifteen megatons of power, which was almost twice the yield that had been calculated. Second, and perhaps more important for purposes of this analysis, the explosion produced heavy radioactive fallout over a 7000 square mile area. Because of this widespread distribution of radioactive debris, coupled with unanticipated changes in wind direction, a number of human beings were directly exposed to the radiation effects of the weapon. While the dangers of radioactive fallout had been recognized for a number of years,¹ the degree and scope of the peril were yet to be fully understood.² Although the Bravo explosion clearly introduced a new dimension to the overall civil defense problem, the manner in which the data concerning the new threat were introduced to

¹Edward Teller, op. cit., pp. 35-36.

²Prior to the Bravo explosion the danger was thought to emanate largely from "local fallout" which is composed of heavy radioactive particles that fall to earth near the site of the explosion. While the Bravo test produced large amounts of this type of fallout, it also produced long-range fallout which consists of smaller fission products which are scattered by the prevailing winds over vast areas and for comparatively long periods of time.

the public underscores some of the problems confronting the FCDA in the development of relevant and rational programs.

The first hint that anything unusual had occurred as a result of the explosion was an announcement by the AEC that 28 Americans and 236 Marshall Islanders had been "unexpectedly" exposed to "some radiation" during the course of a "routine test." The announcement explicitly stated that no burns had been inflicted and that the exposed personnel were in good physical condition.³ On March 19 it was reported in the press that some Japanese fishermen, aboard their trawler the Fortunate Dragon, had inadvertently strayed into the test area on the day of the shot and had been exposed to a two-hour rain of "white ashes."⁴ On March 31 AEC Chairman Louis Strauss issued an explanatory statement on the explosion. He admitted that the shot had been double the calculated estimate, but insisted that this was a "margin of error not incompatible with a totally new weapon."⁵ With respect to the fall-out effect, he suggested that the reported burns on the Japanese fishermen were due to the "chemical activity of the converted material in the coral [which had been drawn up into the atmosphere by the explosion] rather than radioactivity. . . ."⁶ He repeated that the Marshall Islanders who had been exposed appeared to be "well and happy" and that neither they nor the American naval personnel had suffered any

³New York Times, March 12, 1954, p. 1:1.

⁴New York Times, March 19, 1954, p. 19:7,8.

⁵U. S. Congress, Senate, Committee on Armed Services, Subcommittee on Civil Defense, Civil Defense Program, Hearings, 84th Cong., 1st Sess., 1955, p. 308. Hereafter cited as SCAS, Hearings, Civil Defense Program.

⁶Ibid., p. 310.

ill effects from the experience.⁷ The statement provided no information as to the intensity of the radiation generated by the Bravo explosion or the geographic area affected. Strauss did say, however, that the radiation would decay very rapidly and that it would become harmless "within a few miles after being picked up by these [Japanese] currents which move very slowly (less than 1 mile per hour) and would be completely undetectable within 500 miles or less."⁸ The Strauss statement was clearly intended to assuage the fears of those few people who might have suspected that anything dangerous or unusual had occurred.

However, the AEC explanation failed to satisfy everyone. During the course of the next several months the findings of Japanese scientists on the radioactive residue of the Bravo explosion became available. These studies suggested that, at the very least, the AEC had not been candid in describing the perils implicit in radioactive fallout,⁹ and in November 1954 Ralph Lapp published an article on the dangers and civil defense implications of fallout in the Bulletin of the Atomic Scientists. According to Lapp, who was a specialist in nuclear radiation as well as civil defense editor of the Bulletin, the Bravo explosion had produced elliptical contours of fallout which spread "far beyond the circles of primary damage."¹⁰ While he did not

⁷Ibid., p. 309.

⁸Ibid., p. 310.

⁹A useful discussion of the work of the Japanese scientists may be found in Ralph E. Lapp, Atoms and People (New York: Harper and Brothers, 1956), pp. 114-139.

¹⁰Ralph E. Lapp, "Civil Defense Faces a New Peril," Bulletin of the Atomic Scientists, X (November, 1954), p. 349. While Lapp derived his conclusions from unclassified data, he was generally supported with respect to correctness by AEC Commissioner Willard Libby. SCAS, Hearings, Civil Defense Program, p. 48.

explicitly state how great an area was involved, he did suggest that 4000 square miles could be contaminated by such a blast.¹¹ He further pointed out that the contamination could well be of serious-to-lethal proportions and would thus constitute a significant new problem for civil defense planners.¹² At the very least, he said, the new development would necessitate some kind of shelters for those who might be evacuated from the areas of primary damage.¹³

The misgivings of scientists with respect to fallout were partially confirmed by Dr. Willard Libby, an AEC Commissioner, in an address to the Washington Conference of Mayors in December 1954. In one of the first public discussions of radioactive fallout by a responsible public official, Dr. Libby acknowledged that "enormous" amounts of radiation are generated by a nominal 20-kiloton bomb.¹⁴ On the other hand, he insisted, radioactivity from fission products decays very rapidly. Thus, for example, an explosion that might in one hour

¹¹Lapp, "Civil Defense Faces a New Peril," op. cit., p. 350.

¹²Ibid., p. 351.

¹³Ibid.

¹⁴SCAS, Hearings, Civil Defense Program, p. 241. Libby's use of "nominal" bomb data may seem to be peculiar in view of the fact that much larger weapons, including fusion bombs, had already been tested and stockpiled. Lapp, however, points out that the Bravo shot was not a pure hydrogen bomb, but rather a "fission-fusion-fission" weapon. That is, the device was triggered by a 100 kiloton fission bomb. This produced tremendous heat plus a burst of fission neutrons, producing a fusion process in the lithium liner of the bomb. Finally, the vast stream of very fast neutrons produced by this fusion process struck the outer mantle of the bomb which was composed of Uranium 238. This bombardment fissioned the outer coating and produced an explosion which was not only very powerful, but which was also very "dirty" in the sense of producing immense radioactivity. The point of this is that the Bravo explosion behaved like a gigantic A-bomb rather than a hydrogen bomb. Libby's data were relevant as far as the kind of radioactivity produced. Assuming that a person knew about the "fission-fusion-fission" process, he would merely have to scale up the effects of the "nominal" bomb and derive the data relevant to the Bravo-type explosion. Lapp, Atoms and People, op. cit., pp. 124-131.

give "400 roentgen units of radiation per hour to the human body will at the end of 1 day give only nine of these units."¹⁵ Given this rapid decay of radioactive fallout, the critical task for civil defense would be to provide protective cover during the hours immediately subsequent to an attack for those who may have survived the blast and thermal effects. Such protection, he said, was rather easy to secure. About a foot of dirt would provide "good" shielding; two feet of earth would provide "excellent" protection.¹⁶ In other words, he said, "a shovel properly used could save a man's life."¹⁷ While the Libby speech did provide some preliminary data on fallout, the picture was by no means clear. Specifically omitted from his remarks was any hint of the area affected by fallout. Also, while reference to the nominal bomb may have been highly relevant, it is most unlikely that many of the assembled mayors would have possessed the technical competence to extrapolate from these data.

Eventually, however, the AEC made available a good portion of the facts on the Bravo shot. On February 15, 1955, almost a year after the explosion, the AEC acknowledged that radioactive fallout posed both an intensive and extensive threat. An official statement described the path of the fallout in terms of a series of elliptical or cigar-shaped patterns. In a downwind belt about 140 miles in length and up to 20 miles in width, an amount of fallout occurred which would have "seriously threatened the lives of nearly all persons in the area who

¹⁵SCAS, Hearings, Civil Defense Program, p. 241.

¹⁶Ibid.

¹⁷Ibid., p. 242.

took no protective measures."¹⁸ Moving further downwind, at a distance of about 160 miles from the point of burst, radioactivity would still have been sufficiently great to have "seriously threatened" the lives of about half the exposed population.¹⁹ In all, an "area of about 7000 square miles of territory downwind from the point of burst was so contaminated that survival might have depended upon prompt evacuation of the area or upon taking shelter and other protective measures."²⁰ The statement affirmed Libby's earlier remark that the radioactivity of the fallout decreased rapidly with time, "for the most part, within the first few hours after detonation."²¹ While the press release contained a good deal of discussion concerning the radiation phenomenon, the data were tied to a thirty-six hour period, which tended to imply no long term hazard. With regard to the genetic effects of radiation, the AEC report was reassuring:

In general, the total amount of radiation received by residents of the United States from all nuclear detonations to date, including the Russian and British tests and all our own tests in the United States and the Pacific, has been about one-tenth of one roentgen. This is only about one-hundredth of the average radiation exposure inevitably received from natural causes by a person during his or her productive life. It is about the same as the exposure received from one chest X-ray.²²

The AEC announcement also recommended certain precautions which could greatly reduce the hazards to life from radioactivity. These included taking shelter in any basement or cyclone shelter with a good cover of

¹⁸Ibid., p. 231. This remark is from a statement by AEC Chairman Louis Strauss. The Strauss statement, together with an AEC press release is contained in SCAS, Hearings, Civil Defense Program, pp. 231-240.

¹⁹Ibid., p. 232.

²⁰Ibid., p. 237.

²¹Ibid., p. 235.

²²Ibid., p. 239.

earth on top of it, washing exposed parts of the body, changing clothes and so forth.²³

The existence of widespread radioactive fallout presented the FCDA with some extremely serious problems. Having only recently promulgated a policy that centered on evacuation, civil defense officials were now faced with the unhappy prospect of evacuating people out of the prime target areas only to have them perish by radiation exposure. The FCDA response to this development, which threatened to undermine the efficacy of the entire evacuation approach, will be examined in subsequent portions of this chapter. But beyond this obvious problem was still another difficulty with which the FCDA was forced to cope: the problem of official secrecy.

It is evident that the FCDA was in possession of most of the data regarding fallout. Civil defense officials had placed observers at the Bravo test operation and the AEC had conducted a full-scale briefing on the subject in June 1954.^{23a} Yet, according to Administrator Peterson, the data on the "fallout pattern and the dosages involved in the fallout pattern were classified. They had the highest classification in the government, and we were necessarily bound by that classification and could not talk about it."²⁴ He pointed out that the FCDA had worked hard to get the information released but, "for one reason or another," it was pre-

²³Ibid., pp. 237-238.

^{23a}Ibid., p. 67.

²⁴Ibid., p. 223. This view was confirmed in a personal interview with Mr. Gerald Gallagher, Assistant Director of Civil Defense, July 18, 1968.

vented from doing so until the February 15 announcement by the AEC.²⁵

Within these severe limits the FCDA did take some steps to warn the public of the new menace. In a September 1954 speech before the Association of State Civil Defense Directors, Peterson acknowledged that "military security and both national and international policy" sometimes precluded the full disclosure of all the effects of nuclear radiation.²⁶ However, using public statements of AEC officials for support, he did affirm that radiation constituted a serious hazard that could affect large areas outside the zones of immediate damage.²⁷ Civil defense officials may also have been alerted by a November Advisory Bulletin that pointed out the probability that "serious contamination by the fallout of radioactive material . . . will be much greater than in the case of the earlier bombs."²⁸ The FCDA had also prepared an Advisory Bulletin for release concurrently with the AEC

²⁵Ibid., p. 124. There have been many reasons suggested for the year-long delay in making this crucial information available to the public. Dr. Libby, in testimony before the Senate Armed Services Committee, said that the delay was in part due to the desire of the AEC to make sure that the information was accurate. SCAS, Hearings, Civil Defense Program, p. 49. Ralph Lapp, on the other hand, suggested that there was fear within the AEC that the facts would arouse severe criticism of the nuclear test program by the scientific community. Ralph Lapp, The New Priesthood (New York: Harper and Row, 1965), pp. 124-125. Columnist Anthony Leviero reported that one reason for the delay was the Administration's concern that the fallout phenomenon would panic the country's allies, especially in Europe, where nuclear weapons were regarded as the major counterbalance to the Red Army. New York Times, February 22, 1955, p. 8:5. Finally, it may be suggested that AEC officials were simply fearful that information about the Bravo explosion would be beneficial to the Soviet Union, notwithstanding the fact that the latter had already demonstrated a hydrogen-bomb capability.

²⁶SCAS, Hearings, Civil Defense Program, p. 74.

²⁷Ibid., pp. 75-76.

²⁸U. S. Federal Civil Defense Administration, Advisory Bulletin No. 178, November 8, 1954. Battle Creek, Michigan (Washington: Government Printing Office, 1954) p. 1.

announcement which spelled out in some detail the civil defense implications of the new development.²⁹ These and other clues provided by the FCDA indicate that serious thought was being given to the problem and that efforts were being made, within the limits of security, to inform civil defense officials throughout the country of the difficulties with which they might have to cope.

The year following the Bravo test was therefore one of considerable difficulty for the FCDA. It is unquestionable that the fallout phenomenon constituted a significant new variable with which the agency had to deal. Yet in an area of activity in which success depended upon free and open communications with officials at the state and local level, the FCDA was unable even to discuss the problem. On the other hand, the reasons for the adoption of the evacuation policy, such as the unprecedented degree of destruction in the target area, still existed in 1954-55. Indeed, they may have been reinforced by administrative momentum. Affirmation of the evacuation policy is understandable under the circumstances. Yet the evidence strongly suggests that civil defense officials were hard at work trying to adapt the policy to the new conditions, as well as to devise alternative and/or supplementary schemes.

²⁹U. S. Federal Civil Defense Administration, Advisory Bulletin No. 179, February 15, 1955. Battle Creek, Michigan (Washington: Government Printing Office, 1955). This item is presented twice in the Armed Services Committee hearings. It is interesting to note that the date on one reprint is February 15, while the date on the other is February 9. SCAS, Hearings, Civil Defense Program, pp. 68, 779. According to Anthony Leviero, the FCDA had intended to release information on the fallout threat before the AEC did so, but that someone "very high up" had stopped it. New York Times, February 22, 1955, p. 8:5. The early date on one of the reprints would tend to confirm Leviero's report.

The Kefauver Hearings

With the removal of the major restrictions upon discussion of the fallout effect, the way was cleared for an open discussion of civil defense plans and programs designed to cope with the new threat. Such an occasion was presented when, on February 22, 1955, the Civil Defense Subcommittee of the Senate Committee on Armed Services opened hearings on the civil defense implications of fallout. The subcommittee, under the chairmanship of Senator Estes Kefauver, held hearings intermittently until June of that year.³⁰ In this first major examination of the civil defense program since the passage of the Civil Defense Act of 1950, the subcommittee ranged rather broadly over a number of subjects, such as the nature of radioactive fallout, the delegation of civil defense functions to various executive agencies, and the relationship of the FCDA to state and local governments. The subcommittee also considered the question of the adequacy of the evacuation approach vis-a-vis shelters and it is upon this issue that the present analysis will focus.

The first witnesses to appear before the subcommittee were scientists from the AEC who briefed the members on the various effects of nuclear weapons, including fallout. Little was said by these spokesmen that had not been said before, especially in the February 15 announcement. However, their testimony merits some scrutiny in view of the fact that civil defense officials relied heavily upon it in explaining and justifying their own programs.

³⁰The other members of the subcommittee were Senators Stuart Symington, Henry Jackson, Leverett Saltonstall and Margaret Chase Smith.

It is very likely that the political position in which the AEC found itself in early 1955 influenced the agency's presentation to the subcommittee. It may be noted that the AEC was charged, among other things, with the responsibility for the development of nuclear weapons. The Eisenhower "New Look" policy, with its emphasis upon nuclear weaponry, underscored this responsibility. At the time of the hearings the leadership of the AEC was apparently convinced that an active testing program was essential to the achievement of its mission.³¹ On the other hand, widespread fear or panic over the fallout issue could conceivably generate pressure to limit the testing program.³² The problem facing the AEC was therefore one of informing the public of a very serious menace but at the same time doing so in such a manner as to cause as little alarm as possible. Accordingly, the AEC spokesmen first went to great lengths to describe the elaborate precautions attending the nuclear test program.³³ The AEC witnesses then presented a succinct picture and analysis of what was claimed to be known at the time about the biological effects of radiation. However, it may be said that the AEC framed the information in the most favorable light.

³¹Louis L. Strauss, Men and Decisions (Garden City, N.Y.: Doubleday and Co., Inc., 1962), pp. 407-408.

³²It was well known at the time that a number of scientists were opposed to the development of larger nuclear weapons and felt that greater security could be obtained through some kind of arms control agreement with the Soviet Union. The split in the scientific community had been apparent at least since the Oppenheimer case. It is reasonable to assume that AEC officials were worried that opponents of the arms development program would use the fallout data for their own political purposes. Certainly, this is the impression gained from the Strauss memoirs, Strauss, op. cit., pp. 412-416.

³³SCAS, Hearings, Civil Defense Program, pp. 4-7; 244-261.

The data on the biological effects of radiation were presented by Dr. John C. Bugher, Director of Biology and Medicine at the AEC. Relying generally on the figures that had been supplied in the February 15 announcement, Dr. Bugher observed that two types of gamma radiation were of immediate concern. The first type was the immediate, highly energetic radiation produced directly by the bomb. The second type was the gamma radiation produced by fallout on the ground. In the case of the former, a dosage of approximately 400 roentgens would produce death in about half of those people whose entire bodies had been exposed. With respect to gamma radiation from fallout, the dosage would have to be increased to 450 or 500 roentgens in order to produce a similar order of casualties.³⁴ According to Dr. Bugher, the Marshall Islanders on Rongalap Atoll, about 100 miles from the Bravo explosion, had been exposed to 175 roentgens of fallout radiation before being evacuated. The atoll itself received a total of 2300 roentgens during the first thirty-six hours subsequent to the explosion and the AEC therefore had concluded that the islanders would have received a lethal dose had they not been removed from the vicinity.³⁵

In terms of the biological effects of the radiation, Dr. Bugher distinguished between somatic effects, or those pertaining to the individual himself, and the genetic effects, or those pertaining to the individual's progeny. Prominently mentioned among the somatic effects, depending of course upon the dosage involved, were burns on the skin, depression of white blood cells, decreases in platelets with result-

³⁴Ibid., p. 9. The roentgen is the unit used to measure the absorption of penetrating radiation, mainly X-rays and gamma rays. According to Dr. Bugher, one roentgen would be from "2 to 5 times larger than the exposure given in a single X-ray."

³⁵Ibid., pp. 11-12.

ing hemorrhaging, possible leukemia, and a "general acceleration of the aging process."³⁶ Bugher clearly acknowledged the strong possibility that gamma radiations could effect mutations. But he insisted that far too little was known about this subject to warrant some of the fearful prognostications that had been made on the subject:

The genetic problem, which is one of the fundamental aspects of the adjustment of man to the world of the future, is sometimes thrown into confusion by reckless and uncritical pronouncements based upon assumptions which are far beyond our knowledge.

We have dire predictions of many monsters and even the obliteration of mankind itself from radiation exposures, which are only a small fraction of that from cosmic radiation, from the radium and the radon of the soil and air, and from the naturally radioactive potassium and carbon of which we are all partially composed. It is most essential that we keep our perspective in such matters and base our generalizations upon substantial evidence.³⁷

Whatever the somatic and genetic effects of gamma radiation--and the AEC did not discount their potential severity--the spokesmen strongly emphasized two mitigating factors. First, they noted that the gamma radiations released instantaneously by the explosion of a weapon were of no serious concern beyond the zone of blast and heat damage.³⁸ Second, as has already been mentioned, AEC officials had consistently stressed the rapid decay of fallout radiation. In the hearings Dr. Willard Libby reiterated the fact that the intensity of the radiation "goes down tenfold every time the age increases seven-

³⁶Ibid., pp. 8-10, 12.

³⁷Ibid., p. 14.

³⁸Ibid., pp. 235, 313-314. The reason why instantaneous gamma radiation is considered relatively harmless beyond the zone of blast and thermal damage is because the gamma rays are rather quickly absorbed by the atoms in the air. According to Ralph Lapp, the radius of immediate radiation for a 100-megaton bomb would be approximately 3 miles. Ralph Lapp, Kill and Overkill: The Strategy of Annihilation (New York: Basic Books Inc., 1962), p. 53.

fold approximately."³⁹ In other words, a fallout that may have occurred one hour after the explosion would be only one-tenth as strong after one hour and one-hundredth as strong after two days.⁴⁰ The implication of these facts was that while gamma radiation was indeed a serious hazard, it was relatively short lived and, as far as instantaneous radiation was concerned, was geographically limited.

Having described the major effects of nuclear weapons, the AEC officials then turned their attention to the questions of possible civil defense countermeasures. According to Commissioner Libby, the most effective protection against radiation was shelter. While he was not specific as to what kind of shelter would be most appropriate, he repeated his earlier point that two or three feet was all that was needed and he added that "ordinary structures should prove to be quite effective" against radiation.⁴¹ As to the relative merits of evacuation, Libby admitted that he really didn't have a firm opinion but that he thought that evacuation would be more appropriate as a protective measure against heat and blast than against radiation.⁴²

When pressed on the issue of whether he would advocate a construction program of fallout shelters, Libby answered that he had been thinking more in terms of do-it-yourself projects. "The kind of thing I had in mind . . . was the use of native human ingenuity and facilities at hand, using shovels and brooms and firehoses and going into cellars."⁴³ But, hedging again, he said that this should not be

³⁹SCAS, Hearings, Civil Defense Program, p. 47.

⁴⁰Ibid.

⁴¹Ibid.

⁴²Ibid., pp. 47-49, 56, 57.

⁴³Ibid., p. 55.

construed to mean that he believed that community shelters would be bad. In fact, he said, in order to "attain a hundredfold reduction of casualties," some sort of community planning, including shelters, would most likely be required.^{43a}

It may be said, in summary, that the AEC spokesmen generally succeeded in accomplishing their dual objective. On the one hand, they did provide an official warning to the population that gamma radiation from fallout did constitute a serious biological hazard. On the other hand, they presented their data in a low-keyed manner, stressing the short duration and geographic limitations of gamma radiation. Also they argued that such hazards were not particularly difficult to cope with and, in any event, were extremely unlikely to occur as a result of the nuclear weapons test program.

The testimony of these officials can be, and has been, criticized on several grounds. First, it was suggested by some reputable scientists, such as geneticist Bentley Glass, that a good deal was known about the genetic effects of radiation and that the AEC had grossly understated the harm that could result from nuclear weapons testing.⁴⁴ Second, other scientists, such as Ralph Lapp, pointed out that by basing the fallout data on a thirty-six hour period, the AEC had given the impression that there would be little danger after that period. He said that on the basis of the AEC presentation:

^{43a}Ibid., p. 55. Perhaps as an act of good faith, Dr. Libby subsequently built a small dugout shelter in the yard of his Los Angeles home. It was later completely destroyed when a brushfire swept the area.

⁴⁴New York Times, June 10, 1955, p. 10:1.

. . . civil defense officials would seem justified in advising people to take shelter for 36 hours to avoid lethality. Yet, using . . . the AEC data, one arrives at the following roentgen doses corresponding to the 110-mile downwind location:

	<u>Roentgens</u>
From 1 day to 1 week	1,360
From 1 week to 1 month	720
From 1 month to 1 year	840

Thus there can be little doubt that an area subject to fallout from high-yield thermonuclear weapons is denied to normal occupation for many weeks and even months.⁴⁵

Finally, it is quite obvious that a nuclear test program is not the same thing as a nuclear war. The mission of the FCDA was to be prepared to deal with the consequences of an actual attack in which conditions would very likely be worse than those described by the AEC. While FCDA officials undoubtedly realize this, it is by no means certain that the public did.⁴⁶ Since a major aspect of any civil defense program consists of educating the citizenry in what to expect in an attack, the cause of civil defense might have been more effectively served had the AEC spokesmen stressed the maximum rather than the minimum effects. But, as has been suggested, for the AEC to have done this could have adversely affected its own weapons test program.

Whatever the relative merits of the AEC presentation and its relevance to the tasks of the FCDA, it is clear from the Kefauver

⁴⁵Ralph E. Lapp, "Fallout and Candor," Bulletin of the Atomic Scientists, XI (May 1955), pp. 170-171.

⁴⁶In a 1956 study of the reaction of community "thought leaders" to the FCDA educational program, it was found that the booklet on fallout was often mentioned as "among the least popular booklets due to the fact that some people apparently cannot understand the subject." Group Attitudes Corporation, Survey of Attitudes of Thought Leaders to the Public Affairs Program of the Federal Civil Defense Administration (New York: Group Attitudes Corporation, October 1956), p. 60.

hearings that civil defense officials relied heavily upon it for their own programs and plans. Undoubtedly, the major reason for this reliance upon what the AEC officials said was the fact that little or no other information was available.⁴⁷ Beyond this, however, it may be observed that Dr. Libby's emphasis on the rapid decay of fallout and the make-shift measures to counter it fit rather nicely into the FCDA program needs. It was demonstrated in the previous chapter that the FCDA had been perennially starved for funds and that one of the reasons (though by no means the only one) for the adoption of the evacuation policy was its inexpensiveness relative to shelters. While there can be little doubt that civil defense officials took the fallout problem very seriously, the AEC picture of it was one which would do the least to compromise the newly-developed basic policy of evacuation. It may therefore be suggested that the political leadership of the FCDA was most receptive to the AEC analysis because it satisfied certain practical needs of the civil defense organization.

It may be said, in general, that at the time of the Kefauver hearings the FCDA plans for dealing with the fallout menace were fluid. On the one hand, the FCDA continued to look with disapproval upon any shelter scheme designed to protect against the blast and thermal effects. According to Peterson, "those people who live and work near a probable aiming point of a thermonuclear weapon cannot hope to survive even in a shelter--if they are there when the bomb goes off."⁴⁸

⁴⁷The AEC maintained a Civil Defense Liaison Branch which channeled information to the FCDA. But the fact remains that the AEC provided only the information which it felt that the FCDA needed to have. SCAS, Hearings, Civil Defense Program, p. 15.

⁴⁸SCAS, Hearings, Civil Defense Program, p. 80.

Similarly, the FCDA continued to emphasize evacuation. In an appearance before the House Appropriations Committee, a few days before the Kefauver hearings began, Peterson had asserted that the development of "evacuation capability continues to have priority attention" in the FCDA and he took great pains to demonstrate the increasing acceptance of the idea at the state and local levels.⁴⁹ He also expressed agreement with Senator Jackson that "future planning in the field of civil defense must first be predicated on evacuation of the people from the metropolitan area, from the city."⁵⁰

While it is thus clear that the emergence of the fallout threat had not immediately forced the FCDA to abandon the evacuation approach, it is also evident that serious consideration was also being given to shelters. As early as September 1954, in his speech before the Association of State Civil Defense Directors, Administrator Peterson had described the fallout effect in very general terms and warned his audience that "we should restudy the tactics of evacuation and shelter in the light of what facts are available to us now."⁵¹ In the Appropriation Committee hearings, just referred to, he stated that "the threat of nuclear radiation . . . means we must modify our evacuation plans to provide for fallout shelter for evacuees and other techniques to evade the fallout. It means we must explore all sorts of emergency measures, such as digging ditches in our backyards, our parks, wherever

⁴⁹U. S. Congress, House, Committee on Appropriations, Independent Offices Appropriation for 1956, Hearings, 84th Cong., 1st Sess., 1955, pp. 275, 377. Hereafter cited as HCA, Hearings; Independent Offices Appropriation for 1956.

⁵⁰SCAS, Hearings, Civil Defense Program, p. 62.

⁵¹Ibid., p. 76.

we can. These things we are studying."⁵²

At the time of the Kefauver hearings the FCDA appeared to be moving toward an "evacuation to shelter" approach to civil defense. That is, people would presumably be evacuated out of the target areas to escape the blast and thermal effects and then would be provided some kind of shelter against fallout. The question of just what kind of shelter would be provided is not very clear, but it seems as though the FCDA was thinking of fairly simple and even crude arrangements. Relying very heavily upon Dr. Libby's testimony, Peterson noted that a good deal of protection could be obtained from existing "shelters" such as "barns, houses, churches, schools, public buildings, culverts, bridges, anything a person can get under that would permit him the maximum amount of shelter from the effects of radioactivity."⁵³ He also offered the suggestion, as Libby had done, that people simply learn to dig a hole in the ground and "curl into it and that would give maximum protection."⁵⁴ Finally, Peterson mentioned that the FCDA was currently undertaking surveys throughout the country to determine what shelters might be available near the designated evacuation routes and in the reception areas.⁵⁵

⁵²HCA, Hearings, Independent Offices Appropriations for 1956, p. 375.

⁵³SCAS, Hearings, Civil Defense Program, p. 117.

⁵⁴Ibid., p. 118.

⁵⁵Ibid., p. 117. How extensive the surveys being undertaken by the FCDA were is unclear since the agency did not request funds for this purpose until May 1955, several months after Peterson made the above statement. See U. S., Congress, Senate, Committee on Appropriations, Hearings, Independent Offices Appropriation Bill for 1956, 84th Cong., 1st Sess., 1956, p. 384.

The FCDA was also considering the problem of what to do with the evacuees who could not be sheltered in existing shelter space or who might be caught by fallout while on the road. Peterson suggested the possibility of digging ditches along the side of the highway for protecting such people. Costing approximately \$.25 per running foot, the ditches would evidently be covered with boards and earth. It had even been suggested that people in the ditches could use tar paper for cover. "A person standing in one of these trenches could flap that thing [the tar paper] every 20 to 30 minutes and shake that stuff [the fallout] on the ground, and that would offer a considerable amount of protection."⁵⁶ When several members of the subcommittee expressed incredulity at this idea, Peterson responded that "we are talking about survival, and I am first of all trying to find the simplest way of doing it."⁵⁷ Reflecting the AEC testimony, he suggested that people would not have to remain in the ditches for very long because of the rapid decay of the fallout. "It might be," he said, "a matter of hours, days and probably not over 4 or 5 days --but a matter of hours."⁵⁸ He admitted that for this kind of approach to have any chance of success there would have to be a strategic warning of "several days" during which the ditches would be prepared.⁵⁹

A more sophisticated approach that was also apparently being considered by the FCDA was the laying of concrete pipe, four feet in diameter and covered with three feet of earth, along the side of the

⁵⁶SCAS, Hearings, Civil Defense Program, p. 118.

⁵⁷Ibid., p. 119.

⁵⁸Ibid.

⁵⁹Ibid., p. 120.

evacuation routes. To provide this kind of shelter would cost about \$40 per person for 25 million people or a total of \$1 billion.⁶⁰

Still another possibility mentioned by Peterson would be the construction of fallout shelter buildings along the roads. They would be composed of "light concrete, reinforced with steel and covered with three feet of dirt." Such a system, he said, would cost "several billion dollars."⁶¹

It should perhaps be emphasized that none of these ideas was actually being proposed by the FCDA and the hearings reveal that almost nothing was being done to provide shelter for the evacuees. The ideas are mentioned merely to illustrate the fact that the FCDA was thinking about shelter for the first time since the evacuation policy was promulgated. Peterson's approach to the issue was cautious and, by and large, rooted in the political and economic realities of the situation. Any kind of shelter program, he believed, would have to be designed to serve only the minimum needs of stark survival. While some of the shelters that were mentioned by Peterson were crude in the extreme, experience had suggested that to recommend more would be futile.

The members of the subcommittee had very little to say about shelters but did express general agreement with the FCDA that evacuation should receive top priority in civil defense planning.⁶² Under-

⁶⁰Ibid., p. 121.

⁶¹Ibid.

⁶²It is interesting to note, however, that despite the FCDA emphasis upon evacuation, Senator Saltonstall did not recall the subject ever having been discussed before the Senate Appropriations Committee, of which he was a member. Peterson assured the Senator that it had indeed been discussed for "maybe 30 minutes or an hour." He tactfully suggested that the Senator might have overlooked the program because things were "piled up" at the time. SCAS, Hearings, Civil Defense Program, p. 142.

standably, therefore, the subcommittee expressed keen interest in how well the evacuation policy was proceeding. Specifically, it had been determined that the success of the evacuation policy depended upon the availability of adequate egress roads from the cities. At the time of the Kefauver hearings the Congress was considering the Eisenhower Administration's massive federal highway program and members of the subcommittee were interested in learning how the civil defense needs of the nation were being correlated with that program.⁶³ Peterson replied that the FCDA had made no requests for funds with which to modify or structurally improve egress roads and that, in any event, the Bureau of Public Roads would be responsible for this area of activity under an FCDA delegation of September 2, 1954.⁶⁴ According to Peterson, this delegation of responsibility called for the Bureau to provide for "an adequate highway system to carry on all civil defense activities, including . . . evacuation."⁶⁵ However,

⁶³According to the Clay Report, which had included the key recommendations made to the Administration on the contemplated highway program, civil defense needs were of vital concern. The report said: "From the standpoint of civil defense, the capacity of the interstate highway to transport urban populations in an emergency is of utmost importance. Large-scale evacuation of cities would be needed in the event of an A-bomb or H-bomb attack. The Federal Civil Defense Administrator has said the withdrawal task is the biggest problem ever faced in the world. It has been determined as a matter of Federal policy that at least 70 million people would have to be evacuated from target areas in the case of threatened or actual enemy attack. No urban area in the country today has facilities equal to this task. The rapid improvement of the complete 40,000 mile interstate system, including the necessary urban connections thereto, is therefore vital as a civil defense measure." Italics added. *Ibid.*, p. 86.

⁶⁴*Ibid.*, p. 129.

⁶⁵*Ibid.*, p. 130. It may appear that the FCDA had delegated the lion's share of the civil defense function. However, the power to so act is provided for in section 405 of the Federal Civil Defense Act of 1950. The theory behind this provision was to prevent the duplication of facilities and to make maximum use of existing federal facilities.

when officials from the Bureau of Public Roads were called before the subcommittee, it was obvious that they were unenthusiastic about carrying out their responsibilities with respect to civil defense and had, in fact, done very little in this regard. According to Francis V. DuPont, formerly a Commissioner of Public Roads and at the time a special consultant to the Secretary of Commerce, "there are no special highways being constructed for civil defense other than by coincidence; in other words, the highways . . . would serve as evacuation facilities; but there are no highways to my knowledge that have been built purely because of civil defense aspects."⁶⁶ Furthermore, DuPont raised questions as to whether highway funds should be diverted to civil defense purposes.⁶⁷ It is also perhaps evident that the FCDA and the Bureau of Public Roads were not thinking of the same thing when it came to highways. The latter conceived of the highway program as serving a connecting link among the cities of the nation as well as a means of transportation within large metropolitan areas. On the other hand, the FCDA would like to have seen roads extending "30 or 40 miles" out into the countryside, preferably away from other heavily populated areas.⁶⁸ It need not be pointed out which of these two views would gain the greatest support within the administration as well as the Congress.

It is therefore of no surprise that while the subcommittee supported the idea of evacuation, it concluded that the FCDA plans were inadequate in this respect. In its report, it observed that the "program of evacuation, which is very limited, was planned prior to

⁶⁶Ibid., p. 204.

⁶⁷Ibid., p. 211.

⁶⁸Ibid., p. 199.

the knowledge of acute dangers from radioactive fallout," and the subcommittee was "alarmed in [sic] receiving testimony that America's cities lack adequate plans for evacuating citizens in the event of attack."⁶⁹ Similar criticisms of the lack of evacuation planning were voiced by several state and local officials.⁷⁰

It had also become apparent during the course of the hearings that the evacuation procedure, in addition to being an enormous organizational task, was likely to be quite expensive. That is, if the policy were to have a reasonable chance of success, a good deal would have to be done in eliminating bottlenecks, widening roads and so forth. For example, St. Louis officials estimated that it would cost \$150 million to improve roads to the degree that evacuation could be carried out in the space of four hours.⁷¹ Governor Herter of Massachusetts suggested that it would cost \$650 million to prepare the roads of his state to support an evacuation procedure.⁷²

⁶⁹U. S. Congress, Senate, Committee on Armed Services, Interim Report on Civil Defense by the Subcommittee on Civil Defense, 84th Cong., 1st Sess., p. 6. No final report was issued by the subcommittee.

⁷⁰Some of the officials who so complained were Governor Christian Herter of Massachusetts, Governor G. Mennen Williams of Michigan, Mayor Joseph Clark of Philadelphia and Congressman Chet Holifield of California. SCAS, Hearings, Civil Defense Program, pp. 441, 501, 308, 658.

⁷¹Ibid., p. 349.

⁷²Ibid., p. 441. It may be noted that after a lengthy study of the civil defense costs of evacuation, the Bureau of Public Roads concluded that to evacuate the population of 150 target areas a distance of 25 miles in a period of 2 hours would cost approximately \$20 billion in highway improvements alone. This would not include additional costs of supplies and shelter for the evacuees. U. S. Congress, House, Committee on Government Operations, Subcommittee on Military Operations, Hearings, New Civil Defense Legislation, 85th Cong., 1st Sess., 1957, p. 124.

Thus, while the hearings did not reveal any overt opposition to evacuation, there is every reason to conclude that the credibility of the idea had been eroded. First, the rough estimates of the high costs associated with a potentially effective evacuation program tended to negate one of the major appeals of the idea: economy. Second, while no one had ever underestimated the magnitude of the tasks of evacuating large cities, the apparent lack of progress in this direction was dismaying to some people, and certainly to the members of the subcommittee. Finally, the fallout phenomenon convinced many people that, in Governor Herter's words, "it is impossible for us to . . . order any safe evacuation."⁷³

During the remainder of 1955 the FCDA continued to grapple with the enormous and perplexing problem of how best to cope with the varied effects of nuclear weapons. In historical retrospect, it appears as though the agency was attempting to pursue what Lindblom has called the "synoptic" approach to the problem.⁷⁴ That is, civil defense officials were attempting to define the scope of the problem and were in the process of evaluating the feasibility of potential solutions to the problem.

First, the FCDA had begun to examine the question of what kind of structure would best protect human beings from gamma radiation. While some general statements had been made with respect to "ordinary houses" and "three feet of earth," it was clearly necessary that civil

⁷³Ibid., p. 430.

⁷⁴Charles E. Lindblom, The Intelligence of Democracy: Decision Making through Mutual Adjustment (New York: The Free Press, 1965), pp. 137-138.

defense officials have more precise data before preceeding with a program to defend against radiation. The specific nature of the research activities carried on by the FCDA in collaboration with other organizations such as the National Bureau of Standards and the Atomic Energy Commission will be examined in the following chapter.⁷⁸ The point that needs to be made at this stage of the analysis is that civil defense officials were attempting to systematically determine the extent of the radiation problem and to do some preliminary testing of possible solutions.

While research activities relating to shelter were being carried on by the FCDA, work continued on the evacuation approach. The specific issue in 1955 was to determine how well evacuation might work and what particular "mix" of evacuation and shelter might be required in a given situation. Thus, for example, the FCDA conducted Operation Alert in June 1955. This was a simulated nuclear air attack upon the United States which involved the participation of 58 cities. While the estimated casualties were very great in number, the FCDA concluded that a large number of people could have been saved by evacuation.⁷⁹ Perhaps more important in this area of activity was the beginning, in 1955, of a series of "survival plan studies." Financed by an \$8,300,000 supplemental appropriation, the purpose of these studies was to provide specific civil defense plans for specific communities. These "custom-made" plans would, according to Administrator Peterson, provide for the "optimum combination of evacuation

⁷⁸See pp. 216-225 of this study.

⁷⁹Federal Civil Defense Administration, Annual Report for 1955, op. cit., pp. 34-35.

and shelter."⁸⁰

Finally, efforts were made during 1955 to bring about better coordination of civil defense activities within the executive branch. In April of that year an organization known as the Defense Coordinating Board was established with the Civil Defense Administrator as its head. The Board was made up of representatives from the various executive agencies and its purpose was to see to it that relevant information was made available to the FCDA and to oversee the delegation program of the FCDA.⁸¹

Taking these and other activities together it is reasonable to conclude that the FCDA was approaching its problem in a logical and well-considered manner. While the FCDA may be and subsequently was, severely criticized for not taking a more vigorous lead in the promotion of civil defense activity, several points should be kept in mind. The record reveals that the Eisenhower Administration was not prepared to support a significant step-up of civil defense activities.⁸² Congress, especially the Appropriations Committee of the House, continued to exhibit characteristic contempt for all civil defense activity. In June 1955 Representative Albert Thomas simply asserted that in the event of an attack it would be a case of "every man for himself" and that all the plans that could be made

⁸⁰U. S. Congress, House, Government Operations Committee, Subcommittee on Military Operations, Hearings, Civil Defense for National Survival, 84th Cong., 2d Sess., 1956, p. 1166. Hereafter cited as HCGO, Hearings, Civil Defense for National Survival.

⁸¹New York Times, April 1, 1955, p. 1:3.

⁸²U. S. Congress, Joint Committee on Atomic Energy, AEC-FCDA Security Relationship, Hearings, 84th Cong., 1st Sess., 1955, p. 53. Hereafter cited as JCAE, Hearings, AEC-FCDA Security Relationship.

"from now to kingdom come will be thrown out of the window under those circumstances."⁸³ While there is no specific information on public attitudes toward civil defense preparations during this period, the Operation Alert indicated that large numbers of people did not really take the exercise seriously.⁸⁴ It may thus be observed that if ever the time was propitious for a "deliberative" approach to a major public problem, it was then.

Paradoxically however, despite the crippling lack of support for the FCDA, criticisms of its efforts were widespread in 1955. Particularly singled out for attack was the policy of evacuation. The two major questions that were repeatedly raised with respect to this policy was the amount of time available in the event of an attack, and the question of whether an orderly movement of people out of the cities was possible. For example, after Administrator Peterson had made a long statement in justification of the evacuation approach before the House Appropriations Committee, the first question asked by Representative Thomas was: "The best information now available is that you have from 30 minutes to 2 hours warning, and how are you going to evacuate a city like Washington under a period a week?"⁸⁵ Representative Olin Teague, Chairman of the Subcommittee on Civil

⁸³U. S. Congress, House, Committee on Appropriations, Supplemental Appropriation Bill for 1956, Hearings, 84th Cong., 1st Sess., 1955, p. 773, 774. Hereafter cited as HCA, Hearings, Supplemental Appropriations for 1956. An interesting perception of the civil defense problem was expressed by Congressman McPhillips of California who said that "I confess to a feeling that we are not going to be subjected to large bombs." Accordingly, he wondered "what has happened to blackouts?" as a civil defense tactic. Ibid., p. 794.

⁸⁴New York Times, June 16, 1955, p. 1:5.

⁸⁵HCA, Hearings, Supplemental Appropriations for 1956, p. 771.

Defense of the House Committee on the District of Columbia, contended that in May 1955 the top military leaders of the country and most of the civil defense directors "completely disagree" with the theory of evacuation and that he would therefore not support any bill to increase the size of the civil defense organization in the District.⁸⁶ Perhaps the views of the critics of evacuation were summed up by Paul Jones, an editorial writer for the Philadelphia Enquirer who said:

If you wished to outline a method of inducing the complete collapse of industrial defense in this country, how could you do better than to arrange for thirty million panic-stricken refugees to rush away from key centers of production, supply and transportation? The chief air-raid defenses we have set up consist of ground-to-air missile or Nike sites, arranged in rings around important cities. How would they be supplied, repaired and reinforced, if the roads were blocked? How would Army, Navy and Air Force personnel get back to their bases, under the same conditions, in case of Red Alert?

Philadelphia, for example, has two million inhabitants. Officials talk glibly of evacuating the city on anything from one to six hours warning. No staff officer in his right mind would undertake to move two million disciplined soldiers any considerable distance in under three days. How will things go in the case of a heterogeneous crowd in haphazard vehicles, bearing the lame, the halt, the sick, infants and children and aged pensioners, in addition to all the able-bodied: What happens when cars break down or run out of gas? Isn't mass evacuation an infallible prescription for a colossal catastrophe, three or four times bigger than that [which occurred in June 1940] in France?⁸⁷

During the period under discussion, ridicule was also heaped upon the FCDA for its staging of Operation Alert. It was charged that the FCDA operated on the unrealistic assumption that the total number of bombs dropped in the simulated attack produced effects that were less potent in their combined effect than the single weapon

⁸⁶ Washington Evening Star, May 19, 1955, p. 1.

⁸⁷ Paul Jones, "The Fashion for Fear," Freeman V (August, 1955), pp. 597-598.

exploded in the Marshall Islands in 1954. The critics also charged that the FCDA had largely ignored the fallout effect. It was also pointed out that the public was given little intimation that the evacuation of key personnel and facilities was based upon a theoretical 30-day strategic alert. In other words, the agencies participating in the alert had a month to prepare for evacuation.⁸⁸ The heart of the issue was struck by Ralph Lapp who, appearing on the "Face the Nation" program on June 19, 1955, said that civil defense planning was seriously outdated because it failed to consider fallout.⁸⁹ This view was supported by Cecil Holland, a reporter on the scene of various reception areas outside Washington, who observed that "no one could say what relocation centers, some designated as permanent installations, had adequate shelters against fallout."⁹⁰

Such criticisms as these, which were widely reflected throughout the country, could do little but further erode the waning credibility of the FCDA and its evacuation plans. Ironically, however, the most serious challenge to the activities of the organization came not from an opponent of civil defense, but from one of its warmest and most consistent supporters: Representative Chet Holifield of California. As a ranking member of the Joint Committee on Atomic Energy, Holifield had long been sensitive to the perils of nuclear war and had continuously advocated a strong civil defense program. However, he had come to the conclusion that the programs of the FCDA,

⁸⁸Washington Post and Times Herald, June 26, 1955, p. A-1.

⁸⁹Washington Post and Times Herald, June 20, 1955, p. A-1.

⁹⁰Washington Evening Star, June 19, 1955, p. 1.

as constituted, were offering "virtually no protection" to the people of the country.⁹¹ Holifield was firmly committed to the belief that the American people and Congress would support a civil defense program if they were alerted to the horrors of nuclear war, were told that reasonable measures were available which could reduce the loss of life in the event of such a catastrophe, and were given vigorous leadership by the executive branch of government.⁹² He believed that the past failures to institute a meaningful civil defense program were due to the fact that these things had not been done. People had been kept uninformed about civil defense problems, such as fallout. The FCDA, he suspected, was trying to "hoodwink the American people" by creating a facade of a civil defense program.⁹³ And he was convinced that the President was shirking his responsibility by not speaking out and lending his prestige to the civil defense effort.⁹⁴ So convinced was he that the people would support a major civil defense program that on one occasion he exhorted the FCDA to:

. . . come forward regardless of budget and financial requests, and say what is needed for one of these target areas, so that we can at least shift the responsibility onto the people and let them know what is necessary, and then if they don't do it, you and I have discharged our responsibility.⁹⁵

The occasion for a major educational effort on behalf of the civil defense program was provided when, in late 1955, resolutions were submitted to Congress that the FCDA "be reorganized into an

⁹¹SCAS, Hearings, Civil Defense Program, p. 669.

⁹²Ibid., p. 670.

⁹³JCAE, Hearings, AEC-FCDA Security Relationship, p. 53.

⁹⁴Ibid., p. 52

⁹⁵Ibid., p. 53.

executive department either of cabinet rank or within the Department of Defense."⁹⁶ The resolutions were referred to the Military Operations Subcommittee of the House Committee on Government Operations, of which Holifield was chairman.⁹⁷

The subcommittee began hearings on January 31, 1956 and they lasted until well into June of that year. Altogether, the subcommittee heard 211 witnesses and compiled a record of 3145 pages. While the immediate purpose of the hearings was to canvass opinion on the resolutions, the real purpose was much more comprehensive. It was an attempt to discover what was being done about civil defense by the national, state and local government, to determine what, if anything, could be done about civil defense and, by implication, to pressure the civil defense organizations into pursuing a more vigorous and relevant policy. The hearings were by far the most ambitious examination of civil defense that had heretofore been undertaken.⁹⁸

⁹⁶U. S., Congress, House, Committee on Government Operations, Subcommittee on Military Operations Subcommittee, Civil Defense for National Survival: Twenty-Fourth Intermediate Report, Report No. 2946, 84th Cong., 2d Sess., 1956, p. 6. Hereafter cited as HCGO, Report on Civil Defense for National Survival, 1956.

⁹⁷Other members of the subcommittee were Edward A. Garmatz (D-Md.), Joe M. Kilgore (D-Tex.), Dante B. Fascell (D-Fla.), Martha W. Griffiths (D-Mich.), Clare Hoffman (R-Mich.), R. Walter Riehlman (R-N.Y.), Glenard Lipscomb (R-Cal.).

⁹⁸In the course of conversations with a few officials in the Office of Civil Defense, the opinion was expressed that Holifield was politically motivated to embarrass the Republican president by exposing a lack of civil defense preparation in the country. The writer has been unable to accept this view for two reasons. First, Holifield's pressures have been exerted on Democratic as well as Republican presidents. Second, civil defense is not the kind of issue that could cause political harm to anyone, plagued as it has always been by apathy and skepticism.

The Holifield Hearings: 1956

The hearings of the Military Operations Subcommittee were extremely broad, as just suggested, and covered virtually every aspect of civil defense in the United States. The basic orientation of the subcommittee, and its staff, was that civil defense was vital to the nation but that FCDA plans, procedures, and programs were not meeting the perceived need.⁹⁹

Accordingly, questions were raised on such matters as the FCDA decision making process, the competence of FCDA officials, the delegation of civil defense responsibilities to various executive agencies and the contracting practices of the civil defense organization. All of these inquiries were designed to determine whether the functions of civil defense could be carried out under the existing organizational and conceptual arrangement. However, since the purpose of the present analysis is to describe and explain the evolution of shelter policy in the United States, it is unnecessary to discuss all aspects of these hearings. The focus will therefore be upon the question of how the subcommittee contributed to the development of the shelter program.

The FCDA had been suggesting for several months prior to the opening of the hearings that the survival of the population would "depend upon the balanced application of evacuation and shelter." According to Administrator Peterson,

⁹⁹It should be noted that the orientation of the committee was thus one of determining how best, rather than whether, to pursue the civil defense effort. Out of the 211 witnesses who appeared before the subcommittee only one, Mayor Orville Hubbard of Dearborn, Michigan, expressed opposition to the basic idea of civil defense.

Space and shielding are our only weapons in civil defense. The destructive threat of recently developed thermonuclear weapons is so great that it is unthinkable for people to remain near the heart of a probable thermonuclear target if there are any possible alternatives.

So the commonsense answer appears to be evacuation, in combination with the utilization of predetermined shelter. Evacuation--to escape blast, heat, and initial radiation. Shelter--of substantial strength outside the areas of heaviest damage for those who must remain, and lighter shelter beyond the probable target area to escape the radioactive fallout, the lethal secondary effect of a thermonuclear ground explosion.¹⁰⁰

While the subcommittee may have agreed in principle with the idea of a "balanced" policy, it was contended that such a policy was not, in fact, being pursued by the FCDA. The subcommittee sought, therefore, first to demonstrate that evacuation remained at the heart of civil defense planning, notwithstanding its dubious validity. Second, the group sought to show that shelters, which it believed to have been largely ignored by the FCDA, were both necessary and feasible.

During the course of the hearings, Chairman Holifield kept up a drumfire of criticism of the evacuation idea. His antipathy to this tactic may have been at least partially a result of the problems of his own district, Los Angeles. He noted on several occasions, for example, that it had taken him three or four hours to travel the ten miles distance from the Rose Bowl to his home on New Year's Day and he "shudder[ed] to think of filling the two highways that run north and south and out into the desert through a pass in the mountains with 5-1/2 million people trying to get out."¹⁰¹ He was also concerned about the manifest lack of egress roads in the area as well as the difficulties of trying

¹⁰⁰ HCGO, Hearings, Civil Defense for National Survival, pp. 1185-1186.

¹⁰¹ Ibid., p. 164.

to care for vast numbers of people in the middle of the Mojave Desert.¹⁰²

However, beyond the misgivings occasioned by the peculiar and sometimes unique problems of Los Angeles, there were a number of additional reasons why evacuation was suspect in the minds of Holifield and other members of the subcommittee. First, despite the promises of the FCDA that warning time would be significantly increased when the Distant Early Warning system became operational, Holifield remained extremely skeptical and, in any event was seriously concerned about the fact that the prospective ICBM would generally render the warning system obsolete.¹⁰³ Second, he was also concerned that the evacuation routes from the cities, especially in the heavily populated areas of the northeastern United States, would run into each other and cause unbelievable confusion.¹⁰⁴ He was also bothered by the fact that egress roads would have to be marked well in advance despite the fact that fallout would preclude the use of some of them. Such a situation, he believed, would aggravate the confusion.¹⁰⁵ Third, he noted that there was a very real possibility of saturation bombing, resulting in overlapping fallout patterns. To attempt to effect evacuation under such circumstances would be extremely dangerous.¹⁰⁶ Fourth, he argued that prepared reception areas for the evacuees were

¹⁰²Ibid., pp. 124, 1347. Holifield was supported in his concern for the problems of Los Angeles by official studies carried on by Los Angeles civil defense officials. Ibid., p. 2281.

¹⁰³Ibid., p. 1340. In fairness to the FCDA, it should be noted that Peterson consistently stated that the ICBM would end the possibility of tactical evacuation. The only qualification was his estimate that the ICBM was still a long way from complete development.

¹⁰⁴Ibid., p. 647.

¹⁰⁵Ibid., pp. 650, 1340.

¹⁰⁶Ibid., pp. 610, 621.

virtually non-existent and that evacuation would therefore mean sending them out of the cities to die.¹⁰⁷ Fifth, he argued that all the available evidence suggested that people simply did not believe in evacuation and that such a tactic was therefore doomed even before it had been tested.¹⁰⁸ Finally, he attacked the target-area approach to civil defense planning. He argued that it was impossible to try to pinpoint the point of burst and that it was consequently impossible to tell in advance whom to evacuate to what place.¹⁰⁹ The vehemence and repetition with which Holifield voiced these and other complaints suggest that while he might have given lip service to the "balance" principle, he had very little faith in the evacuation side of the equation. For this reason there was very little questioning by members of the committee of how evacuation planning was proceeding. This was in marked contrast to the Senate Armed Services Committee inquiry a year earlier.

While Chairman Holifield took every occasion to attack the evacuation principle, and elicited criticisms of it whenever possible, it is interesting to note that the great majority of witnesses generally supported the idea. That is, they may have agreed that shelters would indeed be desirable and necessary and they may have had some quarrels with the specific ways in which evacuation was being planned by the FCDA. But they ascribed to the view that the tactic had significant life-saving capabilities--when used in conjunction with shelters.¹¹⁰

¹⁰⁷Ibid., p. 1838.

¹⁰⁸Ibid., pp. 1216, 1347.

¹⁰⁹Ibid., pp. 116-117.

¹¹⁰Significantly, one exception to this general statement was Los Angeles Mayor Norris Poulson, who came out flatly against the evacuation principle. Ibid., p. 2231.

While it is unnecessary to repeat what the various witnesses said on this subject, it is suggested that the general tenor of their attitudes was well expressed by Maj. Gen. Robert E. Condon, Civil Defense Director of New York City:

Some substantial degree of evacuation will undoubtedly be the most desirable survival measure, given an adequate warning of enemy plans to attack. Shall we abandon a study of shelter and reception capabilities . . . because it is "assumed" that strategic warning time is unlikely? Can it be denied that a thinning out of the population densities in critical target areas is a most sensible way to provide for the safety of the greatest numbers, given the time and facilities for such a movement?

On the other hand, with a warning time of 5 minutes or less, nobody would be so foolhardy as to suggest putting people on the highways or in trains to move them out of a critical target area. Under such circumstances, shelter would be a prime requisite, for who is to say precisely where the bomb is to fall?

Somewhere these two extremes of warning time a limited movement of the population to prepared places of adequate and approved shelter may prove to be the best approach to survival for the largest numbers.

The point of this discussion is simply to emphasize the error of basing a survival plan upon a single "assumption" as to point of attack or time of warning or the size and type of weapons. Such inflexibility in planning is simply an invitation to disaster.

The problem of survival against an enemy attack cannot be stated in terms of a single set of "assumptions." The problem is one of the variable patterns of attack and warning time. Against such variable patterns there is no single answer; nor is there any individual best answer. A plan which adequately meets one attack pattern, may mean certain death for thousands under another attack pattern.

The answer to the problem is therefore, not evacuation, or shelter, or dispersal, but a fluid combination of these three geared to meet the various possible patterns of attack in terms of the resources of our region to support such combinations.¹¹¹

Thus, despite Holifield's attacks upon the efficacy of evacuation, the general consensus was that a "balanced" or "fluid" approach was called for. It may be, however, that part of the attachment to the evacuation

¹¹¹Ibid., p. 1886.

idea by state and local officials was related to the precarious financial situation in which such officials usually found themselves. Governor Averell Harriman of New York, for example, pointed out that "the States do not begin to have the financial resources to undertake realistic preparation for civil defense, including the probable necessity of extensive shelter programs."¹¹² Thus, while state and local officials may have preferred shelters to evacuation, they were unable to finance them themselves and no federal funds were available for this purpose.

Having expressed strong reservations toward the evacuation aspect of what the FCDA had referred to as a balanced policy, the subcommittee then sought to demonstrate that the "balance" was, in reality, a myth. That is, the subcommittee believed that regardless of protestations by the FCDA to the contrary, the civil defense organization was continuing to implement a policy that centered almost exclusively upon evacuation; only the label, but not the substance, had been changed.

The position of the FCDA was based upon the Survival Plan studies that had been undertaken during the previous year. Administrator Peterson asserted that information would soon be available as to what kind and how much shelter would be needed. However, he insisted that little could be done about shelter until the basic research had been completed.¹¹³ He further pointed out that work on the design of shelters was proceeding and he clearly stated that "we will submit a shelter program when we are satisfied in our minds that we have the

¹¹²Ibid., p. 1802.

¹¹³Ibid., p. 1234.

soundest possible program, with the most accurate costing possible to put before Congress."¹¹⁴ He argued, not without some justification, that to present a recommendation that had not been adequately researched would invite certain rejection by the Congress as well as the Bureau of the Budget.¹¹⁵ What he seemed to be saying was that the FCDA recognized the need for a balanced approach, but that the definition of the precise nature of the balance would have to await the completion of basic research.

The subcommittee was apparently unable to accept Peterson's contention and instead argued that the FCDA was not really serious about a shelter program and that the Survival Plan studies were little more than evacuation feasibility studies. While there can be little doubt as to the subcommittee's sentiments in this respect, the question is whether they were merely preconceptions or whether they resulted from the materials developed during the course of the hearings.

There can be little question that the FCDA spokesmen themselves contributed to the skepticism regarding the depth of the commitment to shelters. In part, this was done by evading, or appearing to evade questions that might clearly have been expected to evoke some support for shelters. For example, it has already been pointed out that Administrator Peterson had repeatedly said that shelters would be required when (not if) the ICBM became operational. Yet when the subcommittee sought to determine what the FCDA was doing to prepare for this eventuality, Peterson would only say that the "evils of today are sufficient in this business" and refused to be tied to

¹¹⁴Ibid., p. 1213.

¹¹⁵Ibid., p. 1181.

specifics.¹¹⁶ He did, on the other hand, point out to the subcommittee that even though shelters were constructed in the ICBM era, they would not do very much good because there might be "5, 10, or 15 bursts over a town."¹¹⁷ The subcommittee had also expressed concern over missile attacks launched from submarines lying off the coasts and asked whether shelters might not be appropriate for cities within the range of such weapons. Peterson again refused to commit himself and expressed the belief that "the Navy is doing a very good job in that field of defending the United States against that kind of attack."¹¹⁸ Nevertheless Chief of Naval Operations Adm. Arleigh A. Burke had earlier told the subcommittee that he was not at all certain that such attacks could be defended against.¹¹⁹

The impression that the FCDA was hedging on the commitment to shelters may have been further strengthened by what appears to be conflicting testimony among the civil defense witnesses. Thus, Benjamin C. Taylor, Director of the Engineering Office of the FCDA, briefed the subcommittee on shelter research and expressed certain

¹¹⁶Ibid., p. 1348. On the other hand, on June 18, 1956, Peterson had told the House Appropriations Committee that the USSR was "making rapid progress toward creating an intercontinental ballistic missile capable of delivering a nuclear warhead." U. S., Congress, House, Committee on Appropriations, Independent Offices Appropriation Bill for 1957, Hearings, 84th Cong., 2d Sess., 1956, p. 156.

¹¹⁷HCGO, Hearings, Civil Defense for National Survival, p. 1227. Remarks such as these apparently prompted Holifield to question not only Peterson's commitment to shelter but also his commitment to civil defense. In fact, he directly asked Peterson: "Do you have any mental reservations as to the worthwhileness of your job?" Peterson said that he had no reservations but that he did not believe in "kidding anyone about what is going to happen to the world and the people in the world in the event of a thermonuclear war . . ." Ibid.

¹¹⁸Ibid., p. 1228.

¹¹⁹Ibid., p. 421.

opinions regarding the efficacy of shelters that were contradicted by Peterson. For example, Taylor had unequivocally stated before the subcommittee that the technical knowledge to begin a shelter program existed at that time.¹²⁰ Peterson asserted that the answers to the problems of shelter construction were not yet available and that a good deal more research was required before any program could be started.¹²¹ Taylor had said that shelters could save 64 percent of the people, "assuming the worst conditions."¹²² Peterson said that anyone "who comes before this committee and says that any plan will save such and such a percentage of the population is just simply dealing with figures that are loose."¹²³ Taylor had pointed out that, with proper design, subways could provide "excellent shelter for very large numbers of people over a broad area and further permit movement to outlying areas after the attack."¹²⁴ Peterson expressed the belief that such shelters in downtown areas would become a "great burial ground, a great tomb for those people."¹²⁵ Taylor asserted that the construction of shelters could at least be initiated before the Survival Plan studies had been completed.¹²⁶ Peterson said that any shelter program would have to wait until the studies were completed.¹²⁷ This is not to suggest that one spokesman was right and that the other was wrong. It does illustrate the fact, however, that Peterson was taking advantage of every possible opportunity to avoid speaking favorably of shelters.

¹²⁰Ibid., p. 1262.

¹²¹Ibid., p. 1178.

¹²²Ibid., p. 1283.

¹²³Ibid., p. 1227.

¹²⁴Ibid., p. 1285.

¹²⁵Ibid., p. 1139.

¹²⁶Ibid., p. 1294.

¹²⁷Ibid., p. 1181.

The obvious differences within the FCDA with respect to shelters were further accentuated by the fact that Mr. Taylor had formally briefed members of the subcommittee at the FCDA headquarters in Battle Creek prior to the hearings. Yet certain remarks which he made at that time were deleted by the FCDA from his formal presentation before the committee in Washington. Among the items deleted were the following points:

If sufficient data can be gathered, FCDA expected to initiate some part of the shelter program in the budget request for fiscal 1958.

Mr. Taylor expressed the hope that the subcommittee hearings will get across to the country the urgency of the shelter program even though it is costly.

The estimated total cost for shelter protection of 87 million people in metropolitan target areas would be \$13 billion, which could be phased over a six year period at \$2 billion per year, an amount which could be absorbed by the economy.¹²⁸

The sincerity of the FCDA commitment to shelter was further questioned when the subcommittee sought to demonstrate that Administrator Peterson had consistently opposed shelters in the past. Peterson had implied to the subcommittee that one of the major reasons why civil defense had not gone forward more rapidly was because Congress had failed to appropriate sufficient funds.¹²⁹ In response to this suggestion the Director of Investigations for the subcommittee, Mr. Herbert Roback, produced Peterson's 1953 testimony before the House Appropriations Committee in which the civil defense administrator had condemned the Caldwell proposals and warmly praised Congress for its

¹²⁸HCGO, Report on Civil Defense for National Survival, 1956, p. 28.

¹²⁹HCGO, Hearings, Civil Defense for National Survival, p. 1338.

refusal to support them. Peterson reacted very strongly and emotionally to this:

Governor Peterson. What is the purport of this material that has been read into the record? What is the point?

Mr. Roback. The impression has been left with the committee.

Governor Peterson. Which committee?

Mr. Roback. With this committee here in the current testimony that for some reason or other the FCDA had been dissuaded from a shelter program because of the reluctance of Congress to appropriate funds.

Governor Peterson. I think the record is perfectly clear in that respect, isn't it? My predecessor made the request. The Congress refused him. That is perfectly clear; isn't it?

Mr. Roback. It is also perfectly clear that you commend the Congress for doing it. . . .¹³⁰

While the subcommittee was thus able to show that Peterson had long been opposed to shelters, the latter admitted that Caldwell had probably been correct in making his recommendations and that "had this country entered into a shelter program [at that time] it would have been advantageous because some shelter would be better than no shelter."¹³¹

Finally, the subcommittee heard the testimony of civil defense officials from throughout the country that despite the proclaimed "balance" between evacuation and shelter, the latter was simply being ignored. For example, Milwaukee mayor Frank P. Zeidler, who was also chairman of the civil defense committee of the American Municipal Association, stated that "there exists beyond the evacuation plan almost nothing in the way of reception areas or welfare centers."¹³² This view was supported by Col. John E. Fondahl, civil defense director of the District of Columbia.¹³³ Civil Defense officials from

¹³⁰Ibid., p. 1337.

¹³¹Ibid., pp. 1339, 1340.

¹³²Ibid., p. 2793.

¹³³Ibid. p. 2045.

Milwaukee, considered to be one of the more advanced cities in the area of civil defense activity, complained that they had not even received basic information on shelter criteria: what would distinguish good from bad shelter.¹³⁴ While Administrator Peterson had pointed to St. Louis as an example of work being done to prepare shelters for evacuees, the subcommittee contended that a study by St. Louis officials showed that this was one of the great problem areas that had not yet been resolved.¹³⁵

On the basis of testimony such as this, the subcommittee concluded that "he [Peterson] considers a shelter program impracticable or unnecessary against the present-day threat of multi-megaton bombs. He has not departed from his original belief that the answer to contemporary weapons is evacuation."¹³⁶

However, the subcommittee went beyond merely pointing out the reluctance of the FCDA to commit itself to shelter. It also attacked the Survival Plan studies, so greatly emphasized by Peterson, as little more than a "boondoggle" and justification for continued reliance upon evacuation. Repeatedly referring to the Survival Plan studies as "evacuation feasibility studies,"¹³⁷ the subcommittee gave expression to a series of complaints and reservations. For example, it was reported that the FCDA manuals that were issued to state and local civil defense officials to assist them in carrying out the Survival Plan studies "omitted or only implied" such areas of concern as shelter

¹³⁴Ibid., pp. 1926-1927.

¹³⁵HCGO, Report on Civil Defense for National Survival, 1956, p. 29.

¹³⁶Ibid., p. 27

¹³⁷Ibid., pp. 26, 27.

availability in the target area.¹³⁸ In a number of cases this category had to be added to the FCDA instructions. The subcommittee also expressed some concern that firms receiving contracts from the FCDA to carry on the Survival Plan studies were oriented toward evacuation. For example, the firm that carried out the study for Milwaukee was the Wilbur Smith & Associates Co., which was primarily known as a traffic engineering organization.¹³⁹ Congressman Holifield voiced a more general concern that the studies were merely intended as a delaying tactic to postpone a decision on shelters.¹⁴⁰ His argument appeared to be that the need for shelters was irrefutable and that the only chance for gaining the necessary support for a shelter program was by developing a coherent national plan. The Survival Plan studies, he contended, tended to fractionize civil defense planning and thus delay the development of a national plan.¹⁴¹ Finally, there was a feeling that the funds made available for the studies would be used as administrative expenses by the hard-pressed local organizations. Describing this as a "boondoggle," the subcommittee feared that it would only serve to bring additional ridicule upon the work of civil defense.¹⁴²

In this manner the subcommittee thus sought to refute the proposition that the FCDA was pursuing a "balanced" evacuation-shelter

¹³⁸Ibid., p. 36.

¹³⁹HCGO, Hearings, Civil Defense for National Survival, p. 1958.

¹⁴⁰Ibid., p. 1168.

¹⁴¹HCGO, Report on Civil Defense for National Survival, 1956, p. 39.

¹⁴²HCGO, Hearings, Civil Defense for National Survival, pp. 2660, 2648-2655.

policy. The general impression gained from the hearings is that the subcommittee had made its point.¹⁴³ However, in order for this contention to have any meaning, it was necessary for the subcommittee to demonstrate the feasibility of shelters.

Not surprisingly, the subcommittee was able to present a prima-facie case that shelters were indeed technologically feasible. In fact, virtually every expert witness who commented on this subject attested to the belief that shelters could be designed and constructed to withstand most of the effects of nuclear weapons. But while there was a high degree of agreement as to basic technological feasibility, there was considerable variation in the estimates as to how much shelters would cost and what kind of shelters would do what.

At one end of the scale was Lt. Gen. Samuel B. Sturgis, the Chief of the Army Corps of Engineers. According to General Sturgis, who had had long experience in military and paramilitary construction, a "meaningful" shelter program against the blast, heat and radiation effects of nuclear weapons would be "extremely costly." He mentioned the figure of about \$1500 per person for such shelters.¹⁴⁴ If this were an accurate cost estimate, shelters for 160 million people in the United States would cost \$240 billion!

Another quite different estimate was provided by spokesmen from the American Machine and Foundry Company, which had developed a

¹⁴³It should be emphasized that this was the implication derived from the hearings. In the following chapter attention will be focused upon the activities within the executive branch during this period and it will become clear that the FCDA was by no means as inactive in the area of shelters as the subcommittee had implied.

¹⁴⁴HCGO, Hearings, Civil Defense for National Survival, pp. 591-592.

dome-type shelter and had acted as consultant to the Air Force in the design of blast-resistant structures. J. Edmund Fitzgerald, an engineer from that company, described a variable shelter system in which maximum strength shelters would be located near the probable aiming point and these would be surrounded by "rings" of lighter shelters.¹⁴⁵ While he didn't say exactly how many people could thus be sheltered, he did assert that a "complete shelter program for the entire country" could be acquired for approximately \$50 per person.¹⁴⁶ With a population at the time of 160 million, such a program would amount to \$8 billion.

The problem with estimates such as these, aside from their vast and confusing variation, was that they didn't really indicate how many of what kind of shelters would be needed or where. Nor did they really provide a meaningful alternative to ongoing FCDA policy. What was needed by the subcommittee was a fresh approach to the overall civil defense problem. That is, in order to generate significant pressure on behalf of shelters it was necessary that a plan be presented that would place shelters within a total civil defense framework and at a cost which was at least within the realm of practicability. The organization that provided the subcommittee with such an approach was the Naval Radiological Defense Laboratory (NRDL).¹⁴⁷ Without doubt, the NRDL exercised more influence over the subcommittee than any other

¹⁴⁵Ibid., pp. 996-997.

¹⁴⁶Ibid., p. 996.

¹⁴⁷The mission of the NRDL, located in San Francisco, is to conduct research on the effects of hazardous nuclear radiations, and to develop and evaluate equipment and procedures for defense against radiation effects. Specifically included in the mission of the organization is the rendering of assistance to civilian federal agencies, when needed. Ibid., pp. 2423-2424.

organization.¹⁴⁸

According to Capt. R. A. Hinners, Commanding Officer of the NRDL, in order for civil defense to be effective it must be an integrated system. That is, an adequate civil defense cannot be developed in a piecemeal manner whereby individual unrelated efforts may often cancel each other out.¹⁴⁹ Presumably, he said, a civil defense system should serve three primary ends: first, survival of a significant body of the population from the immediate effects of an attack; second, early recovery of the essential functions following the attack; third, final recovery or restoration of a degree of preattack normalcy. Captain Hinners asserted that personnel at the NRDL believed that

. . . an effective passive defense can be achieved by means of a phased countermeasure system built around the existence of adequate shelter and an ability to reclaim . . . the essential facilities in the target area. The importance of approaching the needs of passive defense as an integrated system rather than an agglomeration of individual measures cannot be over-emphasized. In this regard, we desire to make two major points with reference to the atomic defense system.

First, when we single out adequate shelter as the key to atomic survival, we do not mean to imply that by itself it will do everything that could and should be done to minimize casualties. . . . But we do mean to contend that without adequate personnel shelters all atomic defense efforts are likely to prove ineffective; while with adequate shelter, the other countermeasures . . . become feasible and productive.

Second, we wish to stress that, as in all systems, the interactions among the various parts of the system are extremely important.

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Therefore, the question of what constitutes adequate shelter . . . depends upon a careful analysis of the system as a whole.

¹⁴⁸HCGO, Report on Civil Defense for National Survival, 1956, pp. 19-21. The subcommittee described the NRDL presentation as "penetrating and incisive" and based on its recommendations for civil defense planning almost exclusively upon the NRDL testimony.

¹⁴⁹HCGO, Hearings, Civil Defense for National Survival, p. 2426.

Otherwise, what might appear to be an adequate shelter will be found wanting when an attack actually occurs, with disastrous consequences.¹⁵⁰

While the NRDL was as yet unable to provide figures to the subcommittee on shelter specifics, Mr. Walmer Strobe did provide a general planning approach to the question of shelters.¹⁵¹ According to Strobe, civil defense planning tends to be faulty unless restrictive planning assumptions are avoided. For example, to depend upon advance warning of a particular number of hours, or to plan upon an enemy delivering a particular number of bombs of a certain size at a given place, makes a plan completely useless if these conditions do not actually materialize. A more appropriate approach, he said would be to assume the worst or to take in all possible assumptions. This is what the NRDL preferred to call the "target oriented" approach, as contrasted with the "weapons oriented" approach utilized by the FCDA.¹⁵²

Mr. Strobe listed seven types of restrictive assumptions of the "weapons oriented" approach. These he called the "seven deadly sins" of atomic defense planning:

1. Yield of weapon;
2. The type of attack--by this I mean principally whether it is a high air burst or surface burst or harbor burst, or whatever;
3. The number of weapons delivered;
4. The point of attack;
5. The time of attack;
6. Warning of attack; and finally
7. The existence of central control.¹⁵³

¹⁵⁰Ibid., p. 2426.

¹⁵¹Mr. Strobe was the Head of the Military Evaluation Group of the NRDL. At the time of this writing he is Assistant Director of Civil Defense in charge of research.

¹⁵²Ibid., p. 2437. An example of a "weapons oriented" approach used by Strobe was the French Maginot Line.

¹⁵³Ibid., p. 2435.

He asserted that the value of any civil defense program should be judged in terms of how independent it was from these restrictive assumptions.

Turning to the various objectives of civil defense, as previously outlined by Capt. Hanners, Strobe asserted in very strong language that shelter is the key element of the survival stage and, consequently of all the other stages as well. This is so, he said, because no other civil defense measure can provide so much protection against so many weapons effects or depend upon so little warning time. Shelters, he explained, are certainly not the only civil defense measure. Evacuation and dispersal also possess the potential to increase the survival rate. The latter may be considered peripheral in the sense that they allow people to get out of the way; however, only shelters can "shrink" the area of weapons effects.¹⁵⁴

Using data provided earlier in the hearings by the AEC's Dr. Willard Libby, Strobe pointed out that a 10-megaton bomb could produce an immediate damage radius of 15 miles, or an area of 700 square miles, and also contaminate 7000 square miles of territory with radioactive fallout. Based upon his assumption that "very good" shelters could be constructed to protect occupants even at ground zero for air bursts and up to 2 to 4 crater radii¹⁵⁵ for ground bursts, Strobe argued that

¹⁵⁴Ibid., pp. 2444, 2447.

¹⁵⁵By crater radius is meant the distance from the center to the outer lip of a pit or depression in the earth's surface caused by an explosion. For example, a 20 KT surface burst in dry soil will produce a crater radius of about 170 feet. This would mean, according to Strobe, that blast shelters could be constructed which would protect the occupants at a distance of 340 to 680 feet from ground zero for a 20 KT burst. Of course, the greater the power of the burst, the greater would be the distance from the ground zero at which "safe" blast shelters might be constructed.

such shelters could reduce the thermal and blast damage to humans to an order of 1 to 2 miles or an area from 3 to 12 square miles. In percentage terms, the shelters would thus reduce the immediate effects of a nuclear weapon to 1 percent of the area that would otherwise be affected and the larger fallout area to one-tenth of 1 percent. In his words, this "squeezes a 20-megaton down to a 20-kiloton size."¹⁵⁶

Strope acknowledged that a large surface explosion would annihilate people in the immediate vicinity. The total effected area would, of course, depend upon the size of the bomb and the number of casualties, which would depend upon how congested the stricken area was. But unlike the FCDA officials, Strope contended that this did not mean that shelters should not be constructed in a probable target area. His reasoning was that an exact hit on target could not be assumed. For example, a reasonable "circle of error" (the aiming error in any direction) for an intercontinental ballistic missile would be five miles. This would mean that the chances of scoring an exact "bullseye" would only be about 4 in 100. According to Strope, this would mean that 96% of the time shelters would save lives even in the target area.¹⁵⁷

Implicit in the NRDL concept of shelter is the attribute of self-sufficiency. Strope suggested that it would be valuable to think of shelters as "cells"--no matter how many bombs may be dropped or where, some of these "cells" would survive. The first objective of a civil defense system would thus have been achieved. However, beyond this is the task of immediate recovery. To achieve this, people in

¹⁵⁶Ibid., pp. 2446-2447.

¹⁵⁷Ibid., pp. 2441-2442.

the shelters must possess the resources for continuing on their own without outside direction or assistance. Strobe referred to this as planning "from the inside out" rather than from "the outside in." Such an approach would reverse the conventional civil defense tactic whereby rescue and assistance crews would converge upon a stricken area from the outside. Instead, recovery efforts would be initiated from within the "cells." The logic of this approach rested upon the probability that the shelters might be the only "clean" areas available after an attack.¹⁵⁸

Finally, it is perhaps obvious that if recovery activities are to be launched from the shelters, they cannot be make-shift arrangements. They must be stocked and equipped for long periods of occupancy. It follows, therefore, that the shelters being advocated by the NRDL would undoubtedly be quite costly installations. However, at this particular hearing the NRDL was not prepared to offer specific figures on shelter costs. These would be provided at a later subcommittee hearing.

The general approach to civil defense advocated by the NRDL, based as it was upon shelters and cast in a systems framework, was apparently what the Holifield subcommittee was looking for. In its report the subcommittee stated that the "key measure in civil defense against nuclear attack is shelter" and it frankly acknowledged that this conclusion was based upon testimony of officials from the NRDL.¹⁵⁹

¹⁵⁸Ibid., pp. 2448-2449.

¹⁵⁹HCGO, Report on Civil Defense for National Survival, 1956, p. 20. While the NRDL was cited as the basis for the subcommittee's position on shelters, the attitudes of the committee members, especially Holifield, during the entire course of the hearings suggest that such a position would have been taken whether the NRDL had testified or not.

It also recommended that a master plan following the pattern set forth by the NRDL be implemented by the FCDA.¹⁶⁰

While attention in this analysis has been directed at the shelter issue, it is essential to recognize that the subcommittee went far beyond this question. As a result of the testimony received, the subcommittee also recommended sweeping changes in the entire civil defense organization in the United States. Important among the recommendations were proposals that a Department of Civil Defense be established, that basic responsibility for civil defense be vested in the federal government, and that the "Secretary of Civil Defense" be authorized to finance the construction of shelters.¹⁶¹

Although the 1956 Holifield hearings constituted the most thorough examination of civil defense that had ever been undertaken, they produced no immediate or readily apparent results. For example, in his 1956 Annual Report, Administrator Peterson did not even mention the hearings and, in fact, said that "the basic concept of civil defense remained unchanged during fiscal year 1956. Our concept--as it has been since the recognition of the fallout danger--is a balanced program of evacuation and shelter."¹⁶² The only suggestion that appeared during 1956 that the FCDA was moving seriously on the shelter issue was a newspaper report that the Eisenhower Administration was considering a multi-billion dollar shelter program that had been suggested by the FCDA. However, no details of the recommendation were made available at the time and the only thing that was known was that

¹⁶⁰Ibid., p. 19

¹⁶¹Ibid., p. 4.

¹⁶²Federal Civil Defense Administration, Annual Report for 1956 (Washington: Government Printing Office, 1957), p. 2.

the Bureau of the Budget was looking at the problem.¹⁶³

Such reports may have been encouraging to Representative Holifield and his colleagues on the Military Operations Subcommittee. But having found what they regarded as a fatal flaw in the nation's defense system, they continued to exert strong pressure for change. On the basis of information gathered during the course of the 1956 hearings, the subcommittee undertook to draft legislation incorporating most of the recommendations contained in the 1956 subcommittee report. In January 1957 H.R. 2125 was introduced by members of the subcommittee and hearings on the bill were subsequently held in February and March of that year.

The Holifield Hearings: 1957

H.R. 2125 was a comprehensive bill which, if passed, would have substantially reconstituted the entire civil defense program in the United States. Among its provisions were several significant organizational changes.¹⁶⁴ Among other things, the bill would have vested primary responsibility for civil defense in the federal government with the state and local governments exercising "supporting roles." The bill would also have provided for the establishment of a permanent Department of Civil Defense, headed by a Secretary who would serve as a statutory member of the National Security Council.¹⁶⁵

¹⁶³New York Times, November 30, 1956, p. 1:1.

¹⁶⁴The text of H.R. 2125 (85th Cong., 1st Sess.) is contained in U. S., Congress, House, Committee on Government Operations, Military Operations Subcommittee, New Civil Defense Legislation, Hearings, 85th Cong., 1st Sess., 1957, pp. 2-13. Hereafter cited as HCGO, Hearings, New Civil Defense Legislation.

¹⁶⁵Ibid., pp. 3-4.

More important for purposes of this study was the inclusion in the bill of a specific provision relating to shelter. According to H.R. 2125 the Secretary of Civil Defense would be required to "prepare and execute a national plan of civil defense for the United States." The execution of this plan would have included the mandatory construction of "group shelters in each target area" and the making of "appropriate arrangements for their maintenance in a condition of readiness, including use for commercial or civic purposes consistent with civil defense requirements."¹⁶⁶ In other words, a shelter program would, according to the proposed legislation, be legally binding upon the federal government whether the executive considered such shelters feasible or not. Furthermore, the bill would have reversed the provision of the Federal Civil Defense Act of 1950 which prohibited dual purpose shelters.

In its hearings on the bill, the first task of the Military Operations Subcommittee was to establish the technical and economic feasibility of a massive blast and fallout shelter program. The 1956 hearings had generally served to confirm the belief of subcommittee members and staff that such shelters were technologically feasible. However the extreme variability of estimated costs prevented the subcommittee from demonstrating economic feasibility. By early 1957, however, officials of the NRDL had developed cost figures for a shelter program which they believed would satisfy the criteria for the civil defense system which they had outlined in the previous year. Since the subcommittee tended to regard these figures as authoritative

¹⁶⁶Ibid., p. 6.

and used them to support the continued pressure upon the administration, they merit some scrutiny.

From the standpoint of sheer numbers of casualties, the NRDL officials were convinced that radioactive fallout constituted the primary threat to life resulting from a nuclear attack.¹⁶⁷ According to Dr. Paul C. Tompkins, Scientific Director of the Laboratory, "as few as 100 megaton-size weapons" could blanket the entire nation with lethal doses of fallout.¹⁶⁸ At the basis of any civil defense system should, therefore, be a program for protecting against this particular hazard. Accordingly, the NRDL proposed the construction of fallout, or "Class I," shelters for all those people who live in areas that are not likely to be affected by the blast and thermal effects of nuclear weapons. According to Walmer Strobe, such shelters would be constructed of 19 inches of concrete and covered with three feet of earth.¹⁶⁹ Though they would be primarily designed for protection against fallout, they would also provide some blast protection. According to NRDL calculations, they would provide protection up to 10 pounds per square inch (p.s.i.) over pressure.¹⁷⁰

¹⁶⁷HCGO, Hearings, Civil Defense for National Survival, p. 2435.

¹⁶⁸U.S. Congress, House, Committee on Government Operations, Military Operations Subcommittee, Status of Civil Defense Legislation: Eighth Report by the Committee on Government Operations, Report No. 839, 85th Cong., 1st Sess., 1957, p. 14. Hereafter cited as HCGO, Report on Status of Civil Defense Legislation, 1957.

¹⁶⁹HCGO, Hearings, New Civil Defense Legislation, p. 31.

¹⁷⁰The unit used to measure blast effects is pounds per square inch over pressure (p.s.i.). To provide the reader with some concept of the meaning of this measurement, it may be pointed out that the 20-kiloton bomb at Nagasaki completely destroyed buildings where the overpressure was approximately 3 p.s.i. In tests on ordinary frame structures at the Nevada Test Site, 5 p.s.i. were sufficient to completely destroy them. U. S. Atomic Energy Commission, The Effects of Nuclear Weapons (Washington: Government Printing Office, 1962), pp. 200-202.

A second level of shelter protection would be aimed at certain of the thermal effects of a nuclear attack. Specifically, there exists the distinct possibility that an area may be affected by a firestorm following a nuclear explosion. Research on this subject indicated that the possibilities of such an occurrence increased significantly when the ratio of roof area to total ground area (over at least one square mile area) exceeds 20 percent.¹⁷¹ In such an area the NRDL recommended that "Class II" shelters be constructed. These would be virtually the same as "Class I" shelters but would contain some additional features such as insulation to maintain inside temperature, heat resistant doors and ample oxygen supplies.¹⁷² According to Strope, shelters of the "Class I" or "Class II" type would be constructed for 100 million people throughout the country. He did not specify, however, how many of which kind would be required.

Still another level of shelter would be provided for areas of very high population density. Two types of shelter were mentioned by NRDL officials in this respect. One, referred to as "Class III-A" would provide blast protection up to 25 p.s.i., in addition to heat and radiation protection. Another, "Class III-B" would protect up to 100 p.s.i. Although no specifics were provided, the latter would presumably be a deep underground shelter and would provide protection "well within the fireball itself."¹⁷³ According to Strope, 35 million people would be provided with "Class III-A" shelters and the same number would be supplied with "Class III-B" shelters. Thus, the entire population

¹⁷¹HCGO, Hearings, New Civil Defense Legislation, p. 32.

¹⁷²Ibid., p. 31.

¹⁷³Ibid., p. 32.

at the time of the hearings would be provided with some kind of shelter.¹⁷⁴

The cost of such a construction program would be "roughly" \$15.6 to \$16 billion. This estimate was based on the assumption that "Class I" shelters would cost approximately \$30 per person or \$3 billion for 100 million people. "Class III-A" shelters would cost \$60 per person or \$2.1 billion for 35 million people. "Class III-B" shelters would cost "at most" \$300 per person or \$10.5 billion for 35 million people.¹⁷⁵ To equip all the shelters would cost an additional \$4 billion, bringing the overall cost of the shelter system to \$20 billion.¹⁷⁶

While the subcommittee seized upon this total figure and did not question or examine it carefully, it should be evident to the careful reader that certain questions were left unanswered by the NRDL officials. For example, Strobe mentioned a figure, admittedly uncertain, of \$40 per person for "Class II" shelters. Yet he did not appear to include this in his total cost analysis, nor did he suggest how many people would have to be provided with this type of shelter. Furthermore, There were no criteria set forth for determining what areas should have "Class III-A" or "Class III-B" shelters. What appears to be a rather arbitrary 50-50 division of these two types of shelter could be most misleading when the rather large cost-per-person differences are considered. Finally, the NRDL did not support its presentation with any research data with the exception of the "Class III-A" shelter. Apparently they were basing their estimates upon what the subcommittee

¹⁷⁴Ibid., p. 39.

¹⁷⁵Ibid., p. 39.

¹⁷⁶Ibid., p. 40.

referred to a "decade of radiological defense study."¹⁷⁷

However, regardless of the degree of thoroughness of the NRDL presentation, it is evident that the subcommittee considered a blast-fallout shelter system costing approximately \$20 billion to be economically feasible. In its report the subcommittee argued that such a figure was well below the cost estimates of civil defense highway improvements for evacuation, notwithstanding the fact that the latter approach had been discredited.¹⁷⁸

Armed with a perception of basic technical and economic feasibility, the subcommittee proceeded to amass considerable testimony in support of H.R. 2125. Among the organizations supporting the bill or its major provisions were the American Bar Association, the American Hospital Association, the American Legion, the American Municipal Association, the AFL-CIO, the Civil Defense Research Associates, the National Association of State Civil Defense Directors, the United States Civil Defense Council, and the United States Conference of Mayors.¹⁷⁹ The shelter provision of the bill was also warmly supported by Dr. Edward Teller.¹⁸⁰

Particular support was found, as might be expected, from among state and local officials for that portion of the bill that would have vested primary responsibility in the federal government. Also strongly endorsed was the proposed relaxation of the prohibition of federal funds for dual purpose shelters.¹⁸¹ Of course, as has been shown in

¹⁷⁷HCGO, Report on Status of Civil Defense Legislation, 1957, p. 14.

¹⁷⁸Ibid., p. 14.

¹⁷⁹Ibid., p. 7.

¹⁸⁰HCGO, Hearings, New Civil Defense Legislation, p. 212.

¹⁸¹Ibid., p. 55.

earlier chapters, these two provisions had long been advocated by state and local officials.

Significantly, however, the main opposition to the bill, or portions thereof, came from the Bureau of the Budget. The major reservations of the Bureau were directed toward 1) vesting primary responsibility for civil defense in the federal government and 2) requiring that shelters be constructed as a part of a national civil defense plan.¹⁸² According to Robert E. Merriam, Assistant Director of the Bureau, a mass shelter program was currently under consideration within the executive branch. But such a program, requiring "the expenditure of \$20 to \$40 billion," would have to be given the closest possible scrutiny "in the light of our very best national security estimates concerning the capability and intentions of any enemy and the relative value of any shelter program as against other continental defense measures."¹⁸³ Also it was necessary to consider the question of financing such a program as well as its impact upon the nation's economy.¹⁸⁴ In view of these and other considerations, he said, "we are not prepared to recommend that this be a national policy."¹⁸⁵

Given the rather definite rejection of the major provisions of H.R. 2125 by the Bureau of the Budget, the position of the FCDA was not difficult to predict. While Administrator Peterson recognized the need for greater federal responsibility in the area of civil defense, he favored the concept of "joint" federal-state responsibility rather than

¹⁸²The Bureau also opposed other portions of the bill such as the establishment of an executive department of civil defense. However, its main attention in the hearings was given over to a discussion of the two points mentioned above.

¹⁸³Ibid., pp. 187-188.

¹⁸⁴Ibid., p. 188

¹⁸⁵Ibid., p. 201.

"primary" federal responsibility.¹⁸⁶ In support of this position he quoted a letter from President Eisenhower, written in July 1956:

One final thought I would like to express. Should an emergency occur, our Nation's survival may be dependent upon the way each of us responds to his duty. In an area attacked, survival will initially rest mainly with the individual and the community.

Therefore, to insure civil defense readiness, the Federal Government, despite its increased civil defense role, must remain in partnership with States, cities and towns.

Only in this way can we obtain more citizen participation, more vigorous efforts by States, local governments and metropolitan areas, and more readiness by the Congress to support necessary civil defense measures.

Civil Defense can never become an effective instrument for human survival if it becomes entirely dependent upon Federal action.¹⁸⁷

With respect to the shelter provisions of H.R. 2125, Peterson adopted what might be considered to be a conciliatory position. He argued that the FCDA had clearly recognized the need for shelter, had accelerated research and study and, as had already been mentioned, had submitted a recommendation for a comprehensive shelter program.¹⁸⁸ While he was clearly prevented from describing the program in any detail, he did acknowledge that "even a modest beginning of a national shelter program would have a substantial effect on the Nation's economy. The program would be in direct competition with other high priority defense and nondefense programs."¹⁸⁹

Under the circumstances, it is difficult to imagine what Peterson could have said beyond what he actually did say. Nevertheless, the subcommittee was still dissatisfied. In its report it

¹⁸⁶Ibid., p. 247.

¹⁸⁷Ibid.

¹⁸⁸Ibid., p. 249.

¹⁸⁹Ibid.

stated that it had "found no evidence that the FCDA has taken concrete steps to change the basic orientation of civil defense away from evacuation."¹⁹⁰ It did note that the FCDA had apparently prepared a shelter program but, not having seen it, could only conclude that there existed a "total lack of civil defense shelter policy" and it accused the FCDA of being "grossly negligent" in this respect.¹⁹¹

The Military Operations Subcommittee continued to hold hearings during the next several years. While continuing to press for a strong civil defense program, with particular emphasis upon blast and fallout shelters, the initiative had begun to shift to the executive. Shortly after the conclusion of the 1957 Holifield hearings, the Congress passed a series of administration-sponsored amendments to the Federal Civil Defense Act of 1950. Among the changes was a provision that responsibility for civil defense would be "vested in the Federal Government and the several States and their political subdivisions."¹⁹² The amendments also contained a provision that relaxed the prohibition against the use of federal funds for local administrative expenses.¹⁹³ In 1958 the FCDA presented its long-awaited National Shelter Policy. From that time until 1963 (the last year considered in this study), the evolution of the nation's shelter policy was largely controlled by the executive, although the Congress continued to make its influence

¹⁹⁰HCGO, Report on Status of Civil Defense Legislation, 1957, p. 16.

¹⁹¹Ibid., pp. 16, 17.

¹⁹²Ibid., p. 12.

¹⁹³This provision, which was intended to ease the financial burden of the local governments, was never funded by Congress. Instead it set off a lively debate over the old question of civil defense "boondoggling."

felt. This period of executive initiative is the principal focus of the next chapter.

Conclusions

This chapter has been concerned with the continuing evolution of civil defense policy in the face of a rapidly changing military technology. Particular emphasis has been placed upon the interaction of the FCDA and Congressional committees concerned with civil defense. On the basis of materials presented in the chapter certain observations would seem to be in order.

First it may be appropriate to comment upon the actions of the FCDA during the period under discussion. Nothing would be easier than to excoriate the civil defense organization for not responding to the changing circumstances quickly, vigorously and with relevant solutions to the outstanding problems. But aside from the usual difficulties of dealing with serious public problems in such a manner, the FCDA was laboring under some rather special hindrances which must be considered in evaluating its performance. First, throughout the period the FCDA continued to operate without significant support from the executive. At no time did the political leadership in the executive branch ever go beyond providing civil defense with what must be considered "lip service." Second, from time to time, the FCDA was actually prevented from executing its legal responsibilities by the official secrecy regulations of the federal government. This was certainly the case when the FCDA was restrained from even discussing

the problem of fallout with those state and local officials who would be expected to defend against it. Third, as already suggested, the FCDA was facing a military threat that was in a constant state of change. During the approximately thirty-six months incorporated in this chapter, the FCDA had to first face the radioactive fallout threat and then the ICBM. Each of these could, and did, render certain civil defense concepts obsolete. This is not to excuse the FCDA for all its failings; but a balanced judgment of its activities, or lack thereof, would necessarily have to consider these facts.

A major theme that emerges from the chapter is that the FCDA was continually subjected to harsh criticism for a variety of sins of omission and commission. First it was criticized on the evacuation issue. On the one hand, there were those who believed that the FCDA was not pursuing that policy vigorously enough. On the other hand, some critics considered evacuation to be basically unworkable and censured the FCDA for spending too much effort on a program that was futile. Second, the FCDA was criticized on the shelter issue. Generally speaking, the criticism seemed to be that the FCDA either did not believe in shelter or was deliberately dragging its feet in implementing a shelter policy. Regardless of the specific nature of the criticisms, the implication was that the FCDA had failed to deliver on its responsibilities. The question is: were such criticisms merited?

On the question of evacuation, it is the conclusion of the writer that the major criticisms were, on the whole, valid. There

can be no doubt as to the FCDA's intention to implement the policy in the most economical fashion possible. Specifically, no evidence was found to suggest that the administration seriously intended to improve the road system for evacuation purposes. Yet, by their own testimony, civil defense officials acknowledged that the workability of the evacuation approach depended heavily upon such improvements. The supporters of evacuation would therefore seem to have had ample justification for their charge that the FCDA was not proceeding properly in implementing that approach. More serious, however, was the charge that evacuation was basically unworkable. Happily, the approach was never put to the real test and it is thus impossible to make a definitive judgment on this question. But the barriers to the successful execution of the policy were, in the opinion of the writer, truly staggering. When the problem of radioactive fallout plus the prospect of the ICBM were added to the other difficulties, the arguments against the approach seem virtually irrefutable.

On the other hand, this does not necessarily mean that FCDA officials were incompetent or stupid in advocating such an approach. When the policy was first adopted, in 1953, there was at least some possibility that it might work. When this fact is viewed against the oft-demonstrated unwillingness of Congress to appropriate funds for civil defense, the evacuation approach does make some sense. After all, it might be argued, some life-saving capability is better than none. Where the FCDA might be fairly criticized, however, was in its continued advocacy of evacuation long after its prospects for

success had been seriously eroded.

The extent of the FCDA commitment to shelter is somewhat difficult to assess on the basis of material presented in this chapter. On the one hand, the testimony of Administrator Peterson gave ample reason to doubt that the political leadership of the FCDA was serious about the development of a shelter program. Peterson was frequently hostile and evasive when pressed on this issue. He gave the impression of bending over backward to avoid any favorable comment on shelter and of seeing shelter as the last and most disagreeable alternative for civil defense. On the other hand, there is clear evidence (and more will be presented in the next chapter) that the FCDA was very carefully examining the question of a shelter policy and was moving away from the evacuation approach. Moreover, the necessary research basis for a shelter program was laid during this period. Therefore, despite Peterson's testimony, it may be concluded that the FCDA was serious about shelters and was moving as fast as was technologically and economically practicable. If Peterson appeared to be overly cautious and slow to act, he cannot, in the opinion of the writer, be too severely criticized for doing so. Given the political and economic circumstances in which he found himself, he had very little real choice but to act slowly and cautiously.

If the quality of activity on the part of the FCDA during this period was mixed, so too was that of Congress. On the positive side, there can be little doubt that the committees that examined

civil defense programs, particularly the Military Operations Subcommittee, made significant contributions to the evolution of United States civil defense policy. Not only did the committees provide a notable educational service in making available a vast amount of information concerning civil defense, but they also performed an invaluable service of keeping civil defense "alive" during a period when it could easily have been completely submerged because of lack of interest and support. Beyond this, the Military Operations Subcommittee exercised strong pressure upon the Administration to abandon what it considered to be the futile policy of evacuation and to implement a meaningful shelter program. In such matters as these, it is always difficult to establish a direct cause-effect relationship, but there does seem to be very little reason to doubt that the subcommittee accelerated the FCDA's movement toward shelters. The activities of the subcommittee may have also provided the FCDA with some leverage within the executive branch. Finally, the subcommittee served as a channel for the expression of interests of groups and individuals and as a source of new ideas and alternative civil defense policies. In view of contributions such as these, it may thus be concluded that the committees made an important contribution to the nation's civil defense efforts.

On the negative side, the work of the committees was not without fault. With respect to the Military Operations Subcommittee, it should be noted that any and all opposition to civil defense was completely ignored. Assuming that there existed significant arguments

against the deployment of a civil defense system, such were never expressed during the course of the lengthy hearings and the perspective of the subcommittee may thus have been distorted. Certainly, for example, its judgment that a \$20 billion shelter program was "feasible" might have been less certain had at least some notice been taken of an opposition.

More specifically, it is the view of the writer that the subcommittee was not always fair in its dealings with the FCDA. Particularly noticable in this connection was the continued attack upon the FCDA for a lack of progress in providing shelter protection. The wide variability of technical feasibility and cost estimates obtained by the committee itself suggest that much basic research still needed to be done. Moreover, the record indicates that the FCDA was proceeding with this work. Yet to expect civil defense officials to go before the Bureau of the Budget or Congress without having completed the basic research was completely unrealistic, especially when the experiences of the FCDA are considered in historical perspective. Furthermore, the subcommittee continued to attack the FCDA for negligence on the shelter issue long after it had been made known that a comprehensive shelter program had been recommended and was being considered by higher authorities within the executive branch. This is a common enough pressure tactic; but it is not necessarily praiseworthy for that reason.

Finally, it may be argued that the subcommittee did not demonstrate the feasibility of shelters, its claims notwithstanding.

While some portions of the NRDL testimony (on which the subcommittee based its case) were most impressive, other parts were faulty in some respects. For example, the construction specifications for some of the very expensive blast shelters were not provided and it is therefore impossible to judge the accuracy of the cost estimates. Also, as pointed out in the body of this paper, the NRDL figures on how many of what kinds of shelters would be needed, seem suspect to the writer. Of course, beyond the question of technical and economic feasibility is the political question: would the American people support such a program? The subcommittee did not appear to seriously consider this question and, as pointed out, made no effort to determine whether there was any opposition to a shelter program. It merely made a judgment on the question and then asserted it as a fact.

CHAPTER IV

THE DEVELOPMENT OF CIVIL DEFENSE FALLOUT SHELTER POLICY

In the fall of 1956 the FCDA presented to the President a proposal for the development of a comprehensive system of blast and fallout shelters and involving the expenditure of between thirty and forty billion dollars. While that particular proposal was not accepted, it does mark the beginning of the period when shelters were regarded as the pivotal element in any civil defense system. During the remainder of the years covered by this study there were many changes in civil defense policy and there remained a considerable degree of skepticism with respect to the ability of shelters to protect against the effects of nuclear weapons. However, from the time of the 1956 proposal there was little disagreement with the principle that if protection could be provided, it would have to come from shelters rather than evacuation or dispersal. There did not appear to be any other viable option. Thereafter, two interrelated points of issue dominated policy discussions dealing with civil defense. First, how much effort and resources should be invested in shelters? Second, depending upon the answer to the first question, how many of what kind of shelters should be provided for what people?

The purpose of this chapter is to examine, in detail, the formulation and execution of shelter policy between the years 1957 and early 1964. The chapter will consist of three major sections. The first will examine the technological basis for the various shelter proposals and policies that were considered during the period under discussion. The second will consider the shelter policies of the Eisenhower Administration from 1957 through 1960. The third section will focus upon the fallout shelter activities from the beginning of the Kennedy Administration to the rejection of the Shelter Incentive Bill by the Senate in early 1964. Specifically excluded from the discussion will be the public debate on shelters following the 1961 Kennedy pronouncements. This will be the subject of the following chapter.

The Technological Basis

Before the question of whether to deploy a shelter system could seriously be considered, certain fundamental questions needed to be answered. First, what kind of shelters would provide what kind of protection against the varied effects of nuclear weapons? Second, could such shelters actually be constructed and, if so, how much would they cost? Third, what level of protection would be necessary in order to secure the basic aims of a civil defense system. To be sure, various answers to these and other questions had been provided by the Military Operations Subcommittee during the course of its extensive studies. However, before any government could embark upon

a program involving the possible expenditure of many billions of dollars, a great deal of hard data based upon empirical research, was absolutely essential.

Despite the charges of the Military Operations Subcommittee that the FCDA had been negligent in proceeding with an adequate shelter program, it is clear that the FCDA, together with other organizations, had long been developing the scientific and technological data upon which any shelter program would have to be based. In fact, it may be argued that the technological basis for most of the subsequent shelter programs was developed during the Eisenhower Administration. Therefore, in order to fully understand the decisions that have been made with respect to shelters, as well as to assess the activities of various organizations, groups and individuals involved in civil defense activities during the period covered by this study, it is essential to briefly describe this research effort.

For the purpose of analysis, it may be useful to divide the areas of shelter research into two basic categories: research into the blast-resisting capabilities of structures and research in the field of radiological defense. While work in these two areas often proceeded simultaneously, each will be discussed in turn.

Because of the spectacular and obvious nature of the nuclear blast effect, plus the fact that it was long considered to be the primary threat emanating from such weapons, research in blast-resistant structures has had the longer history. While it is unnecessary to review in detail all that has been accomplished in this field, it

would be useful to at least point out the highlights of the effort. The FCDA began its test study of blast effects in 1951 as part of the Buster-Jangle test series. At that particular test a total of 29 simple structures, such as metal and wooden arches, and lean-to structures designed to be placed in basements of individual homes were subjected to pressures ranging from 10 to 15 p.s.i. over pressure. The various structures were "severely damaged" but, according to one official, "considerable useful data were obtained."⁴ In 1953, as part of a nuclear test series called Upshot-Knothole, a number of ordinary frame houses of the kind likely to be found in the average American community were subjected to pressures of 2 and 5 p.s.i. over pressure. A number of additional family shelters were tested in this series.⁵ Again in 1955, in Operation Teapot, a number of shelters were tested including an underground group shelter that withstood 100 p.s.i. over pressure.⁶ Finally, in 1957, as part of Operation Plumbbob, a large number of mass shelters were tested, including the dome-type structure that had been recommended by the American Machine and Foundry Company in the 1956 Holifield hearings.⁷

What this very brief listing indicates, among other things, is that at no time did the FCDA abandon work on shelters, even at the height of the evacuation period. The program might not have been as

⁴U. S. Congress, House, Committee on Government Operations, Military Operations Subcommittee, Civil Defense, Hearings, 85th Cong., 2d Sess., p. 101. Hereafter cited as HCGO, Hearings, Civil Defense, 1958.

⁵Ibid., p. 104

⁶Ibid., p. 116.

⁷Ibid., p. 121. As a point of interest, it may be noted that the dome-type structures (placed above ground) were completely destroyed at 70 p.s.i. and very badly damaged at 35 p.s.i. over pressure.

vigorous as Congressman Holifield might have wished but, according to FCDA officials, it did provide sufficient technical data to support a blast shelter construction program--had the decision been made to undertake one.⁸ However, one obvious reason why such a program was never undertaken was the costs of these shelters. According to Mr. Luke Vortman, the Director of one of the test programs connected with Operation Plumbbob, a 30-man group shelter capable of withstanding 100 p.s.i. over pressure would cost \$300 per person, exclusive of land acquisition and equipment costs.⁹ According to cost figures growing out of the test data, a shelter program could range anywhere from \$22 billion for fallout shelters only, to \$115 billion for fallout shelters in rural areas and 500 p.s.i. shelters in the urban areas.¹⁰ However, since a blast shelter program was never undertaken during the period covered by this study, such figures are somewhat academic and are primarily of historical interest.

More relevant, perhaps, is the research in the field of radiological defense. While study of the radiation effects upon structures had been a part of the test program since 1952,¹¹ it was not until after the fallout danger had become apparent that the pace of activity began to accelerate. The problem of radiological defense

⁸Ibid., p. 22.

⁹Ibid., pp. 48, 50.

¹⁰Ibid., p. 50. Holifield brought out in the questioning that these cost data were developed on the basis of experiments before the Plumbbob 1957 series. While this may have been reassuring to Holifield, it does help to explain Administrator Peterson's reluctance to rush into a shelter program in the pre-1957 period.

¹¹Ibid., p. 104. The first radiation tests took place in the Tumbler-Snapper series of 1952.

actually involved two interrelated problems. The first was to determine the shielding characteristics of various structures against gamma radiation. Second, it was necessary to determine how much radiation exposure could be sustained without incapacitating a person and preventing him from engaging in recovery operations. In its approach to these difficult, but highly critical problems, the FCDA made use of a number of organizations, all of which made significant contributions to the evolution of what came to be known as the fall-out shelter policy.

The first among these organizations was the National Academy of Sciences (NAS).¹² In 1953 the NAS was approached by Administrator Peterson to assist the FCDA in its research efforts and an Advisory Committee on Civil Defense was soon established by the NAS. Originally under the chairmanship of Dr. Merle Tuve of the Department of Terrestrial Magnetism, Carnegie Institute of Washington, the committee was intended to "provide scientific and technical analysis and support for the national civil defense effort."¹³ In 1957 the chairmanship of the Advisory Committee was assumed by Dr. Lauristan Taylor, the Chief of the Atomic and Radiation Division of the

¹²The National Academy of Sciences was created by an Act of Congress in 1863 and signed into law by President Lincoln. According to the Act, a body of scientists was charged with the responsibility for investigating various fields of science or art when called upon to do so. Such activities would be paid for by the agencies requesting the work. Originally the NAS was limited to 50 scientists but today there are more than 600.

¹³Richard Park, "The Advisory Committee on Civil Defense," National Academy of Sciences, News Report, XI (Sept.-Oct. 1961), p. 68. Mr. Park is currently the Technical Director of the Advisory Committee on Civil Defense.

National Bureau of Standards.¹⁴ One of the first actions of Taylor as Chairman was to complete a report on the adequacy of research programs in the field of non-military defense. The report asserted that shielding constituted the only effective means of preventing radiation casualties and that while sufficient information existed to begin a program of construction of new radiation shelters, much additional research was needed.¹⁵ Specifically, methods were required for determining the shielding characteristics, or the degree of radiation protection afforded by existing structures.¹⁶ The latter, it should be emphasized, would probably form the backbone of any shelter system. The emphasis upon shielding is not surprising in view of the fact that the National Bureau of Standards had long been concerned with the problem of protecting personnel who worked with radioactive materials. One particular individual at the National Bureau of Standards, Dr. Louis V. Spencer, had done a great deal of work on the subject of measuring radiation shielding and he, in turn, was made chairman of an NAS-sponsored Ad Hoc Subcommittee on Radiation Shielding. The major purpose of this subcommittee was to examine the research materials on shielding and to see to it that the FCDA was properly apprised of developments.¹⁷

¹⁴Dr. Tuve and Willard Bascom, the Technical Director of the Committee in its early years, had a very stormy relationship with the FCDA. The bad feelings between the two organizations was perhaps culminated in the 1956 Holifield hearings when the two NAS officials strongly criticized the FCDA and even publicly questioned the competence of FCDA personnel. HCGO, Hearings, Civil Defense for National Survival, pp. 127-211.

¹⁵National Academy of Sciences, The Advisory Committee on Civil Defense, "A Report on the Adequacy of Government Research Programs in Non-military Defense," June 30, 1958, p. 4. (Mimeographed.)

¹⁶Ibid., p. 10.

¹⁷Park, op. cit., p. 70.

It is not within the technical competence of the writer, nor is there real need, to discuss the details of the work carried on by Spencer and his associates. What is generally conceded is that between 1957 and 1960 techniques were developed to provide fairly accurate measurements of shielding capabilities in existing buildings.¹⁸ These techniques were refined and applied by the FCDA in conjunction with a number of other organizations. For example, the University of California, under contract with the FCDA, developed procedures for the use of high speed electronic computers for estimating the amount of radiation protection afforded by existing buildings.¹⁹ The NRDL assisted the FCDA in applying the theoretical work of the National Bureau of Standards to specific situations.²⁰ Other organizations, such as the U. S. Weather Bureau, the AEC, and the Stanford Research Institute were also involved in the development of the radiological defense programs of the FCDA.²¹

In this way the technological basis for the subsequent fall-out shelter programs of the Kennedy Administration was established. This work has been emphasized not only because it describes an important contributing factor to policy generation, but also because the FCDA and its successor organization during the Eisenhower Administration have often received short shrift from critics who argue that civil defense stood still or that it was characterized by

¹⁸U. S., Congress, House, Committee on Government Operations, Military Operations Subcommittee, Civil Defense, Hearings, 86th Cong., 2d Sess., 1960, pp. 19-20. Hereafter cited as HCGO, Hearings, Civil Defense, 1960.

¹⁹HCGO, Hearings, Civil Defense, 1958, p. 199.

²⁰Ibid., p. 203.

²¹Ibid., p. 196.

unbelievable bungling.²² While a final assessment of the pre-1961 period must await further analysis, it is perhaps appropriate to suggest that subsequent decisions on the shelter issue would have been impossible without this work. Such a contribution would seem to be far from insignificant.

Before leaving this subject of basic research, there is one additional problem that requires attention. While much productive work had been done in measuring the radiation shielding characteristics of structures and structural materials, a fundamental problem remained: how much shielding would be required to protect people against radiation effects? Put another way, how much radiation exposure could be absorbed before people became debilitated or incapacitated to the degree that recovery from an attack would be impossible? The answer to this question would have obvious relevance to the problem of determining what kinds of structures would constitute "adequate" shelter.

This question had long been a subject of concern to an organization known as the National Committee on Radiation Protection (NCRP), also headed by Dr. Lauristan Taylor since its beginning in 1929. Until the advent of nuclear weapons, the primary concern of the experts serving on this committee had been

²²Aside from the continuous attacks of the Holifield subcommittee upon what it considered to be a lack of progress, or even activity, in the shelter field, some "scholarly" monographs have also excoriated the FCDA for inactivity and/or stupidity. Particularly notable in this connection is John Modell, "The Politics of Safety: American Civil Defense," (Unpublished Master's essay, Department of Political Science, Columbia University, 1963). Mr. Modell's thesis seems to be supported almost entirely by the Holifield hearings plus his own preconceptions.

to devise standards to protect persons working with radioactive materials.²³ With the possibility of an emergency situation involving the use of nuclear weapons, however, the complete safety of the population from all the effects of radiation would be a patent impossibility. The problem was then to determine the maximum amount of radiation that could be absorbed without crippling illness or death. With a great deal of reluctance, derived largely from the uncertainties involved, the National Committee on Radiation Protection suggested that "when neither the brief dose nor the ERD [equivalent residual dose] exceeds 200 r, the majority of the people will not require medical care. . . ."²⁴ While it would obviously be hoped that exposure might be held well below this level, the FCDA has used the 200 roentgen figure in the development of radiation shelter criteria.²⁵ In other words, a shelter would be "adequate" if the people inside were exposed to not more than 200 roentgens.

²³For example, since 1948 the NCRP has recommended that exposure of the whole-body to gamma radiation and moderate and medium energy X-rays not exceed 15 roentgens per year. According to Dr. Taylor, "there is not a single case on record where an individual who has maintained his exposure within . . . [this] limit, has developed any detectable injury that can be reasonably ascribed to . . . radiation exposure." U. S. Congress, Joint Committee on Atomic Energy, Special Subcommittee on Radiation, The Nature of Radioactive Fallout and Its Effects on Man, Hearings, 85th Cong., 1st Sess., 1957, p. 829. It may be noted that this subcommittee which has collected a vast amount of material on radiation over the years has also been chaired by Congressman Holifield.

²⁴National Committee on Radiation Protection and Measurements, Exposure to Radiation in An Emergency: Recommendations of the National Committee on Radiation Protection and Measurements, Report No. 29 (Chicago: University of Chicago, Department of Pharmacology, 1962), p. 29. The report also noted that "any predictions of the number of casualties [resulting from 200r exposure] may be incorrect by as much as \pm 25 percent." Ibid., p. 30.

²⁵HCGO, Hearings, Civil Defense, 1960, p. 6.

Combining the research data thus far discussed, the FCDA was in a position to further refine the definition of radiation shelter adequacy. The measure used to express this has been the "fallout protection factor" (PF). The PF expresses the relationship between the amount of fallout radiation received by an unprotected person compared with the amount he would receive if he were sheltered. For example, if the PF of a shelter were 50, this would mean that a person inside the shelter would receive 50 times less than a person outside the shelter. As will be subsequently pointed out, there has been some disagreement between scientists and civil defense officials as to what PF should be required of a structure in order to qualify as a fallout shelter. The scientists, generally cautious and conservative in their approach, have tended to press for a high PF. Civil Defense officials, under pressure to produce shelter space, have argued for a lower PF.²⁶

The technological developments discussed in the previous pages were taking place roughly between 1956 and 1960. In the meantime various policy decisions were being made and the battle over civil defense was continuing.

The Eisenhower Shelter Policy

On December 21, 1956 Administrator Peterson presented to the President and the National Security Council a program for a massive civil defense shelter system. Involving a total expenditure

²⁶Interview with Dr. Lauristan Taylor, July 21, 1958.

of "over \$32 billion,"²⁸ the program would have provided blast protection for the heavily populated areas likely to be the targets of attack and fallout shelters "for the total population in the fallout areas."²⁹ Specifically, the blast shelters would be constructed so as to provide protection up to 30 p.s.i. over pressure. The fallout shelters would have a PF of 1000, which was apparently the level of protection that scientists were recommending at the time.³⁰

Aside from being a most substantial proposal, it should be noted that it was based and presented on a cost-effectiveness analysis. That is, it was argued that protection above 30 p.s.i. over pressure would begin to run into diminishing returns "from the standpoint of investment in relation to what you can get for it."³¹

According to FCDA official Gerald Gallagher:

What I mean is that the pressure-distance curve, it can be demonstrated, at the 30 pounds per square inch level begins to shoot up rapidly so that for relatively short distances

²⁸U. S. Congress, House, Committee on Appropriations, Independent Offices Appropriation Bill for 1958, 85th Cong., 1st Sess., 1957, p. 550. Hereafter cited as HCA, Hearings, Independent Offices Appropriations Bill for 1958. There are conflicting reports as to exactly what the costs of the proposal were. A knowledgeable civil defense official speaking to the writer off the record, mentioned the figure of \$39 billion. Chalmers Roberts, a columnist for the Washington Post wrote an article on the subject that has been widely regarded as authoritative and indicated that \$40 billion was the figure recommended. Roberts' article is reprinted in U. S. Congressional Record, 85th Cong., 2d Sess., 1958, CIV, pp. 858-859. Hereafter cited as Roberts Report, C. R., CIV.

²⁹HCGO, Hearings, Civil Defense, 1958, p. 153.

³⁰Interview with Gerald Gallagher, Assistant Director of Civil Defense for Technical Liaison, July 18, 1968. The protective factor of 1000 may appear to be quite high by present standards, but it should be recalled that in 1956 comparatively little was known about radiation shielding and scientists would understandably have preferred to remain very cautious in the face of great uncertainty.

³¹HCGO, Hearings, Civil Defense, 1958, p. 98.

toward ground zero which implies a relatively small area, you spend a great deal of money to get an additional level of protection, so at that time we said that the 30 pounds per square inch seemed to be a reasonable, feasible compromise. Our program was essentially a combination of 30 pounds per square inch shelters and fallout shelters.³²

Systematic cost/benefit analysis, common enough in the McNamara era, was still somewhat rare in 1956. According to Mr. Gallagher, the FCDA practice of planning in these terms was one of the factors that helped to secure McNamara's support for civil defense when he became Secretary of Defense.³³

While the FCDA proposal would undoubtedly have delighted the Military Operation Subcommittee, it startled the economy minded Eisenhower Administration. Obviously, such an enormous program required extremely careful examination. Not only would the specific content of the FCDA proposals have to be analyzed, but they would also have to be evaluated in terms of U. S. vulnerability to Soviet attack, the deterrent value of the retaliatory force, and the impact of the proposals upon the economy. If the United States was in the position of needing a \$30 to \$40 billion shelter program, could not an equal or greater amount of protection be provided by increasing the strength of the retaliatory forces? To assist him in answering these and other questions, President Eisenhower resorted to a common presidential technique: an ad hoc committee of knowledgeable private citizens who would formulate an objective appraisal of the problem and its possible solutions.³⁴ The

³²Ibid., pp. 98-99.

³³Gallagher interview, July 18, 1968.

³⁴Dwight D. Eisenhower, Waging Peace: 1956-1961 (New York: Doubleday and Co., Inc., 1965), p. 220.

committee established in April 1957 for this purpose was the Security Resources Panel of the Scientific Advisory Committee to the FCDA, otherwise more popularly known as the Gaither Committee.³⁵

The specific purpose of the Gaither Committee, according to President Eisenhower, was "to investigate the relative value of the various active and passive measures to protect the civil population in case of nuclear attack and its aftermath" and it later agreed to examine "the deterrent value of our retaliatory forces and the economic and political consequences of any change in our defense program."³⁶ Headed by H. Rowan Gaither, chairman of the boards of the Ford Foundation and the RAND Corporation, the committee heard testimony from all areas of government and had complete access to all information.³⁷ With respect to the shelter proposal, the Gaither Committee divided itself into three major subcommittees. One had responsibility for studying the spectrum of shelter possibilities, which ranged from blast to fallout protection. This subcommittee concerned itself with technical feasibility as well as calculated results. The second subcommittee was known as the "treasury group" and considered the costs of the various

³⁵Morton H. Halperin, "The Gaither Committee and the Policy Process," World Politics, XIII (April, 1961), p. 362. Halperin points out that despite the formal title, the committee was directly responsible to the National Security Council and committee members were considered NSC consultants.

³⁶Eisenhower, op. cit., p. 220.

³⁷The members of the Gaither committee, aside from the chairman (who became ill shortly after the committee was formed and took little part in its deliberations) were: Robert C. Sprague, William C. Foster, James A. Perkins, William Webster, Jerome Wiesner, Robert C. Prim, Hector R. Skifter, Robert Calkins, John J. Corson, James Banter. Special advisors to the committee were Col. George A. Lincoln and Paul Nitze. An advisory panel was established by the committee for consultation on specific occasions. It included Frank Stanton, Robert Lovett, John J. McCloy, I. I. Rabi, Ernest Lawrence, Adm. Robert Carney, Gen. James Doolittle, Gen. John E. Hull, James B. Fisk, Mervin J. Kelley, James R. Killian. Halperin, op. cit., pp. 362, 364.

programs. The third subcommittee, known as the "economic group," considered the question of the impact of the various proposals upon the national economy.³⁸ Of course, as previously indicated, the Gaither committee went far beyond civil defense considerations.

The Gaither Report was completed on October 11, 1957 and on the following November 7 was discussed by the President and the National Security Council.³⁹ The report found "America's long term prospect one of cataclysmic peril in the face of rocketing Soviet might and of a powerful, growing Soviet economy and technology which will bring new political, propaganda and psychological assaults on freedom all around the globe."⁴⁰ Accordingly, the report placed primary emphasis upon the development of an invulnerable second strike capability, together with an increased capability of fighting limited wars.⁴¹ This would involve a "rapidly rising military budget through 1970, reaching in the years 1960 and 1961 a peak outlay of about \$8 billion a year in additional expenditures over and above the current \$38 billion defense outlay."⁴²

With respect to the FCDA proposals, the Gaither report assigned a very low priority to, and did not recommend, the construction of blast shelters, though conceding that such a program would save many lives in the event of an attack. What it did recommend, however, was

³⁸Gallagher interview, July 18, 1968.

³⁹Halperin, op. cit., p. 364. The Gaither Report has never been made public and all data concerning it must be considered "second-hand." However, Eisenhower characterized Chalmers Roberts' article on it as a "roughly accurate account." Eisenhower, op. cit., p. 221.

⁴⁰Roberts Report, C.R., CIV, p. 858.

⁴¹Ibid.

⁴²Idem.

a \$5 billion-a-year program to build fallout shelters over a period of "4 or 5 years."⁴³ Thus the recommendation was for a \$20 to \$25 billion shelter program: a substantial undertaking by any standard.⁴⁴

The various reactions to the Gaither report provide a valuable insight into the policy making process. In the center of things was, of course, the President. While he stated that he was concerned about some of the findings of the report, he felt it would be foolish to panic and rush blindly into extremes.⁴⁵ The President, he said, "unlike a panel which concentrates on a single problem, must always strive to see the totality of the national and international situation. He must take into account conflicting purposes, responding to legitimate needs but assigning priorities and keeping plans and costs within bounds."⁴⁶ Apparently uppermost in the mind of the President was the problem of providing "a defense posture of unparalleled magnitude and yet to do so without a breakdown of the American economy."⁴⁷ More subtle, but not necessarily less important, was Eisenhower's concern that massive military expenditures could "turn the nation into a garrison state."⁴⁸

From the scant amount of information available on the Gaither Report, it is apparent that the "conflicting purposes" were abounding. FCDA Administrator Leo Hoegh, who had replaced Peterson in August 1957,

⁴³Idem.

⁴⁴It may be recalled that the major thrust of the Holifield hearings had been that a fallout and blast shelter program could be accomplished for about \$20 billion. Clearly, the experts on the Gaither Committee did not agree.

⁴⁵Eisenhower, op. cit., p. 222.

⁴⁶Ibid., p. 221.

⁴⁷Ibid., p. 222.

⁴⁸Ibid.

argued before the National Security Council that a \$20 to \$25 billion fallout shelter program would be a good investment--"one which might save fifty million American lives."⁴⁹ Significantly, however, Secretary of State John Foster Dulles strongly disagreed with Hoegh and expressed a number of arguments against the fallout shelter proposal of the Gaither Committee. First, he said, if the United States built a massive shelter system, despite the fact that the European allies did not have the money to do so, we might as well "write off our friends in Europe."⁵⁰ Second, he said, "if a wave of the hand could create those shelters, we'd of course be better off with them than without them. But it's hard to sustain simultaneously an offensive and defensive mood in the population. For our security we have been relying above all on our capacity for retaliation. From this policy we should not deviate now. To do so would imply we are turning to a 'fortress America' concept."⁵¹ Finally, on a more general level, Dulles noted that a major aspect of the U. S.-Soviet confrontation was economic. He argued, therefore, that the U. S. should not "over-devote resources to defense only to lose the world economic competition."⁵² Given the close relationship between the President and his Secretary of State, such arguments should be given careful consideration in any analysis of the shelter policy decisions.

Of major importance, though extremely difficult to document, was the attitude of the military toward the proposals. The military

⁴⁹Ibid., p. 223.

⁵⁰Ibid., p. 221.

⁵¹Ibid., p. 223. Eisenhower is quoting Dulles directly.

⁵²Ibid., p. 221.

had always been ambivalent in its attitudes toward civil defense. On the one hand, military men have generally believed that a strong civil defense is an urgent and continuing need of the nation for both humanitarian and military reasons.⁵³ There has also been some recognition that an effective civil defense system could contribute to the overall deterrent to enemy attack.⁵⁴ On the other hand, there is little doubt that military leaders were not at all anxious to assume responsibility for civil defense. Thus, for example, General Maxwell Taylor bluntly told the Holifield subcommittee that "I am not responsible for civil defense, I don't want to be responsible for civil defense" because such responsibility would "conflict with our primary role of combat."⁵⁵ Furthermore, there is little reason to doubt that some military leaders were rather skeptical of the value of shelters. Air Force General Curtis LeMay, in referring to shelters as a "maginot line concept," perhaps summed up the view of a good many military officers when he said that "I don't think I would put that much money [\$5 billion per year] into holes in the ground to crawl into," and that "I would rather spend more of it on offensive weapons systems to deter the war in the first place."⁵⁶ This last comment, in the opinion of the writer, gets to the heart of the issue. It was probably clear to most of the military leaders that, given the Eisenhower concern for economy, the

⁵³Barnet W. Beers, "Civil Defense--Adjunct to Military Power," Army Information Digest, IX (March, 1954), p. 39.

⁵⁴General Willard G. Wyman, "The Army's Role in Civil Defense," Army, VIII (July, 1958), p. 53. General Wyman, at the time of this article, was the commander of the U. S. Continental Army.

⁵⁵HCGO, Hearings, Civil Defense for National Survival, p. 445.

⁵⁶HCGO, Hearings, Civil Defense, 1960, p. 157.

defense "pie" was not going to grow inordinately in size. A reasonable assumption was, therefore, that a major civil defense system would come out of defense funds. For that reason primarily, along with the skepticism of the value of shelters, many military leaders were in opposition to the shelter provisions of the Gaither report.⁵⁷

It is also quite possible that the President was aware of the attitudes of some members of Congress, particularly the chairmen of the committees handling the civil defense budget. Thus, for example, Senator Warren Magnuson bluntly told Peterson, even while the Gaither Committee was considering the issue, that "I am sure that Congress is not in any mood to appropriate money for the actual building of shelters."⁵⁸ At the same time, on the House side, the doubting Mr. Thomas continued to express skepticism toward the entire civil defense effort, including shelters. He simply refused to believe that anyone would be so foolish as to start a thermonuclear war and if it ever did occur he, for one, was going to "head back home to Nocagdoches."⁵⁹ Even a firm supporter on the Military Operations Subcommittee, R. Walter Riehlman, expressed doubt that Congress would support a large shelter program:

⁵⁷The only irrefutable evidence that the military, or portions thereof, were opposed to the shelter recommendations were statements made by General LeMay and Admiral Arleigh Burke before the Holifield subcommittee in 1960, two years later. *Ibid.*, pp. 155, 173. However, interviews and discussions with civil defense officials and military personnel during the summer of 1968, leave no doubt in the mind of the writer that the military vigorously opposed the annual expenditure of \$5 billion for fallout shelter construction. In the words of one high civil defense official, who may not be identified, "The Gaither recommendations were killed right here in this building [the Pentagon]."

⁵⁸U. S. Congress, Senate, Committee on Appropriations, Independent Offices Appropriation Bill for 1958, 85th Cong., 1st Sess., 1957, p. 233.

⁵⁹HCA, Hearings, Independent Offices Appropriation Bill for 1958, pp. 556-557.

I do say this--and I say it, I think, with some knowledge of the attitude of the Congress itself, and I think you [Holifield] would have to concur in my position--for us to present to the Congress today a proposition for the construction of shelters in the way of \$20 to \$40 billion is an impossible thing. I don't think the Congress is going to accept it.⁶⁰

What this clearly demonstrates is that there was absolutely no reason for the President to believe that Congress was any more willing to underwrite a shelter program in 1957 or 1958 than it had been in earlier years.

While powerful opposition to the Gaither shelter recommendations clearly existed, civil defense was not without its supporters. Specifically, during the winter and spring of 1958, during the period when the Gaither report was being studied, two reports were published which were highly favorable to civil defense. Both of these reports merit some attention.

On January 5, 1958 the Rockefeller Fund released a report entitled International Security--the Military Aspect. The report, attempting to explore the military aspect of international security and to assess the most suitable strategies for the subsequent ten years, was the work of a panel chaired by Nelson Rockefeller. The report itself was prepared under the direction of Henry Kissinger.⁶¹ While the Rockefeller group did not have access to classified information,⁶² it

⁶⁰HCGO, Hearings, Civil Defense, 1958, p. 401.

⁶¹Rockefeller Brothers Fund, International Security--The Military Aspect: Panel Report II of the Special Studies Project (New York: Rockefeller Brothers Fund, Inc., 1958). The copy used by the writer was an advanced-distribution mimeographed copy from the files of the Military Operations Subcommittee.

⁶²HCGO, Hearings, Civil Defense, 1958, p. 263.

came to the same general conclusions as the Gaither Report. The Rockefeller Report contended that Soviet power "has been growing both absolutely and relative to the United States until today it constitutes a grave threat."⁶³ In the view of the Panel, three military challenges would be highly significant in the forthcoming decade: "all-out war, limited war, and a kind of war new to the twentieth century and highly developed by the communists--disguised or obscure war concealed as internal subversion or take-over by coup d'etat or civil war."⁶⁴ To meet the threat of all-out war the group recommended a strong second strike capability for deterrent purposes and an active defense system to dull the effectiveness of an enemy strike should deterrence fail and a "passive defense system which affords some protection for our population and economy."⁶⁵ With respect to the latter, the Report described an "effective civil defense program" as one that would provide warning and information about radiological levels, a system of fallout shelters, and a system of blast shelters. While the Panel was enthusiastic about fallout shelters, it hedged on the blast shelter idea, asserting that the "subject is of such complexity, and the costs so very large that this report cannot go further than to commend such a program for careful study."⁶⁶ Perhaps the philosophy of the Panel was summed up in this remark: "The main feature to note with respect to civil defense is that it is overdue. It does not make sense for the free world to engage in a major military effort without at the same time protecting its most important resources: its civilian population."⁶⁷

⁶³International Security--The Military Aspect, op. cit., p. 12.

⁶⁴Ibid., p. 27.

⁶⁵Ibid., pp. 29-30.

⁶⁶Ibid., pp. 69-70.

⁶⁷Ibid., p. 71.

A second source of support for civil defense during this period, and perhaps more important in the long run than the Rockefeller Report, was a publication of the RAND Corporation entitled Report on a Study of Non-Military Defense.⁶⁸ Compiled under the general direction of Herman Kahn, this short work did not unveil any new ideas about civil defense, but it did place civil defense within the context of overall strategy more clearly than had been done before. Perhaps most important, it implied support for civil defense by a comparatively prestigious research organization. Such support could do little but raise the prestige of the FCDA after its unhappy experiences with the Holifield subcommittee.

According to the RAND report, civil defense could make two significant contributions to national defense. First, and most obvious, it could alleviate the effects of a nuclear attack and could assist in efforts to bring about a recovery. Second, a civil defense program could favorably affect the deterrent. Specifically, argued the RAND analysts, the United States in the years ahead might well be forced to make decisions involving the risk of war to meet the Soviet threats to U. S. security. With an effective civil defense system, such decisions would be easier to make since the civilian population would no longer be an open hostage, so to speak. Civil defense would thus serve to implement a flexible foreign policy. Also, according to RAND, the

⁶⁸RAND Corporation, Report on a Study of Non-Military Defense, (RAND Report R-322-RC, July 1, 1958). While the report was not formally published until July, a copy was made available to the Military Operations Committee in time to be included in the printing of its hearings in May 1958. Halperin also indicates clearly that the views of the RAND analysts were communicated to the Gaither Committee and that the latter leaned heavily upon them. Halperin, op. cit., p. 367.

existence of a civil defense would make the deterrent more credible, thus causing the Soviet leaders to refrain from taking provocative action in the first instance.⁶⁹

Given the basic advantages of a civil defense system, the report went on to inquire as to whether it would be feasible. Using materials which had apparently been provided by the FCDA,⁷⁰ the report outlined a series of shelter programs ranging from the very simple to the very complex. The report concluded that "there are more promising possibilities for alleviating the disaster of nuclear war than have generally been recognized."⁷¹ It also observed that further research could well improve performance and lower the costs and it therefore urged the government to "undertake serious research, development and planning . . . in the field of non-military defense," one which will enable the United States to implement a shelter program quickly if the need becomes urgent.⁷²

As suggested earlier, none of this was particularly new or startling. But the significance of securing the support of the RAND corporation cannot be dismissed lightly. Furthermore, according to Gerald Gallagher, the contact with Kahn was a highly stimulating one for FCDA officials, with ideas flying off Kahn "like sparks from an emory wheel."⁷³

⁶⁹RAND Corporation, op. cit., pp. 1-2.

⁷⁰In the preface to the report, most of the acknowledgements are to FCDA officials for their assistance.

⁷¹Ibid., p. 43.

⁷²Ibid., pp. 8, 43-44.

⁷³Interview, July 20, 1968. Interestingly, the exact same phrase was used by Mr. Richard Park of the NAS in describing Kahn in an interview on July 20, 1958.

However heartening the Rockefeller, RAND and other reports⁷⁴ may have been to civil defense officials, and to the Holifield subcommittee, they were evidently not of sufficient weight to counter-balance the arguments and opposition against shelters both in the Executive and Congress. Accordingly, President Eisenhower decided that "we would not embark on an all-out shelter program."⁷⁵ What he did authorize, however, was what came to be known as the National Shelter Policy. Since this continued to remain at the heart of the civil defense effort for the duration of the Eisenhower Administration, it merits careful scrutiny.

Administrator Hoegh announced the new policy before the Military Operations Subcommittee on May 7, 1958. To the bitter disappointment of Holifield (and very probably to the professionals of the FCDA), it was essentially little more than a continuation of previous efforts. According to Hoegh, "the Administration's national civil defense policy, which now includes planning for the movement of people from target areas if time permits, will now include the use of shelters to provide protection from radioactive fallout."⁷⁶ But he also added that "there

⁷⁴It may also be noted that at least two additional writers of some influence undertook to say kind things about civil defense during the following year. Oskar Morgenstern asserted that shelters "have to be viewed on a par with weapons systems" but that there was a danger of "provocation" while they were being built. Oskar Morgenstern, The Question of National Defense (New York: Random House, 1959), p. 131. The RAND analysis was also strongly reflected in the work of Brodie (not surprising, perhaps, in view of the fact that Brodie himself was a senior RAND analyst). Bernard Brodie, Strategy in the Missile Age (Princeton: Princeton University Press, 1959), pp. 296-298.

⁷⁵Eisenhower, op. cit., p. 223.

⁷⁶HCGO, Hearings, Civil Defense, 1958, p. 394.

will be no massive federally financed shelter construction program.⁷⁷

Instead, according to Hoegh, "the President has directed me to put this policy into effect."⁷⁸

To implement this established policy, the Administration will undertake the following action:

1. The Administration will bring to every American all the facts as to the possible effects of nuclear attack and inform him of the steps which he and his State and local governments can take to minimize such effects.

The present civil defense programs for information and education will therefore be substantially expanded in order to acquaint the people with the fallout hazard and how to effectively overcome it.

2. The Administration will initiate a survey of existing structures on a sampling basis in order to assemble definite information on the capabilities of existing structures to provide fallout shelter, particularly in large cities. Many facilities such as existing buildings, mines, subways, tunnels, cyclone cellars, and others already afford some fallout protection. Action will be taken to accurately determine the protection afforded by all of these existing facilities in order to make maximum use of them.

3. The Administration will accelerate research in order to show how fallout shelters may be incorporated in existing, as well as new buildings, whether in homes, other private or Government structures. Designs of shelters will be perfected to assure the most economic and effective types.

4. The Administration will construct a limited number of prototype shelters of various kinds suitable to different geographical and climatic areas. These will be tested by actual occupancy by differing numbers of people for realistic periods of time.

5. The Administration will provide leadership and example by incorporating fallout shelters in appropriate new Federal buildings hereafter designed for civilian use.⁷⁹

Understandably and predictably, Congressman Holifield was outraged by this policy. While sarcastically complementing the "administration on acknowledging that there is a factor in civil defense known as radioactive fallout," he went on to list his objections to the

⁷⁷Ibid., p. 395. Italics added.

⁷⁸Ibid., p. 396.

⁷⁹Ibid., pp. 394-395.

specific points made by Hoegh. His basic complaint was that despite the significant accumulations of knowledge in the field of shelters, the policy represented no meaningful departure from the past.⁸⁰

Pointing out that various groups such as the Gaither Committee and the Rockefeller Panel had all pointed out that a shelter program is the key component in an effective civil defense system, he complained that

You are not going to get a shelter program for the people in this way by advising them to build their own shelters, no more than you can get an army or a navy or an air force by advising each one to buy himself a jetplane. You can't do it that way.⁸¹

Instead, he argued, only federal leadership and federal funding could fulfill the "constitutional responsibility to protect the lives of the American people."⁸² And, in emotional terms, he observed that if a meaningful program

. . . is offered to the Congress and then the Congress turns it down, then I say the blood will be on the head of the Congress. But until it is offered, until that leadership is offered, the blood is on the hands of those responsible under the Constitution for the protection of the lives of the people in case of war.⁸³

The subcommittee report concluded that the policy was a "demonstration program, not a shelter construction program."⁸⁴

Holifield was joined in his disappointment by others. Mayor Frank P. Zeidler of Milwaukee, a long-time advocate of civil defense, continued to argue for "massive shelter construction against blast and fallout" and he wondered why, if massive shelters had no utility,

⁸⁰Ibid., pp. 399-401.

⁸¹Ibid., p. 403.

⁸²Ibid.

⁸³Ibid.

⁸⁴U. S., Congress, House, Committee on Government Operations, Military Operations Subcommittee, Atomic Shelter Program: Thirty-Fourth Report by the Committee on Government Operations, Report No. 2554, 85th Cong., 2d Sess., 1958, p. 12.

"the higher echelons of government have provided shelters for themselves and left the great mass of people to shift for themselves in this matter."⁸⁵

While Congressman Holifield and others were obviously unhappy with what they considered to be a manifestly inadequate program, other members of Congress reacted in the opposite way: they thought it was too much. Congressman Albert Thomas complained that the shelter program of the Eisenhower Administration was nothing more than a preliminary salvo for something bigger. According to Thomas, "Everybody will like your example. Each town will say, 'you made an example of A; how about C, D, and E? Make an example of us.'"⁸⁶ When civil defense officials attempted to buttress their arguments with systems analysis, Thomas dismissed the whole approach as "professors' plans" which would all "go out the window when trouble comes."⁸⁷ Congressman Joe L. Evans, of the same appropriations subcommittee reminded Hoegh of Eisenhower's pledges of economy and complained that Congress was being accused of being spendthrift while such agencies as FCDA were asking for more.⁸⁸ Particularly vigorous in his denunciation of the shelter program, as

⁸⁵U. S., Congress, Senate, Committee on Appropriations, Independent Offices Appropriation, 1960, Hearings, 86th Cong., 1st Sess., 1959, p. 587.

⁸⁶U. S., Congress, House, Committee on Appropriations, Independent Offices Appropriation for 1960, Hearings, 86th Cong., 1st Sess., 1959, p. 410.

⁸⁷Ibid., pp. 532-533. Paradoxically, Congressman Holifield also expressed impatience with continuous research and systematizing. His point, however, was that after a while research became redundant and a substitute for action. HCGO, Hearings, Civil Defense, 1958, pp. 191, 229.

⁸⁸U. S., Congress, House, Committee on Appropriations, Independent Offices Appropriation for 1960, Hearings, 86th Cong., 1st Sess., 1959, p. 535.

toned down as it was, was Senator Stephen B. Young of Ohio. Describing the entire civil defense program as an "utterly useless boondoggle,"⁸⁹ and the civil defense bureaucracy as an "utterly useless organization with many thousands of men and women feeding at the public trough, but rendering no useful service,"⁹⁰ his argument appeared to be that the only effective protection could be provided by either an arms agreement with the Soviet Union or a fool-proof deterrent.⁹¹

Despite the attacks upon the Eisenhower shelter policy from every possible direction, it was not without some significant support. Particularly relevant were the repeated statements of support for Administrator Hoegh by the Governors' Conference. In its 1958 meeting, it warmly applauded his efforts on behalf of fallout shelters.⁹² The following year a report of the Special Committee on Civil Defense of the Governors' Conference, under the chairmanship of Nelson Rockefeller, again praised the "wise leadership of our former colleague, Governor Hoegh," and generally adhered to the

⁸⁹U. S. Congressional Record, 86th Cong., 2d Sess., 1960, CVI, p. 17753.

⁹⁰Ibid., p. 11527.

⁹¹It is sometimes rather difficult to determine what Young really wanted. In a 1959 article he severely criticized the OCDM for adherence to the evacuation policy and said shelters were the only answer. Stephen B. Young, "Civil Defense: A National Disgrace," Saturday Evening Post, CCXXXII (July 11, 1959), pp. 13, 72. Yet, a year later he was attacking the concept of shelters as useless. U. S. Congressional Record, 86th Cong., 2d Sess., 1960, CVI, p. 16908.

⁹²Governors' Conference, Proceedings of the Governors' Conference, Fiftieth Annual Meeting at Bal Harbor, Florida, May 18-21, 1958. (Chicago: The Governors' Conference, 1958), p. 167.

basic policy position taken by the Eisenhower Administration.⁹³

The final task in this review of the evolution of shelter policy during the Eisenhower Administration is to determine what was accomplished between the time of its promulgation in May 1958 and the inauguration of President Kennedy.

As basic background for this review, it is important to bear in mind that despite the drastically toned-down nature of the National Shelter Policy, the Office of Civil Defense Mobilization (OCDM)⁹⁴ was no more successful in securing the requested funds from Congress than it had been before. An examination of the annual FCDA and OCDM appropriations⁹⁵ indicates that during the three fiscal years following the announcement of the National Shelter Policy (1959-1961) the OCDM budget was cut 40 percent by Congress. This compares with an approximate cut of 39 percent for the three fiscal years preceding the National Shelter Policy (1956-1958). More specifically, in July 1958 the OCDM had requested \$13,150,000 to carry out the shelter program; a total of \$2,500,000 was appropriated. In fiscal 1960, \$11,270,000 was requested for the program; \$5,348,000 was granted.⁹⁶ Any fair assessment of the

⁹³Governors' Conference, Proceedings of the Governors' Conference, Fifty-First Annual Meeting at San Juan, Puerto Rico, August 2-5, 1959. (Chicago: The Governors' Conference, 1959), p. 190.

⁹⁴Under Reorganization Plan No. 1 of 1958 the FCDA and the Office of Defense Mobilization (ODM) were consolidated in a new agency, the Office of Civil and Defense Mobilization (OCDM). Federal Register, vol. 23, No. 4991.

⁹⁵U. S., Congress, House, Committee on Government Operations, Military Operations Subcommittee, Civil Defense--1961, Hearings, 87th Cong., 1st Sess., 1961, p. 396. Hereafter cited as HCGO, Hearings, Civil Defense, 1961. A significant feature of these figures is that they also include the amounts requested of the Bureau of the Budget between 1951 and 1961.

⁹⁶HCGO, Hearings, Civil Defense, 1960, p. 9.

work of the OCDM during this period must take figures such as these into account.

According to the OCDM officials, considerable progress was made in providing fallout protection for the nation within the limited context of the National Shelter Policy. By 1961 pilot surveys of shelter facilities had been undertaken or completed in about ten separate areas of the country and the construction of 135 family and eight community prototype shelters had been completed. The proposal to incorporate fallout shelters in new federal buildings was never begun because of the failure of Congress to appropriate funds for the purpose. Research on shelter design and on the shielding characteristics of structures and materials continued during the period. There was also a considerable acceleration of the public information program.⁹⁷ In 1960, according to Administrator Hoegh, the sampling surveys had revealed the existence of sufficient radiation shelter to protect "25 percent of the people in this Nation." As for the remaining 75 percent, Hoegh argued that the prototype shelter program, plus the educational efforts, was generating considerable enthusiasm and that people were "building thousands" of shelters around the country.⁹⁸

While progress was undoubtedly being made, it is questionable whether the picture was quite as bright as the OCDM indicated. There is, for example, every reason to question the assertion that the

⁹⁷This information is drawn from the OCDM Annual Reports for the years 1959, 1960, 1961.

⁹⁸HCGO, Hearings, Civil Defense, 1960, p. 57. According to Hoegh, "my own fallout shelter is creating an incentive for people in my neighborhood. My neighbors are starting to put them in." U. S., Congress, House, Committee on Appropriations, Supplemental Appropriation Bill, 1960, Hearings, 86th Cong., 1st Sess., 1959, p. 223.

educational and prototype programs had generated an enthusiastic fall-out shelter building rush. In April 1960, two years after the start of the program a national sample of people was asked: "Suppose a home bomb shelter could be built for under \$500, would you be interested in paying to have one built for you and your family or not?" A total of 47.1 percent said that they would not; 39.9 percent said that they would be "interested."⁹⁹ Moreover, in 1960 the Military Operations Subcommittee conducted its own extensive survey of shelter accomplishments by asking state and local civil defense directors how many shelters had been built in their areas. According to Congressman Holifield:

To date [March 28, 1960], we have heard from 35 States and 66 cities. The 35 States report something like 1,565 home fall-out shelters. This figure, for the most part, is based upon the roughest kind of estimates and guesses, and the definition of "fallout shelters" varies. In the 66 reporting cities, the number of home fallout shelters adds up to 356. This is part of the total included in the State figures.

The States report a total of 14 public buildings modified structurally to provide for shelters. The cities report nine buildings modified, plus two planned.

Five underground State civil defense control centers and nine underground local civil defense control centers were reported.

The States report eight underground dual-purpose structures-- that is, structures which could serve as shelters while having commercial or civic use. The cities report seven dual-purpose structures plus the unused subway tunnel in Los Angeles which has not been modified.

The States report that four public school buildings have been modified for fallout protection, with one more planned.¹⁰⁰ The cities report one school modified, with one more planned.

There were also some questions regarding the OCDM's survey of existing buildings which, according to Hoegy, had revealed that 25

⁹⁹American Institute of Public Opinion, Poll #627, April 1960. (Unpublished). This material was made available to the writer by Mr. Ralph L. Garrett, Social Science Research Officer of the Office of Civil Defense.

¹⁰⁰HCGO, Hearings, Civil Defense, 1960, pp. 2-3.

percent of the population could be accommodated. Specifically, the issue was one of shelter criteria: what constituted "adequate" shelter. The OCDM, with the concurrence of the Committee on Radiation Protection, had defined a shelter as an area with a fallout protection factor of at least 100.¹⁰¹ This represents a dramatic change from the 1000 PF recommended by the FCDA in its 1956 proposals.¹⁰²

In summary, there is every reason to conclude that the enthusiastic supporters of shelter protection were keenly disappointed in the accomplishments of the Eisenhower Administration in this field. From most of the outward appearances, the program was moving at a snail's pace. In the words of Holifield, "civil defense throughout the country as a whole is in a deplorable state."¹⁰³

The Fallout Shelter Program: 1961:1963

Like most political figures, President Kennedy had not expressed himself publicly on the subject of civil defense during the entire course of the 1950's.¹⁰⁴ In fact, his close friend and assistant, Theodore Sorensen, does not recall having heard the President

¹⁰¹Ibid., p. 61.

¹⁰²According to Dr. Lauristan Taylor, "In connection with the matter of shielding, the factor of 100 has been chosen as a suitable shielding factor . . . This is a compromise between no shelter at all and, let us say, virtually a perfect shelter. . . .[A] shielding factor of 100 would save the lives of the great bulk of people who would otherwise die from radioactive exposure." U. S., Congress, House, Committee on Government Operations, Military Operations Subcommittee, Civil Defense--1962, Hearings, 87th Cong., 2d Sess., 1962, p. 98. Hereafter cited as HCGO, Hearings, Civil Defense, 1962.

¹⁰³HCGO, Hearings, Civil Defense, 1960, p. 3.

¹⁰⁴It may be recalled, however, that in 1949 as a freshman Congressman Kennedy had addressed a letter to President Truman charging that the lack of a civil defense program was leaving the country open to an "atomic Pearl Harbor." See p. 51 of this study.

ever talk about the subject either as a Senator or a candidate.¹⁰⁵

It therefore comes as something of a surprise to find that within his first year in office he had succeeded in making civil defense more of an issue than it had ever been before or since.

The civil defense efforts of the Kennedy Administration began on a note of some confusion and controversy which perhaps began with the appointment in January 1961 of New Orleans attorney Frank B. Ellis as Director of the OCDM. Like his predecessors, Ellis' main qualification for the position was faithful party service, in this case helping to deliver the vote in Louisiana to Kennedy in the 1960 election. But beyond this, it is apparent that Ellis had his eyes on bigger things and was determined to make something out of his OCDM assignment.¹⁰⁶ As a routine matter for any new administration coming into office, the first assignment given to Ellis by the President was to make a study of civil defense in order to determine its organizational and program adequacy.

Plunging into his new assignment with considerable vigor, Ellis within six weeks produced a report that called the OCDM program "completely inadequate." At the same time he announced that he was going to seek a greatly increased budget and that he was considering a recommendation that the OCDM be given cabinet ranking.¹⁰⁷ Within a little over a month after making these announcements, he was "demanding" a budget of \$300 million (about \$200 million more than had been requested

¹⁰⁵Theodore C. Sorensen, Kennedy (New York: Harper & Row, Publishers, 1965), p. 613.

¹⁰⁶Douglass Cater, "The Politics of Civil Defense," The Reporter, XXV (September 14, 1961), p. 33.

¹⁰⁷New York Times, March 8, 1961, p. 12:3.

by the outgoing Eisenhower Administration) and had threatened to resign if he didn't get it.¹⁰⁸

While thus attempting to generate pressure within the executive branch, he also began to speak out publicly on the values of civil defense in general and fallout shelters in particular. His two major themes were that shelters would add credibility to the deterrent and that by involving citizens in such activity there would come about a revival of the national will, which he believed to be "rapidly disintegrating."¹⁰⁹ He began to describe the civil defense effort as a "revival for survival" and when the President learned that Ellis was planning to fly to Rome to seek a testimonial from the Pope in behalf of a plan to install fallout shelters in the basements of churches, he decided that the time had come to have someone attuned to the new Administration take a closer look at the entire question.¹¹⁰

The person selected by the President to do this job was Carl Kaysen, at the time a member of the White House Staff. After a month of study Kaysen reported to the President that the OCDM programs were based on outmoded concepts and that its budget, though rather small, was consequently wasted. He suggested to the President that the problem of civil defense should be either faced up to seriously or simply

¹⁰⁸New York Times, April 14, 1961, p. 12:4.

¹⁰⁹U. S., Congress, Senate, Committee on Appropriations, Independent Offices Appropriations for 1962, Hearings, 87th Cong., 1st Sess., 1961, p. 36. Also, U. S., Congress, House Committee on Appropriations, Independent Offices Appropriations for 1962, Hearings, 87th Cong., 1st Sess., 1961, pp. 613-614.

¹¹⁰Sorensen, op. cit. According to Douglass Cater, Ellis believed shelters were inherently Christian because Christianity was opposed to suicide. Cater, op. cit.

forgotten.¹¹¹ If it were decided to proceed with civil defense, Kaysen suggested that its budget be increased in the shelter field and that direction of the program be transferred to the Defense Department.

There was apparently some division of opinion within Administration circles as to what to do about civil defense. On the one hand, Budget Director David Bell and National Security Policy Advisor McGeorge Bundy were opposed to any "substantial increases" in civil defense funds on the grounds that there were many other programs with a higher priority.¹¹² Interestingly, however, the major support for increased expenditures, especially for fallout shelters, came from the Defense Department. The reason for this is that when he became Secretary of Defense, Robert McNamara had ordered a series of studies on various defense programs, including civil defense.¹¹³ The studies showed, and apparently McNamara agreed, that a shelter system would be complementary to several active defense systems, as well as adding to the deterrent capability.¹¹⁴ He was also convinced that his Department could make substantial contributions to an effective civil defense.¹¹⁵

¹¹¹Sorensen, op. cit.

¹¹²New York Times, May 24, 1961, p. 1:8.

¹¹³U. S., Congress, House, Committee on Government Operations, New Civil Defense Program: Ninth Report by the Committee on Government Operations, Report No. 1249, 87th Cong., 1st Sess., 1961, p. 16. Hereafter cited as HCGO, Report on New Civil Defense Program, 1961.

¹¹⁴The specific system referred to by McNamara was the Nike-Zeus. He later applied the same argument to the ABM. HCGO, Hearings, Civil Defense, 1961, p. 6. It should also be noted that the studies which influenced McNamara were, by and large, prepared by such people as Charles Hitch and Alain Enthoven who had been with RAND before coming to the Defense Department. Their findings were therefore not particularly surprising.

¹¹⁵HCGO, Report on New Civil Defense Program, 1961, p. 16.

While the question of what to do about civil defense was thus being discussed and before any firm decisions had been made with respect to future programs, President Kennedy chose to speak out publicly on the subject--the first time a President of the United States had ever done so. On May 25, 1961, on the eve of his Vienna meeting with Soviet Premier Khrushchev, the President addressed a second "State of the Union" speech to the Congress. "These are," he said, "extraordinary times. We face an extraordinary challenge." Among the challenges that America had "never squarely faced up to is civil defense."¹¹⁶ He asserted that the administration had been looking very carefully at the subject in order to determine what it could or could not accomplish. The conclusion had been reached that "it cannot give us assurance of blast protection. . . . And it cannot deter a nuclear attack."¹¹⁷ The only thing that can deter, he said, was a strong and invulnerable retaliatory capability. He went on to say,

. . . this deterrent concept assumes rational calculation by rational men. The history of this planet is sufficient to remind us of the possibilities of an irrational attack, a miscalculation, an accidental war which cannot be either foreseen or deterred. The nature of modern warfare heightens these possibilities. It is on this basis that civil defense can readily be justified--as insurance for the civilian population in the event of such a miscalculation. It is insurance we trust will never be needed--but insurance which we could never forgive ourselves for foregoing in the event of catastrophe.

Once the validity of this concept is recognized, there is no point in delaying the initiation of a nationwide long-range program of identifying present fallout shelter capacity and providing shelter in new and existing structures. Such a program would protect millions of people against the hazards of radioactive fallout in the event of a large-scale nuclear attack.¹¹⁸

¹¹⁶U. S., Congress, House, Urgent National Needs: Address of the President of the United States, May 25, 1961, Document No. 174, 87th Cong., 1st Sess., 1961, pp. 1,9.

¹¹⁷Ibid., p. 9.

¹¹⁸Ibid., pp. 9-10. Italics added.

Having stated his justification for a civil defense as well as what he considered to be the outlines of a basic program, the President then went on to describe the steps he intended to take to implement the program. First, he was assigning responsibility for civil defense to the Defense Department. Second, the OCDM would be reconstituted as the Office of Emergency Planning (OEP) to serve as a "small staff agency to assist me in the coordination of these functions."¹¹⁹ Third, he announced that a request would soon be made for funds to provide for a "much strengthened" program.¹²⁰

There are some obvious questions that arise in connection with this speech. The first one is: why did he speak out on the subject of civil defense at all? Certainly, nothing of an extraordinary nature seems to have been pressuring him to do so.¹²¹ What most knowledgeable commentators seem to believe, however, is that he made the statement purely on humanitarian grounds; that "any President, living in a world of possible nuclear war and knowing that things could be done to save the lives of twenty or thirty million people if war came, would be plainly delinquent if he declined to ask for them."¹²² This view, of course, does not explain why he made the remarks he did--before the basic policy decisions had been agreed upon by his advisors. Stuart

¹¹⁹Ibid., p. 10.

¹²⁰Ibid.

¹²¹Sorensen flatly rules out any possibility that the statement was made because of pressure from Ellis. He did, however, suggest that Kennedy's most likely rival in 1964 appeared at the time to be Nelson Rockefeller who was criticizing the Administration's "complacency" toward civil defense in much the same language that Kennedy had used in the "missile gap" the previous year. Sorensen, op. cit., pp. 613-614.

¹²²Arthur M. Schlesinger, Jr., A Thousand Days: John F. Kennedy in the White House (Boston: Houghton Mifflin Co., 1965), p. 747.

Pittman, who served as the director of the Office of Civil Defense when it was established in the Defense Department, has argued that the President went ahead despite certain disagreement within his own staff because he realized that perfect agreement was never possible and that, if he waited for it, the program would never have gotten off the ground.¹²³ There is also the question of why he disavowed the idea of the deterrent value of fallout shelters when his own OCDM Director had been loudly proclaiming it and when the Defense Department had been viewing it in these terms. The answer seems to be that he wanted to avoid casting civil defense in provocative terms. This is apparently something that had worried a good many of his close advisors.¹²⁴

Whatever the many unanswered questions concerning this speech, it is apparent that the pronouncement was made before certain organizational problems had been completely settled. The decision to transfer civil defense to the Department of Defense had been largely based on grounds of administrative efficiency.¹²⁵ However a dispute developed between Ellis and McNamara as to just which functions would go where. Ellis was willing to see only the shelter program go to the Pentagon; McNamara "wanted full responsibility or none."¹²⁶ The issue was settled by Executive Order 10952 of July 20, 1961 which assigned virtually all

¹²³Steuart L. Pittman, "Government and Civil Defense," Who Speaks For Civil Defense?, ed. Eugene P. Wigner (New York: Charles Scribner's Sons, 1968), p. 65.

¹²⁴Ibid., p. 64.

¹²⁵An additional advantage that was not overlooked in a transfer of civil defense to the Pentagon was that the budget would no longer be under the jurisdiction of the appropriations subcommittee chaired by Albert Thomas. New York Times, June 4, 1961, IV, p. 10:6.

¹²⁶Sorensen, op. cit., p. 614.

the civil defense responsibilities to the Defense Department.¹²⁷

Ellis, thus having presided over the virtual liquidation of his own agency, left Washington to accept a federal judgeship after a respectable period as the head of OEP.

No sooner had the organizational problems of civil defense been resolved than the 1961 Berlin crisis arose and the President once again mentioned fallout shelters in a televised nationwide speech. On July 25, 1961 he again outlined a program for identifying and stocking existing shelter space. He also made a strong appeal for civil defense:

In the event of an attack, the lives of those families which are not hit in a nuclear blast and fire can still be saved if they can be warned to take shelter and if that shelter is available. We owe that kind of insurance to our families, and to our country.

In contrast to our friends in Europe, the need for this type of protection is new to our shores. But the time to start is now. In the coming months, I hope to let every citizen know what steps he can take without delay to protect his family in case of attack. I know you would not want to do less.¹²⁸

Three important points should be mentioned in connection with this particular speech. First, in contrast to the earlier address, this speech was made in an atmosphere of crisis. This fact helps to explain why the public became so aroused about civil defense during the next several months. Second, the speech contained an explicit promise to provide guidance to people in what to do in case of attack. This promise was to cause a great deal of difficulty within the executive branch of government. Third, while the President did mention both public and private shelters, the impression was conveyed that the

¹²⁷A copy of this Executive Order is contained in HCGO, Hearings, Civil Defense, 1961, pp. 379-381.

¹²⁸Ibid., p. 376. Italics added.

major burden for providing shelter would be upon the individual. This, too, provoked a serious controversy which will be discussed later.

Activities followed swiftly upon the heels of the President's speech. On the very next day Secretary McNamara went before the Senate Appropriations Committee with a request for \$207,600,000 to implement the first stage of the Administration's fallout shelter program. Of the total request, \$169.3 million, or 83 percent, was earmarked to locate, mark, and stock fallout shelters in existing public and private buildings.¹²⁹ The arguments advanced by McNamara on behalf of this comparatively large request merit some scrutiny.

As outlined by the Secretary, the new shelter program did not represent a significant departure from the program of the Eisenhower Administration with respect to civil defense doctrine; but there was a shift in coverage, the magnitude of funding and the degree of federal participation. The basic aim of the program was to provide as much fallout protection as possible within the shortest time and at the least cost.¹³⁰ The major effort was therefore to survey the nation to find the best shelter space in existing buildings, to identify them with markings and to stock them with emergency

¹²⁹It should be emphasized that the appearance by Mr. McNamara was before the committee considering the Defense Department budget. The regular OCDM budget of \$104 million (which had been prepared by the previous Administration) had already been examined by the Thomas subcommittee and had been cut to slightly more than \$79 million. This was later raised by the Senate and the amount finally agreed upon was \$86.5 million. Congressional Quarterly Almanac Vol. XVII (1961), pp. 149-150.

¹³⁰HCGO, Hearings, Civil Defense, 1961, p. 6.

supplies.¹³¹ Both public and private buildings would be included in the basic survey, which would be nation-wide rather than on a sampling basis, as the previous program had been. While the program contained a commitment to undertake limited structural improvements in buildings to provide shelter space, only \$10 million was requested for this purpose.

To carry out this program a crash training program would be initiated at the U. S. Army Engineer School at Fort Belvoir, Virginia. The aim would be to train about 1000 supervisory personnel of architect-engineer firms who would, in turn, train their own field engineers. The total number of trained personnel to conduct the survey was estimated to be 10,000.¹³² The actual work of surveying would be done by contract through the various district offices of the Army Corps of Engineers and the local public works offices of the Navy Bureau of Yards and Docks. A total of \$93 million was devoted to the survey itself.¹³³

It was estimated that about 50 million shelter spaces would be identified by the time the survey would be completed in December 1962.¹³⁴ For the follow-up on the stocking program, a total of \$58.8 million was allotted. McNamara stated that this would be

¹³¹The problem of what constitutes the "best" shelter was again raised in the course of the survey. As previously mentioned, the standard for defining a shelter was a PF of 100. But structures with a much lower PF were included in the shelter "inventory." It was later decided to consider existing buildings as shelters if they had a PF of only 40. This substantially increased the number of shelters that were located during the course of the survey.

¹³²HCGO, Hearings, Civil Defense, 1961, p. 113.

¹³³HCGO, Report on New Civil Defense Program, 1961, p. 48.

¹³⁴HCGO, Hearings, Civil Defense, 1961, p. 7.

sufficient to stock 30 million spaces; funds for the remaining 20 million anticipated shelters would be requested at a later date.¹³⁵

According to McNamara, the provision of 50 million fallout shelters could represent a significant life-saving capability. Of course, it should be understood that McNamara did not claim that 50 million shelters would save 50 million lives. Studies had indicated that 75 percent of the casualties would derive from blast, heat and immediate radiation, depending on the attack pattern.¹³⁶ But he did say that the fallout shelter program which he was advocating would save "at least 10 to 15 million lives."¹³⁷

Sixteen days after the program had been submitted, the Congress approved of every dollar requested by the Secretary of Defense. It should be emphasized that the \$207 million had been included in the Defense Department budget and had therefore not gone through the Thomas Independent Offices subcommittee. Brief hearings on the request were held by the Senate Appropriations Committee and the House, having reported the Defense Department Appropriations Bill out of committee before the \$207 million request was made, amended its bill on the floor.

Representative George Mahon presented the civil defense amendment and admitted that he had been opposed to civil defense in the past. But he went on to say that "St. Paul was on the Road to Damascus, and he was suddenly struck with a great light that changed all his thinking," and that, in the light of the growing nuclear menace, he too had changed his thinking.¹³⁸ John Taber, the ranking Republican

¹³⁵HCGO, Report on New Civil Defense Program, 1961, p. 50.

¹³⁶HCGO, Hearings, Civil Defense, 1961, p. 7.

¹³⁷Ibid.

¹³⁸New York Times, August 11, 1961, p. 1:8.

on the Appropriations Committee, proposed that the \$207 million be reduced by \$93 million but he was "shouted down" by the House.¹³⁹

Thus, after having received a total of approximately \$622 million during the first ten years of its existence, the civil defense organization was able to secure about one-third of this amount in the brief span of sixteen days.

Soon after Congress had appropriated the funds for the initial fallout shelter program, McNamara selected Steuart L. Pittman as Assistant Secretary of Defense for Civil Defense. Pittman, a Washington lawyer and close friend of Roswell Gilpatrick, was a low-keyed executive who succeeded in winning praise from just about everyone who had contact with him in the field of civil defense. He immediately set about assembling "a bright but anonymous staff" and proceeded to go to work on the national fallout shelter survey.

With a program, money, and a competent staff, it would appear that civil defense in the United States had at last come into its own and that the future held nothing but good omens. Yet at this point in civil defense history, it would be well to recall T. S. Eliot's admonition that "Between the idea/ And the reality/ Between the motion/ And the act/ Falls the shadow."¹⁴⁰ By the early fall of 1961 at least two very threatening shadows had appeared.

First, the presidential statements and the follow-up actions by the Defense Department produced a virtual flood of protest from various anti-war groups throughout the country. Long quiescent on the subject of civil defense, probably since there had not been very much

¹³⁹Ibid.

¹⁴⁰From "The Hollow Men" (1925).

to protest about, groups such as the Committee for a Sane Nuclear Policy (SANE) charged that the shelter program was provocative, was feeding right wing elements in the country, was creating a hysteria which would present meaningful negotiations with the Russians and was misdirecting the "educative powers" of the presidency which should properly concentrate upon the "Peace Race."¹⁴¹ While a good many of these points will be discussed in detail in the following chapter, it is sufficient to note that at least some people were describing and discussing the civil defense program as a potential threat to peace. While civil defense officials have pointed out, probably correctly, that such groups as SANE represent only a small number of people, it may also be argued that their grievances, which tend to be clearly articulated, serve as convenient "handles" for other people who have other objections to civil defense or are simply apathetic.

There was also a very loud controversy over the question of the relative merits of public versus private fallout shelters. While it seems to be very clear that the actions of the administration had been oriented toward public shelters, there was great confusion about this issue in the minds of the press and public. Part of the confusion is attributable to the President himself. In his July message he had promised to "let every family know what steps he can take without delay to protect his family in case of attack." While this may sound innocent enough, a great many people took the words to mean that shelters would be a case of every man for himself. The President may have confirmed this impression when, at his October 11, 1961 press conference,

¹⁴¹National Committee for a Sane Nuclear Policy, "Will Kennedy Take Us Underground?" Sane Action, October 20, 1961. This is a mimeographed newsletter and has no volume or number notation.

he noted that the promised information would "provide directions whereby a family can take steps to protect themselves on a minimum basis and give them--the members of the family--some hope that if they're out of the blast area they could survive the fallout. And by the middle of November we hope to suggest some of the steps that every homeowner could take."¹⁴²

Whatever the President's intention, a great noise and confusion resulted. Clergymen began to debate the question of whether a man had the moral right to shoot a neighbor in defense of his shelter, or whether it was moral to live like a mole. Citizens who attempted to take the President's advice about preparing themselves were often besieged by merchants hawking sandbags, salves, periscopes, phoney protection suits and other devices.¹⁴³ Scare advertising of the "char, fry and sizzle" variety was common.¹⁴⁴ And, after years of encounter-

¹⁴²Harold W. Chase and Allen H. Lerman, eds., Kennedy and the Press: The News Conferences (New York: Thomas Y. Crowell, 1965), p. 118.

¹⁴³So widespread was this pattern that the Military Operations Subcommittee place a warning note, surrounded by a thick black line, in its 1961 Report. Its message, in part was:

Avoid fly-by-night operators with shelter-building schemes and would-be sellers of expensive or useless gadgets and devices under the label of civil defense.

Be wary of false advertising of merchandise or services, including insurance policies, which are offered as civil defense protection.

Do not sign a contract for construction of a home shelter until you have consulted civil defense officials in your city . . . and have received reliable information on requirements and cost estimates.

HCGO, Report on New Civil Defense Program, 1961, p. iv.

¹⁴⁴"Hazards of Selling Survival Products," Business Week (February 24, 1962), p. 34. In December 1961 the Federal Trade Commission was forced to issue a pamphlet entitled "Guides for Advertising Fallout Shelters" which, the FTC hoped, would constrain abuses.

ing frustrating apathy, civil defense officials were swamped with mail, some of it hysterical, demanding guidance.

Given the volatility of what Almond has called public "moods," this kind of thing is not particularly surprising. But what is of equal interest is the fact that a good deal of controversy was also raging within administration circles. The focus of this controversy was a little booklet that was designed to fulfill the President's July pledge to let every person know what to do in case of an attack. The original idea had been to prepare a brief but attractive booklet, with an introduction by the President, which would be sent to every household in the country. A team of "Madison Avenue" writers was hired to produce the booklet but it soon became apparent that the entire subject was one of controversy among presidential aides. Some people were offended by the way the information was presented. According to Sorensen, it contained "terrorizing pictures, fatuous assurances, useless instructions and an expectation of nuclear war."¹⁴⁵ Others objected to the fact that it seemed to be addressed almost exclusively to the upper-middle class. Schlesinger reports that, when asked by the President to review the book, John K. Galbraith said that:

I am not at all attracted by a pamphlet which seeks to save the better elements of the population, but in the main writes off those who voted for you. I think it particularly injudicious, in fact it is absolutely incredible, to have a picture of a family with a cabin cruiser saving itself by going out to sea. Very few members of the UAW can go with them.¹⁴⁶

The early drafts of the booklet even went so far as to link private enterprise to survival by including the statement that "the anticipa-

¹⁴⁵Sorensen, op. cit., p. 616.

¹⁴⁶Schlesinger, op. cit., p. 748.

tion of a new market for home shelters is helpful and in keeping with the free enterprise way of meeting changing conditions in our lives."¹⁴⁷

The confusion and commotion both within and outside the Administration highlighted the fact that a program had been launched without a basis in policy. People had been told that they would be informed about what to do even before the government had decided what to tell them. This is perhaps common enough in the world of politics; but the unexpected public reaction to the shelter statements of the President had thus, in this situation, produced a crisis. To deal with this problem, and to make the basic policy decisions that perhaps should have been made long before, a meeting of all concerned with the question was held at Hyannis Port on the day after Thanksgiving, 1961.

The basic question was what to do about the private shelter issue in general and the fallout booklet in particular. While there was general agreement that fallout shelters were indeed a good thing, there were some serious arguments against trying to get people to acquire their own shelter. First, it had been demonstrated during the period of the National Shelter Policy under Eisenhower that people just were not going to go along with such an approach. Or, if they were more vigorously led than at that time, the recent experiences had demonstrated the dangerous possibilities of hysteria, hucksterism and other dysfunctional phenomena.¹⁴⁸ It was therefore decided at the Hyannis Port meeting that the government would con-

¹⁴⁷Ibid.

¹⁴⁸Pittman, op. cit., p. 67. Schlesinger, op. cit., p. 748.

centrate its efforts on behalf of group shelters. This might cost more money¹⁵⁰ but it would involve little promotion and could proceed with relative calm.¹⁵¹

Having made this basic decision, there was still the question of what to do about the troublesome little booklet. In view of the President's oft-repeated promise, there was no question that some kind of a book would have to be published. Therefore the decision was made to tone down the content of the booklet as much as possible in order to prevent people from being unduly alarmed. Instead of being signed by the President and sent to every home, it would be signed by Secretary McNamara and sent to all post offices where people could secure copies if they wished.¹⁵²

The next problem was: having decided upon a group shelter approach, how far to go in that direction? Some White House Staff members, dismayed at the great public outburst and anxious to protect the President from further embarrassment, suggested that the entire program be relegated to about the same position it had occupied during the Eisenhower Administration after the \$207 million survey and stocking program had been completed.¹⁵³ This program, however, would provide only 50 million spaces and McNamara argued that fallout shelter spaces could be provided for everyone in the country for an overall

¹⁵⁰Privately constructed shelters would obviously cost the federal government nothing; but there had been some earlier consideration of the idea of allowing tax write-offs for individuals who installed their own shelters. The idea was never acted upon.

¹⁵¹Pittman, op. cit., p. 67.

¹⁵²Schlesinger, op. cit., p. 749.

¹⁵³Pittman, op. cit., p. 67.

cost of about \$3.5 billion. Given the large amount spent on active defense systems, he argued, this would indeed be a bargain in terms of lives saved. Supported by Carl Kaysen, McNamara proposed that the Administration ask Congress for \$700 million as a first installment to press the fallout shelter program beyond the 50-million-space point.¹⁵⁴ Even though the President's Scientific Advisor, Jerome Wiesner, had flatly stated that fallout shelters would be obsolete in five years, the President went along with his Secretary of Defense.¹⁵⁵ Although by the time of the Hyannis Port meeting President Kennedy had clearly lost his enthusiasm for civil defense, he believed that the program recommended by McNamara and Kaysen represented the minimum that could be done in view of his own earlier statements. As Sorensen put it, "Having created this laboring mountain, he was reluctant to bring forth a mouse."¹⁵⁶ The decision was summed up by the President on November 29, 1961 at his first press conference following the Hyannis Port meeting:

The emphasis will be on community shelters, and the information will be made available to the individual as to what he could do within his own home. But the central responsibility, it seems to me, is for us to provide community shelters. It seems--it seemed [sic] the most effective use of our resources and to provide the best security for our people.¹⁵⁷

Once the basic decisions had been made and as the public uproar over fallout shelters began to subside, civil defense officials turned to the more mundane tasks of 1) completing the shelter survey that had been funded in 1961, and 2) gaining congressional approval

¹⁵⁴Ibid., p. 68.

¹⁵⁵Ibid.

¹⁵⁶Sorensen, op. cit., p. 616.

¹⁵⁷Chase and Lerman, op. cit., p. 145.

and support for the second stage of the fallout shelter program that had been recommended by McNamara at Hyannis Port. While the first of these proceeded with alacrity, the second proved to be an impossible task.

The fallout shelter survey proceeded with remarkable smoothness. In the first part of the program an attempt was made to identify all shelter spaces having a PF of 20 or higher and a capacity for at least fifty people. As part of this tremendous undertaking the task of the contracting architect-engineering firms was to analyze day and night time population patterns, determine potential public fallout shelters within assigned geographic areas, and to collect structural data in order to determine the protection factors in the buildings. These data were recorded on forms adapted from the Census Bureau's FOSDIC (Film Optical Sensing Device for Input to Computers) form which had been used to record the voluminous information gathered in the 1960 census. These forms were then fed into high speed electronic computers to determine the protection factor of all the surveyed buildings. The next step consisted of a detailed on-site survey of all those buildings which the computer analysis had indicated as having a protection factor of 40 or higher. This more detailed survey involved the making of cost estimates for increasing the capacity and improving the shelter potential of those buildings.

The results of the survey, which was generally completed by January 1963, were impressive and showed clearly that a large potential already existed for fallout shelters. A total of 104 million

shelter spaces with a PF of 40 or more was discovered in this initial survey. About one-third of this space had a PF ranging from 250 to 1000, one-third ranged from 100 to 250 and the remainder extended from 40 to 100.¹⁵⁸

Of course, other steps were required to make this shelter space meaningful. First, it was necessary to secure the permission of the building owners to use the space for public shelters. This involved signing a licensing agreement which could be unilaterally revoked by the owner upon a 90-day written notice. The second step would be to mark the shelter so that people would know where it was, and the third step was to stock it with emergency provision. By the time the original survey had been completed in 1963, 47 million shelter spaces had been licensed, 46 million had been marked and 9 million had been stocked.¹⁵⁹

While the national fallout shelter survey was proceeding with such excellent results and had resulted in the location of a greater number of shelters than had originally been estimated, the decision had been made at the Hyannis Port meeting to go beyond this. Specifically, it had been correctly anticipated that fallout shelter in existing buildings would fall far short of what was needed to provide shelter space for everyone in the country. It was also anticipated that the geographical distribution of the existing spaces would be

¹⁵⁸Donald W. Mitchell, Civil Defense: Planning for Survival and Recovery (Washington: Industrial College of the Armed Forces, 1966), p. 44.

¹⁵⁹Department of Defense, Office of Civil Defense, "Selected Statistics on the Fallout Shelter Program: OCD Statistical Report 7720.65," April 25, 1968, p. 11. This work has continued and by April 1968 a total of 172 million spaces had been located, 106 million licensed, 99 million marked, and 51 million stocked. Ibid.

uneven. That is, it was expected that the surveys would show concentrations of shelter in high-rise downtown buildings in large cities. Suburban or outlying areas would be short of shelters. In order to meet these needs some fallout shelter construction would be needed and it was here that McNamara and Kaysen's long term program entered the picture.

The vehicle for achieving the desired construction goals was a proposed Shelter Incentive Program. Basically, this program would permit the federal government to make available a maximum of \$25 per shelter space to non-profit health, education and welfare institutions which built fallout shelters in their facilities with a PF of at least 100 and a capacity of at least 50 people, and which agreed to make the shelter immediately available to the public in case of need.¹⁶⁰ According to engineers, the incremental cost of building shelters with these specifications was \$40 per shelter space.¹⁶¹ The Shelter Incentive Program would thus provide a maximum of 62-1/2 percent of the cost of new fallout shelters constructed by these institutions. It was anticipated that schools would be the place where most of the shelters would be located.

Great hopes for the potential of this approach were entertained by OCD officials. According to their estimates, the program would

¹⁶⁰U. S., Congress, House, Committee on Government Operations, National Fallout Shelter Program: Sixteenth Report of the Committee on Government Operations, Report No. 1754, 87th Cong., 2d Sess., 1962 pp. 29-31. Hereafter cited as HCGO, Report on National Fallout Shelter Program, 1962.

¹⁶¹U. S., Congress, House, Committee on Government Operations, Military Operations Subcommittee, Civil Defense--1962, Hearings, 87th Cong., 2d Sess., 1962, pp. 155-156. Hereafter cited as HCGO, Hearings, Civil Defense, 1962.

produce 100 million shelter spaces at a cost to the federal government of \$2.25 billion.¹⁶² Thus, by way of summary, the total shelter package as envisaged by the Defense Department may be seen on Table IV-1.

TABLE IV-1
PROPOSED FALLOUT SHELTER PROGRAM ESTIMATES--1962^a

Program	No. of Spaces	Federal Cost
Shelter Survey	70,000,000	\$140,000,000
Shelter in Federal Buildings	3,500,000	140,000,000
Shelter Incentives	100,000,000	2,250,000,000
Private Shelters	60,000,000	--
TOTAL	233,500,000	\$2,530,000,000 *

^aHCA, Hearings, Independent Offices Appropriations for 1963, p. 32.

*Estimated five-year cost for supporting activities (warning, communications, supplies, training, etc.) brings the total five-year federal costs to about \$3.5 billion.

The key question with respect to this proposal was: what could it reasonably be expected to accomplish? The answer to this question would, of course, depend upon a large number of variables such as the type of enemy attack (countercity or counterforce), enemy target options and abort rates, attrition from U. S. military counter-

¹⁶²U. S., Congress, House, Committee on Appropriations, Independent Offices Appropriations for 1963, Hearings, 87th Cong., 2d Sess., 1962, p. 32. Hereafter cited as HCA, Hearings, Independent Offices Appropriations for 1963.

action, weapons accuracy, percentage of ground bursts, weather conditions and many other factors. Particularly important in calculating the life saving potential of a fallout shelter system was the geographic distribution of the population. Census figures have indicated that approximately one-third of the U. S. population is located in metropolitan areas of over one-million people. About 28 percent of the people are located in cities ranging in size from 50,000 to 1,000,000. The remaining 38 percent live in small towns or rural areas.^{162a} The latter group, comprising approximately 70 million people would not, according to the OCD, be generally subjected to the immediate effects of an attack and a high percentage of them could be saved by fallout shelters.^{162b} The people in the urban areas were clearly more vulnerable to the blast and thermal effects and large masses of such people would most certainly perish from these effects. However, argued the OCD, it could not be determined precisely where an explosion might take place and fallout shelters could provide a limited amount of protection there too. It was also pointed out that many of the fallout shelters in the heavily built-up areas also provided some protection against the direct effects, particularly in the areas peripheral to an explosion.^{162c} Therefore, while the primary beneficiaries of the fallout shelter program would be the inhabitants of the less heavily populated areas, the protection afforded to urban residents was not insignificant.

^{162a}U. S., Congress, House, Committee on Armed Services, Subcommittee No. 3, Civil Defense--Fallout Shelter Program, Hearings, 88th Cong., 1st Sess., 1963, p. 3094. Hereafter cited as HCAS, Hearings, Fallout Shelter Program.

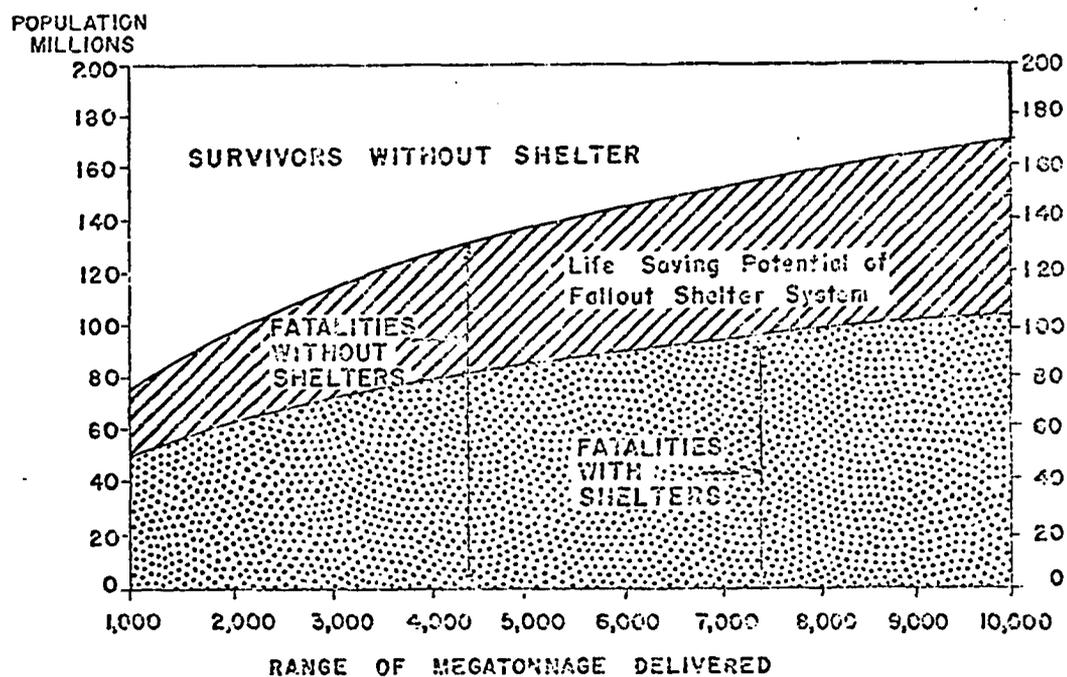
^{162b}Ibid.

^{162c}Ibid., p. 3076.

Based upon a composite analysis of attack patterns and the geographic distribution of the population, the OCD concluded that between 25 and 80 million people could be saved by fallout shelters. That is to say, a large number of people who would probably die of radiation exposure without shelters could be saved with them. The OCD estimates the life-saving potential of fallout shelters is indicated in Chart IV-1.

CHART IV-1

LIFE SAVING POTENTIAL OF FALLOUT SHELTER SYSTEM IN ATTACKS AGAINST MILITARY-URBAN-INDUSTRIAL TARGETS ^a



^aHCAS, Fallout Shelter Program Hearings, 1963, p. 3093.

It should be noted from Chart IV-1 that, by far, the greatest number of casualties would result from the blast, heat and prompt radiation effects of the nuclear detonations. The OCD made no claim that fallout shelters would be of any significant value to people within range of these effects. What the fallout shelter program was thus designed to accomplish was the enhancement of the survival possibilities of those who may have weathered the direct effects.

While the proposed program appears, in retrospect, to be quite impressive, there were several formidable barriers in the path of its implementation. The first was money. While this was hardly a new problem for civil defense officials, their hopes had been raised in 1961 by the assignment of their budget to George Mahon's Defense Appropriations Subcommittee. However, in January 1962 Chairman Cannon announced that he was reassigning the civil defense budget back to the Thomas Independent Offices subcommittee.¹⁶³ But this was not the end of the OCD's woes. A second barrier, relating to the Shelter Incentive Program was that it required authorizing legislation. That is, the Federal Civil Defense Act of 1950 provided for matching grants for shelter construction on a 50-50 basis. But this did not precisely cover the shelter incentive program which, as has been shown, contemplated grants up to 62-1/2 percent. A draft of authorizing legislation for the incentive program was submitted by McNamara in February 1962 and, after being introduced, was referred to the Armed Services

¹⁶³New York Times, January 2, 1962, p. 1:6. This dismaying prospect (from the standpoint of the OCD) was aggravated by the fact that, in addition to his completely negative attitude toward civil defense, Thomas was reported to have been "rankled by what he considered the Administration's efforts to bypass his subcommittee" in 1961. New York Times, April 23, 1962, p. 1:6.

Committees of both Houses. For the remainder of the period covered by this study, the OCD labored mightily to remove these two great obstacles. Their task was made more difficult when it became apparent that they would have to proceed without vigorous presidential leadership. Kennedy, after the furore of the previous year, evidently concluded that silence was the best policy and spoke out only rarely on behalf of the program he had sired.

On March 13, 1963 the Thomas subcommittee opened hearings on an OCD request for \$695 million for fiscal 1963, of which \$460 was earmarked for the Shelter Incentive Program. Thomas welcomed the civil defense officials back and remarked dryly that "you are one of our pet agencies, you know. We have deep affection for all of you."¹⁶⁴ After Steuart Pittman had made a lengthy statement on the philosophy and content of the new civil defense program, one of the first questions asked by Thomas was ". . . may I respectfully ask you to address yourself as to whether or not this program has been authorized by the Congress."¹⁶⁵ Of course, Pittman had to concede that it was not. Throughout the course of the hearings Thomas and his colleagues listened courteously but not particularly sympathetically. At one point Thomas may have startled the civil defense officials when he asked why the OCD had not developed a "little plastic overall covering" that would protect people against radioactive dust.¹⁶⁶ As an indication of his attitude toward civil defense, Thomas even allowed anti-civil defense non-governmental witnesses to testify--a rather

¹⁶⁴HCA, Hearings, Independent Offices Appropriations for 1963, p. 2.

¹⁶⁵Ibid., p. 37.

¹⁶⁶Ibid., p. 59.

unusual practice for an appropriations committee.

While the hearing before the Senate Appropriations Committee was more cordial, this was of little comfort to the OCD. The Congress eventually voted an OCD appropriation that totaled \$113 million, a cut of 84 percent. Predictably, the \$460 million for the Shelter Incentive Program was cut out completely on the basis that there was no legislative authorization for it.¹⁶⁷ The appropriation did, however, include \$38 million to continue the shelter survey and stocking program.¹⁶⁸

The immediate problem for the OCD was, of course, the lack of legislative authorization for the Shelter Incentive Program. Even if Congress were favorably disposed toward civil defense (which it evidently was not), this program could not be funded until the Armed Services Committees had acted. In March 1962 Pittman had asserted that Chairman Vinson's committee had the bill "on its schedule" and would soon bring it under consideration.¹⁶⁹ But month after month passed by with no action. Finally in August, in response to a letter from the President asking him to hold hearings on the bill, Vinson announced that "I do not believe that this country is at this time ready for the shelter incentive program" and he asserted his intentions not to hold hearings on the bill at that time.¹⁷⁰

¹⁶⁷U. S., Congress, House, Committee on Appropriations, Independent Offices Appropriation Bill, 1963, Conference Report from Committee of Conference to Accompany H.R. 12711, Sept. 25, 1962, 87th Cong., 2d Sess., 1962, pp. 3-4.

¹⁶⁸The House Committee had originally voted to strike out even this program.

¹⁶⁹HCA, Hearings, Independent Offices Appropriations for 1963, p. 37.

¹⁷⁰New York Times, August 20, 1962, p. 16:4.

Thus, as 1963 began, the OCD appears to have arrived at something of a dead end. The survey and stocking program continued. The OCD attempted during this time to gain more shelter from its "inventory" of existing buildings by lowering the PF criteria from 100 to 40. The decision had been taken during the Cuban missile crisis when it had become apparent that an insufficient amount of shelter space was available and that the Shelter Incentive Program was not going to gain quick Congressional approval. The decision was based on the assumption that "90 percent of the people in 40 protection factor spaces would not be overdosed with radiation."¹⁷¹ But any move away from existing structures toward the construction of new fallout shelters had been effectively blocked.

During 1963, however, some hopeful signs began to appear that perhaps the incentive program was not completely dead after all. In February of that year, following an appeal by the President and Secretary McNamara, Chairman Vinson grudgingly agreed to hold hearings on the Administration's shelter incentive bill and assigned responsibility for the job to a subcommittee chaired by Representative F. Edward Hébert of Louisiana. The hearings, which began May 28, extended over a period of six weeks during which time 108 witnesses testified and 2669 pages of testimony were compiled. These hearings constituted, by far, the most extensive examination of the pros and cons of the entire civil defense program that had

¹⁷¹HCAS, Hearings, Fallout Shelter Program, p. 5117.

ever been undertaken by a Congressional committee.¹⁷² The content of these hearings will be subjected to analysis in the following chapter, but at this point the actions of the subcommittee are of primary interest and concern.

It is apparent that, like most members of Congress, the members of the subcommittee were predisposed against the Shelter Incentive Program at the outset of the hearings.¹⁷³ Yet Congressman Hébert pledged to approach the question with as much objectivity as possible, noting that "there's no pancake so thin that it hasn't got two sides."¹⁷⁴ True to his word, every point of view was heard. Anyone who had anything significant to say against the program was given an opportunity to do so; and the OCD was given a chance to reply, point by point.

Much to the surprise of the subcommittee members, however, they found themselves increasingly attentive to the arguments that were skillfully presented by the Administration spokesmen, especially Stuart Pittman. On July 12 the subcommittee voted unanimously to

¹⁷²The Holifield subcommittee had, of course compiled a massive record of hearings over the years. However, the basic premise on which those hearings were based was that civil defense was a very desirable goal but was not being properly conducted. The investigations were thus designed to probe the question of how well the various civil defense programs were working. The Hébert subcommittee addressed itself to the more basic question of whether civil defense was worth the effort. Unlike the Holifield subcommittee, the Hébert group heard testimony from all sides on this very basic question.

¹⁷³U. S. Congressional Record, 88th Cong., 1st Sess., CIX, p. 16352.

¹⁷⁴HCAS, Hearings, Fallout Shelter Program, p. 3028.

authorize the Shelter Incentive program.¹⁷⁵ The bill was passed by a voice vote in the House on September 17, 1963.

The passage of the Shelter Incentive bill by the House obviously represented a significant, though somewhat unexpected, victory for the supporters of civil defense. However there still remained "mountains to climb." For one thing, it was clear that not all members of the House were as convinced of the validity of the OCD arguments as Hébert and his colleagues had been. Carl Vinson, in announcing his support for the bill, said that he would be watching the program carefully and if it did not seem to be producing the desired results, he would recommend that it be killed.¹⁷⁶ Furthermore, the floor debate on the bill revealed that there was still widespread misgiving about the shelter program.¹⁷⁷ Beyond this, however, it must be recalled that this was an authorization bill; the OCD still had to secure the needed funds to carry it out. Finally, the bill had to be passed by the Senate. These last two elements constituted the shoals upon which the Shelter Incentive Program foundered.

Despite the action of the House, the Appropriations Committee continued to use the meat-axe approach to the civil defense budget. In 1963 the OCD had requested a total of \$346.9 million, of which \$175 million was for the still unauthorized incentive

¹⁷⁵New York Times, July 13, 1963, p. 2:1. A month later Mr. Hébert was reported to have said: "Those same members came out of the hearing room today, after eight weeks of hearings, having completely reversed the opinions held at the beginning of the hearings. I cannot recall a similar experience in my 23 years in Congress." New York Times, August 14, 1963, p. 13:1.

¹⁷⁶New York Times, August 22, 1963, p. 12:7.

¹⁷⁷U. S. Congressional Record, 88th Cong., 1st Sess., 1963, CIX, pp. 16349-16391.

program.¹⁷⁸ The House committee completely cut out the \$175 million for incentives and reduced the total appropriation to \$87.8 million. The final bill approved \$111,569,000. Commenting on the action of his subcommittee, Thomas said that in contrast with the Hébert group, "we haven't changed our minds. We're not building any fallout shelters, period."¹⁷⁹ If this were not sufficient discouragement for the shelter advocates, the Senate action on the bill provided the coup de grace.

The Shelter Incentive Bill, upon passage by the House, was sent to the Senate where it was assigned to an Armed Services Subcommittee under the chairmanship of Henry Jackson. While the subcommittee did hold hearings in December, no printings of the hearings were made available nor was a report issued. However, in early March the subcommittee voted by a vote of 4 to 1 to defer action on the measure for an indefinite period.¹⁸⁰ When he was asked by Stuart Pittman to comment on why the sudden and unexplained action had taken place, Senator Jackson stated in a letter that:

This decision was based on several factors not necessarily related to the substance of the bill. Principally among them is the fact that ballistic missile defense and the shelter program have been closely related and it is believed that a decision as to both should be similarly related. Likewise,

¹⁷⁸U. S., Congress, House, Committee on Appropriations, Independent Offices Appropriations for 1964, Hearings, 88th Cong., 1st Sess., 1963, p. 951. Hereafter cited as HCA, Hearings, Independent Offices Appropriations for 1964.

¹⁷⁹New York Times, October 8, 1963, p. 27:5.

¹⁸⁰Members of the subcommittee voting to defer action were Senators Henry Jackson, J. Glenn Beall, Stephen M. Young, and Robert C. Byrd. Senator Strom Thurmond voted to report the bill. Senator Barry Goldwater was absent. New York Times, March 3, 1964, p. 22:6.

all programs involving the expenditure of Federal funds must be closely reviewed in the light of the current program of economy.¹⁸¹

The anti-ballistic missile argument came as something of a surprise to civil defense officials. As will be discussed in the following chapter, the OCD had been arguing that the ABM and shelters were complementary. In fact, in justification of their budget requests they had pointed out on several occasions that an ABM system could be circumvented simply by exploding large ground-level bursts up-wind and beyond the range of the ABM's. The fallout would then drift down upon the target areas and, assuming that the death of the population was the intent of the attack, the objective would thus be achieved.¹⁸² But never, in all of the hearings, had the suggestion ever been made that the fallout shelters should be delayed until after the ABM system was in the process of development. And, as Secretary McNamara said in a March 4 news conference,

. . . A fallout shelter program can stand alone and be justified independently of an anti-ballistic missile system, and we believe should be given priority over such a system. But an anti-ballistic system cannot stand alone without a fallout shelter program.¹⁸³

Whatever the reasons for the subcommittee's action,¹⁸⁴ its

¹⁸¹ Department of Defense, Office of Civil Defense, Information Bulletin No. 105, March 12, 1964, p. 2.

¹⁸² HCA, Hearings, Independent Offices Appropriations for 1964, pp. 930, 934-936.

¹⁸³ Department of Defense, Office of Civil Defense, Information Bulletin No. 105, March 12, 1964, p. 1. Italics added.

¹⁸⁴ A recurring contention that was heard by the writer was that ~~Senator Jackson had vetoed the incentive program because of his unhappiness with McNamara's TFX decision, which had been announced a few days earlier. This could not be confirmed and was reported to have been denied by Jackson. Even if the contention were correct, however, it would hardly be expected that Jackson would admit to it.~~

effect was to simply bury the shelter incentive idea, upon which the OCD had so heavily relied. Since the date of that Senate decision nothing more has been attempted or accomplished in that respect. The efforts of the OCD have been directed toward the continuing survey and marking of existing shelter spaces.

Conclusions

The purpose of this chapter has been to describe the evolution of civil defense policy from late 1956 to early 1964 and to explain why particular decisions regarding shelters were made. The major focus has been upon the activities occurring within the executive branch and the interaction between the executive and Congress. While brief mention was made of public opinion, this is the subject of the following chapter and will not be discussed in these concluding observations.

A comparison between the Eisenhower and Kennedy approaches to shelter protection reveals certain similarities, as well as significant differences. Throughout the period under discussion both administrations eschewed the idea of blast shelters and the issues thus centered on fallout shelters. In this respect, the two periods were not dissimilar: both administrations tended to concentrate on the location of existing shelter space and both attempted to quietly encourage people to provide shelter for themselves. In fact, the various proposals appear to have taken on a repetitive character with one program differing from another only in a few details. In reality, however, there were significant differences between the two approaches.

First, the Kennedy program appears to have had well-defined goals along with a series of program proposals that were clearly related to these goals. The Eisenhower program, in contrast, seems to have lacked this quality and it is difficult to determine precisely what the Administration expected to achieve by the National Shelter Policy. Second, the Kennedy Administration clearly exhibited a willingness to rely heavily upon the federal government and only secondarily upon individual initiative. The Eisenhower Administration preferred exactly the opposite approach. Third, the Kennedy Administration was disposed to financially support the construction of new shelters. This, too, was in marked contrast with the Eisenhower Administration. It should be emphasized, however, that the Kennedy Administration did not envisage a massive expenditure of funds; however, it was large in comparison with the record of the Eisenhower Administration.

From this it might be inferred that the Eisenhower Administration did little to advance the shelter program, while the Kennedy Administration did much. Such a view is, in the opinion of the writer, not altogether accurate. Despite many charges to the contrary, the evidence suggests that significant advancements were made during the Eisenhower years. First, evacuation was abandoned and fallout shelters were recognized as the key protective element in civil defense. Second, significant research took place in the field of radiation protection which served as the technological basis for all subsequent programs. Third, the prototype program, while limited, did provide the public with its first real view of protective structures. Fourth,

a considerable amount of experience gained in the OCDM pilot surveys was put to good use in later more ambitious programs. Fifth, although it may not have been due to the efforts of the Administration, civil defense had increasingly come to be looked upon as an important component of national security policy and could no longer be completely ignored by policy makers. Finally, despite some harsh attacks upon them, the professional civil defense officials made significant advancements in the sophistication of their program analyses and succeeded in making available a respectable variety of options to the political decision makers. Their quiet work also paved the way for acceptance of the shelter program by high officials in the Kennedy Administration. These are not earth-shattering developments, but that does not necessarily detract from their long-range importance.

Civil defense during the period covered by this study reached its zenith during the Kennedy years and there can be little doubt that the President was, in part at least, personally responsible for this. He was the first president to bring civil defense into the consciousness of the public, albeit rather briefly. He was the first president to fully and publicly support civil defense. Perhaps his most enduring contribution was his decision to transfer the civil defense function to the Department of Defense where the activity could be supported by resources and expertise that had previously been unavailable to civil defense officials. Of course, there were some apparent blunders during the early days when the Administration appeared to have launched a program without first having defined its

goals. However, the contributions would seem to the writer to far outweigh those early mistakes.

A crucial difference between the two administrations, which may be inferred from what has already been said, was in the attitudes toward civil defense of top-echelon officials, including the respective presidents. The writer was unable to find any evidence that President Eisenhower had ever personally considered shelters to be of much use. When it is recalled that he was continuously concerned about the condition of the federal budget as well as rising military expenditures, there is little reason to believe that civil defense officials ever found much encouragement from the White House. At the same time, evidence has been presented which indicates that other high Administration officials were as negatively disposed toward shelters as the President. This attitude also appears to have affected the performance of Administrators Peterson and Hoegh who, regardless of their private feelings on the matter, certainly did not distinguish themselves by the force, skill and vigor with which they presented the case for shelters. From what the writer was able to learn from talks with civil defense officials, a feeling of pessimism appears to have been characteristic of the rank and file workers during this period.

The Kennedy Administration was, of course, quite different in this respect. The President was clearly convinced of the life-saving potential of fallout shelters and in this he was supported by Robert McNamara. While there were some close advisors of the President who

were cool to the idea of civil defense, this was not sufficient to block the program at that particular level. In addition, and possibly related to, this condition, Steuart Pittman proved to be a skilled advocate of the fallout shelter program and this, in turn, served as inspiration to the career civil servants working in the civil defense vineyard.

It thus appears evident that in order for a program of limited public appeal to succeed to any significant degree, strong support and leadership from the top is essential. The period of strong presidential support coincided with the period of maximum achievement and progress. When, due to reasons that were discussed in the chapter, the presidential support for civil defense began to wane, the troubles of the OCD increased. However, given McNamara's and Pittman's leadership, the civil defense function did not immediately fall upon the "evil days" so characteristic of the 1950's.

However, despite the executive leadership and the skillful advocacy of the fallout shelter program the Administration failed, in the end, to achieve its objectives. And, of course, the insuperable barrier in this case was the Congress.

Throughout the entire study it has been obvious that the major stumbling-block to progress in the field of civil defense has been Congress and particularly the Appropriations committees. Yet two events described in this chapter would suggest that the congressional barrier was not necessarily insuperable. In 1961 the OCD requested \$207 million for its survey program and got precisely what it wanted

with little apparent effort. In 1963, the OCD was successful in bringing about the passage of the Shelter Incentive Bill by the House. These two incidents suggest that the Congress was not altogether opposed to a modest shelter program. The factors that seem to have made the difference between these two cases and all the other confrontations were 1) vigorous presidential leadership, 2) a well-designed program that was related to clearly defined goals, 3) forceful and skillful presentation and defense of the programs before congressional committees and 4) control over pending legislation by committees that were not irrevocably opposed to the basic principle of civil defense.

The unhappy history of the civil defense program reveals that, for the greater part of its history, all four of these ingredients were missing. As has already been emphasized, presidential leadership in the field of civil defense has been an exceedingly rare phenomenon. The programs that were presented to Congress were sometimes irrelevant (as in the case of evacuation after the danger of fallout had become known and the ICBM appeared imminent) or lacking in concrete objectives. The programs, such as they were, were often inadequately presented. Finally, it has been the misfortune of the civil defense function to have fallen under the control of individuals in Congress who were either skeptical of or obdurately opposed to civil defense. This last point, perhaps, merits some elaboration.

It seems to the writer that some care must be exercised in the use of the word "Congress." Such a term may imply a group of people

acting more or less as a unified body. However, even superficial examination of that august body reveals that power is divided among a relatively small group of men--notably the committee chairmen and, to a certain extent, the formal leadership personnel. If a committee chairman is opposed to a given measure he is usually able to have his way in the House or Senate unless strong pressure is brought to bear upon him. Representative Albert Thomas is a case in point. In the opinion of the writer, Thomas was implacably opposed to a shelter program for two very simple reasons: first, he did not expect a war to take place and, second, even if it did, then shelters would be utterly useless. It is fairly obvious that no facts or arguments could convince him otherwise. As the chairman of an extremely important appropriations subcommittee, which among other things handled the civil defense budget, he was in a position to make his views stick--as long as no vigorous pressure was brought to bear upon him by the Executive or other leaders in Congress. Similarly, it was widely understood that Carl Vinson, Chairman of the House Armed Services Committee, was highly skeptical of the value of shelters. Like most members of his committee he had been convinced that the only meaningful protection for the American people lay in a massive and invulnerable retaliatory strike capability. This attitude was also shared by Clarence Cannon, the Chairman of the House Appropriations Committee. Thus, by unhappy coincidence, those people in Congress who had the greatest control over civil defense were generally opposed to it. Herein lies a good part of the explanation for the failure of Congress to approve the various civil defense proposals.

CHAPTER V

THE PUBLIC AND THE FALLOUT SHELTER QUESTION

This analysis of the evolution of the nation's shelter policy has thus far focused largely upon the actions and interactions of various agencies and individuals within or closely associated with the formal structure of government. This has been done on the assumption that public policy decisions are generally made by comparatively small groups of people. Yet in order to understand why a given policy may be adopted while another may be rejected, it is not enough to examine the actions of only the "proximate policy makers."¹ Some reference must be made to the public milieu within which the decision makers operate. That is to say, the policy makers operate in, and are a part of, an environment consisting of traditions, customary patterns of thought and articulated expressions of various hopes and fears.

Thus it may be argued that any study designed to explain the evolution of a particular public policy must at some point come to grips with the question of public opinion. As one observer has put

¹This term, borrowed from Charles Lindblom, seems to be preferable to "elites" because it is less encumbered with ideological overtones. Lindblom describes the proximate policy makers as those "who share immediate legal authority to decide on specific policies, together with immediate participants in policy decisions . . . who are strong and immediate participators in actual decisions on policy. . . ." Charles E. Lindblom, The Policy-Making Process (Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1968), p. 30.

it, public opinion "may be measured by the spoonful or the carload, but some traces of it are always there."² Yet it is also apparent that any effort to deal with the nature of public opinion and its linkage with public policy is a perilous venture replete with innumerable ideological, conceptual and methodological pitfalls.

First, it is quite clear that no agreement has been established as to the connection between public opinion and public policy. In earlier days public opinion was often looked upon as a "mysterious vapor that emanated from an undifferentiated citizenry and in some way or other enveloped the apparatus of government to bring it into conformity with the public will."³ Such a view, perhaps derived from the American creed that every citizen should have an equal opportunity to influence public policy, would seem to be far from moribund. Thus Walter Lippmann, long a critic of the public's role in policy making, has gone so far as to attribute major failures of American foreign policy to public opinion which he feels to have been "disastrously wrong" at critical periods of the nation's history.⁴

On the other hand, there have been those such as C. Wright Mills who, in arguing that public policy matters are determined by a "power elite" consisting of an interlocking group of industrial, military and governmental figures, have strongly implied that public opinion

²Bernard C. Cohen, The Political Process and Foreign Policy: The Making of the Japanese Peace Settlement (Princeton, N. J.: Princeton University Press, 1957), p. 29.

³V. O. Key, Jr., Public Opinion and American Democracy (New York: Alfred A. Knopf, 1961), p. 536.

⁴Walter Lippmann, The Public Philosophy (New York: Mentor Books, 1955), p. 24.

is largely irrelevant to the public policy making process.⁵

Not only has there been considerable disagreement as to the connection or linkage between public opinion and public policy, but serious questions have been raised as to whether the term "public opinion" has any real meaning. The term "public" carries the connotation of a more or less unified entity. Yet as increasing attention has been given to the subject, it has become apparent that there is not one, but many publics. On almost any given issue a veritable cacophony of voices may be heard advocating diverse and sometimes totally contradictory courses of action. It would thus appear evident to the most casual observer that the "public" acting as a unified entity is a rare phenomenon indeed. There is also a problem in dealing with the term "opinion." If by an opinion is meant a reasonably enlightened and rational judgment on a given issue, then this, too, is uncommon. It has been clearly demonstrated that large numbers of people are uninterested in and uninformed about public issues.⁶ Almond has suggested that, at least in the area of foreign policy, Americans are possessed of "moods" rather than opinions.⁷ Perhaps "attitudes" or "sentiments" or "prejudices" would be more accurate designations for viewpoints that are often largely based on hunch or emotion. In

⁵C. Wright Mills, The Power Elite (New York: Oxford University Press, 1959), passim.

⁶Paul F. Lazarsfeld, Bernard Berelson, and Hazel Gaudet, The People's Choice, 2nd ed. (New York: Columbia University Press, 1948), pp. 40-51. Angus Campbell, Gerald Gurin and Warren Miller, The Voter Decides (Evanston, Ill.: Row, Peterson and Co., 1954), p. 30. Angus Campbell, Philip Converse, Warren Miller, and Donald Stokes, The American Voter (New York: John Wiley and Sons, 1960), pp. 172-175.

⁷Gabriel Almond, The American People and Foreign Policy (New York: Frederick A. Praeger, 1960), pp. 69-70. This work was originally published in 1950.

any event, such conceptual problems led V. O. Key, in what must be considered an understatement, to suggest that it is not particularly illuminating to speak of "the public" in dealing with the question of public opinion.⁸

One convenient manner of dealing with this problem is to distinguish between the "mass public" and the "articulate public." That is to say, on any given issue there will be a very large mass of people who are largely uninformed about public affairs in general and who lack structured opinions on the issues. Their response to public policy questions tends to be "less one of intellect and more one of emotion."⁹ There will also be a much smaller group of people who may be interested in, informed about, and possessed of structured opinions on public issues but who do not express these opinions in public or in ways designed to influence others. These two groups constitute what the writer chooses to call the "mass public."¹⁰ By the "articulate public" is meant that very small group of individuals with "structured thoughts and reasoned, individualized arguments" who, acting alone or in groups, articulate their opinions with a view of shaping or affect-

⁸Key, op. cit., p. 543.

⁹James N. Rosenau, Public Opinion and Foreign Policy (New York: Random House, 1961), p. 35.

¹⁰It should be noted that Rosenau distinguishes clearly between the two groups, calling one the "mass public," and the informed but inarticulate group the "attentive public." Ibid., pp. 35-41. The writer has chosen to combine these two groups for the simple reason that the public opinion data available on the subject do not clearly distinguish between those who are informed and those who are not. Rosenau's breakdown does, however, appear to have considerable merit for the scholar who intends to collect his own survey data and who therefore has control over the sampling process.

ing the decisions of the proximate policy makers.¹¹

Three points should be made at the outset with respect to both of these publics. The first is that the composition of the mass public and the articulate public is constantly shifting with different issues. Thus a member of the articulate public on the issue of fallout shelters may become a member of the mass public (of either the informed or uninformed variety) on the issue of farm supports or the treatment of migratory birds. The second point, perhaps too obvious to mention, is that the articulate public, small as it may be, is by no means monolithic. That is, conflict among the articulate publics is very much the rule rather than the exception. The third point is that while members of the articulate public tend to be well informed on the issues, this is not always the case nor does it rule out the possibility of strong feelings, emotions and prejudices. Similarly, while their ideas might tend to be well structured, this does not mean that the ideas will lead to the same conclusions. There will be differences in the extent of information possessed, as well as different perceptions as to the meaning of that information.

Having set forth the proposition that there are various kinds of publics and great variety in the quality of the opinions of such groups, it may be appropriate to set forth a working definition of "public opinion." The writer has found it convenient to utilize V. O. Key's simple definition of public opinion as "those opinions held by private persons which governments find it prudent to heed." He goes on to say:

¹¹Cohen, op. cit., p. 62.

Governments may be compelled toward action or inaction by such opinion; in other instances they may ignore it, perhaps at their peril; they may attempt to alter it; or they may divert or pacify it. So defined, opinion may be shared by many or by few people. It may be the veriest whim, or it may be a settled conviction. The opinion may represent a general agreement formed after the widest discussion; it may be far less firmly founded. . . . Whatever the character or distribution of opinion, governments may need to estimate its nature as an incident to many of their actions.¹²

Accepting this definition, along with the division of "publics" described earlier, it is possible to proceed with the analysis. At one particular period, at least, the Administration clearly thought it to be in the nation's interest to have a fallout shelter system. When proposals for such a system were made, there developed something of a public debate on the subject. Certain articulate publics expressed criticisms and questions which were taken seriously enough by the Administration to occasion some reply. At the same time, the OCD undertook a serious study of the attitudes of the mass public to determine the degree to which it might share the misgivings of the articulate public. Given Key's definition and given the Administration's actions, it may be said that a "public opinion" with respect to the fallout shelter program did exist.¹³ The purpose of the present chapter is to describe and analyze selected aspects of that public opinion and the Administration's reaction to it.

An examination of the public discussion of the shelter program

¹²Key, op. cit., p. 14.

¹³Key "cheerfully conceded" that his conception of public opinion is difficult to apply in research because of the problem of knowing what opinions governments heed. Ibid. However, the position of the writer is that the fact that government officials actively responded to the opinions is prima facie evidence that such opinions had been "heeded," if we mean by that "to pay attention to."

reveals that three clusters of arguments were developed by those articulate publics who were opposed to the program. First, there was a series of arguments that attempted to demonstrate that there was no need for shelters of any kind. Second, a number of questions were raised that challenged the technical feasibility of the fallout shelter program. Finally, there were suggestions that a shelter program was undesirable because it was likely to produce serious psychological ramifications as well as deleterious domestic and international effects. Each of these themes, it should be emphasized, contained numerous variations; but taken together they amounted to a formidable attack upon the Administration's policies and plans. This chapter will be divided into four sections, the first three of which will consist of an examination of the criticisms and arguments raised by the articulate publics as well as the responses of the Administration and some of its supporters. The fourth section will consist of a brief examination of the state of mass public opinion on the shelter issue. The objective of this analysis will be to ascertain the nature of the public milieu within which the proximate policy makers functioned on this particular issue.

The Basic Need for Shelters

The fundamental objective of the fallout shelter program was, of course, to preserve some lives which would otherwise be lost as the result of a nuclear attack. Few, it would seem, have ever questioned the basic desirability of such a goal.¹⁴ However, a major theme run-

¹⁴However, it may possibly have been believed by a few (no specific person cited) that ". . . nuclear war is so colossal a sin that there is only one atonement: universal death." Nicholas Rosa, "The Case for Fallout Shelters," The Reporter, XXV (December 21, 1961), p. 16.

ning through what might be called the "civil defense debate" was the proposition that shelters would simply not be needed. This position has assumed several forms. It was for example, earlier pointed out that some members of the House Appropriations Committee had expressed the opinion that nuclear weapons would not be used and/or that civil defense measures of the type taken during World War II would be quite adequate.¹⁵

While there is no evidence to suggest that such a perception was widely shared by the articulate public, there were a great many more people who believed that nuclear war was either impossible or so improbable that any kind of shelter program should have very low priority. The basic argument in this respect was that the very existence of nuclear weapons had rendered all-out war impossible. Some argued along with General Douglas MacArthur that "war has become a Frankenstein to destroy both sides. . . . No longer does it possess the chance of the winner of the duel--it contains, rather, the germs of double suicide."¹⁶ In other words, war was impossible because it was irrational in the sense of being self-destructive of all parties concerned.¹⁷ Still others argued that the existence of the deterrent made the likelihood of nuclear war so very small that expenditures

¹⁵See p. 173, footnote 83 of this study.

¹⁶HCAS, Hearings, Fallout Shelter Program, p. 3043. Quoted by subcommittee counsel Philip W. Kelleher, who presented a staff study at the outset of the hearings which summarized the major arguments against the shelter program.

¹⁷Throughout this study it has been pointed out that the major reason for Albert Thomas' opposition to civil defense was his belief that nuclear war was simply not going to occur.

for shelters would be a gross waste of money.¹⁸

A second line of argument implying that shelters would not be needed centered on the belief that any effort at defense would simply be futile, once the "button" had been pushed. In many cases this viewpoint was merely stated as a fact without any apparent effort to provide supporting evidence. Thus Sidney Lens, in an attack upon the fallout shelter program, quoted Walter Lippmann as saying that "in the long run, even objectives as limited as the goals of civil defense, cannot be achieved. . . . There is no defense for civilians. There is still no place to hide."¹⁹ Others, such as Linus Pauling and Arthur Wascow have argued that even if a great system of fallout shelters were deployed, they would simply be rendered obsolete by the comparatively rapid development of offensive weapons systems.²⁰ If any defense was, by definition, impossible, then shelters would obviously be superfluous.²¹

A third opposition theme centered on the idea that while the life-saving goal of civil defense was desirable, shelters would not be needed because there were more effective ways of achieving that end.

¹⁸U. S. Congressional Record, 88th Cong., 1st Sess., 1963, CIX, p. 16351. Congressman Brown of Ohio expressed a common complaint that there didn't seem to be much sense in investing in shelters when billions of dollars were being spent to deter an attack.

¹⁹Sidney Lens, "The Case Against Civil Defense," The Progressive, XXVI (February 1962), p. 11. Italics added.

²⁰Linus Pauling, No More War! (New York: Dodd, Mead and Co., 1962), p. xiv of addendum. Arthur Wascow, "Civil Defense: Both Red and Dead," No Place to Hide, ed. Seymour Melman (New York: Grove Press, 1962), p. 50.

²¹There were other arguments that while "some" defense might be possible, the specific OCD proposals would not do the job. These arguments will be examined at a later point.

On the one hand, there were those who believed that the saving of lives could best be achieved by developing such an overwhelming superiority of offensive armaments that no potential enemy would dare attack in the first instance. This deterrent idea, as has been pointed out in an earlier chapter, was essentially the view of Air Force General Curtis LeMay and it was very possibly shared by a large number of congressmen. The argument was summed up by New York Times columnist Arthur Krock who insisted that "the only adequate . . . shelter from nuclear attack is a military and economic power no enemy will dare to invoke."²² A variation of this particular emphasis upon offensive power has been the suggestion, which was to assume great significance in subsequent years, that the development and deployment of active defense systems would do a more effective job of protecting life than shelters. General John Mederis, the chief of the Army's missile development program until 1960, argued that funds allocated to civil defense could more effectively be used in the development of an efficient "anti-missile missile," which would not only mitigate the intensity of an enemy attack, but would also make it easier to launch the retaliatory weapons and would thus add credibility to the deterrent.²³

Still another argument centering on the need for shelters was the proposition that the best way to preserve life would be through the promotion of international understanding, arms control agreements and effective world government. According to Norman Cousins:

²²"The Shelter Bible," The Nation, CXCV (January 13, 1962), p. 22.

²³"Survivability," Senior Scholastic, LXXIX (October 1962), p. 14.

If the energy, money, and resources now going into shelters were to be put to work in the making of a better world, we would do far more to safeguard the American future than all the underground holes that could be built in 1,000 years.²⁴

Such a view was, as might be anticipated, reflected by various pacifist organizations such as the National Committee for a Sane Nuclear Policy (SANE) and the American Friends Committee. According to a 1961 publication of the latter organization,

The civil defense program can serve a constructive purpose, however. If the American people are given the full facts, the devastation of a nuclear war can then be balanced against the risks involved in world disarmament and in relinquishing some sovereignty to develop a truly effective United Nations and international court system. Confronted with these alternatives, men may choose to accept considerable changes required within nations and in the international community to create a disarmed world under law.²⁵

These arguments were in many ways the most basic and fundamental of all those used against the fallout shelter program. The implication of the criticisms was that while the life-saving goal of the program might indeed be commendable, it was either an impossible goal or one which could better be achieved by other means. In any case, the shelter program was dismissed as simply not being needed. There were, of course, many other arguments against the shelter program. But before moving on them, it would be appropriate to describe the Administration's response to these questions and criticisms.

A first problem for the advocates of the fallout shelter program was to respond to the argument that shelters would not be needed because war was an impossibility. Manifestly, no shelter program

²⁴Norman Cousins, "Shelters, Survival and Common Sense," Saturday Review, XLIV (October 1, 1961), p. 30.

²⁵Friends Committee on National Legislation, "Civil Defense: Shelters or Tombs? Some Facts on a Morbid Subject," (October 1961), p. 1. (Mimeographed.)

could possibly be justified if it were believed that no attack was going to occur. In general, Administration spokesmen assumed that all-out thermonuclear war was not likely to occur, but that it nevertheless remained a possibility as long as nuclear weapons existed. Such an event, they suggested, could be triggered by an accident, a miscalculation, or an act of insanity. The danger of such a catastrophe had, if possible, been intensified by the proliferation of nuclear weapons,²⁶ and the threat of escalation inherent in "limited" wars of either the conventional or unconventional variety. Given such possibilities, however small, the "intuitive feeling that nuclear weapons would never be used because to do so would be suicidal, insane or irrational" could not permit those responsible for the safety of the nation to refrain from doing all that was possible to prepare for and minimize the effects of such a catastrophic event.²⁷

A more difficult question to answer was whether any defense against nuclear weapons was possible. As suggested in the previous chapter, the Administration had conceded that unprecedented numbers of people would die as a result of a nuclear attack. On the other hand, theoretical studies carried out by the OCD had indicated rather clearly that large numbers of people could be saved. Admittedly, the studies were theoretical and were obviously subject to error. On the other hand the studies utilized precisely the same techniques and data that had been used to evaluate and justify other military systems.

²⁶These arguments were presented before the negotiation of the Nuclear Non-Proliferation Treaty in 1967.

²⁷HCAS, Hearings, Fallout Shelter Program, pp. 3069-3070. The basic case for the shelter program before the Hébert Subcommittee was presented by Steuart Pittman.

If the analyses of the other weapons systems were accepted as sufficiently valid to proceed, then why not the analysis of fallout shelter potentials?²⁸ On the question of whether a shelter system would be made obsolete by offensive weapons development, Secretary McNamara has insisted that fallout shelters represent the only damage-limitation system that cannot be offset by lesser expenditures by an enemy on offensive weapons.²⁹

With respect to the question of whether measures other than shelters might more effectively achieve the life-saving goals proclaimed for civil defense, the Administration presented several points of rebuttal. First, from at least the time of Secretary McNamara's appointment as Secretary of Defense, the military leaders had regarded the limited fallout shelter program as complementary to, rather than competitive with, both the deterrent and such active defense systems as the ABM.³⁰ In a January 1963 statement before the House Armed Services Committee, McNamara pointed out that "although Civil Defense is presented as a separate program, it is actually an integrated part of our overall defense posture and its size and character are intimately related to those of our defensive forces."³¹ On the other hand, McNamara had long insisted

²⁸Ibid., p. 3072.

²⁹U. S., Congress, House, Committee on Appropriations, Department of Defense Appropriations for 1966, Hearings, 89th Cong., 1st Sess., 1965, Part 3, p. 156.

³⁰While it appears that military officers may have been less than enthusiastic about civil defense during the 1950's the writer was assured that they firmly supported the relatively low-cost fallout shelter program. Interview with Col. Orville L. Parker, U.S.A., Military Advisor to the OCD, July 14, 1968.

³¹Department of Defense, Office of Civil Defense, "Comments of Secretary of Defense Robert S. McNamara on the Role of Civil Defense in the National Defense Structure," 1963, p. 3. (Mimeographed.) Hereafter cited as OCD, McNamara Comments.

that any ABM system which was designed to protect cities would lose much of its value without fallout shelters.³² As far as the Department of Defense was concerned, therefore, the question of taking funds from one military program to strengthen another was just not germane to the issue.

The OCD did not deny that arms control agreements and dialogue with the potential enemies would be preferable to the existing balance of terror. But civil defense officials did suggest that the lack of progress in that direction was caused by the difficulties in negotiating solutions acceptable to all the great powers, rather than by the diversion of limited resources to the civil defense program.³³

In the view of Secretary McNamara:

The facts of life are that, in today's world, preparedness is part of the price of peace. We do not hold back from keeping our defenses strong, even while we patiently negotiate to abolish both war and the means of war. Civil Defense is no more than the shield in relation to the sword of military defense.³⁴

It has, in fact, been argued by some supporters of the shelter program that the possession of a civil defense capability would actually enhance the possibilities of reaching arms control agreements by removing some of the fears of minor treaty violations.³⁵

³²Freeman J. Dyson, "Defense Against Ballistic Missiles," The Bulletin of the Atomic Scientists, XX (June 1964), p. 12.

³³HCAS, Hearings, Fallout Shelter Program, p. 3060.

³⁴OCD, McNamara Comments, p. 2.

³⁵D. G. Brennan, et. al., Arms Control and Civil Defense (Harmon-on-Hudson, N. Y.: The Hudson Institute, 1964), p. 25.

The Feasibility of Shelters

The criticisms of the shelter program by the articulate public were not, of course, confined to these rather general issues. There were also a number of questions raised with respect to the technical feasibility of fallout shelters. That is, a number of critics questioned whether the fallout shelter program, as envisaged by the Administration, would be effective in preserving the lives of those who may have survived the blast and thermal effects of a nuclear attack.

One of the most impressive arguments used against the OGD fallout shelter proposal concerned the long-term ecological effects of radioactivity. Specifically, it was suggested that fires and residual radiation produced by nuclear weapons would cause fundamental ecological changes that would eventually bring about the demise of those who had managed to survive the immediate effects plus the first few days or weeks of fallout. Thus, for example, Dr. Tom Stonier, Associate Professor of Biology at Manhattan College, told the Hébert subcommittee that:

Fallout would produce large numbers of sick plants. Sick plants are the ideal breeding ground for herbiferous insects, such as locusts, or many other types. In addition to this, fallout would greatly reduce the vertebrate predators such as the skunks and birds and so forth, which help keep the insect populations in check. It is not possible to predict which insects, although you can indicate some likely candidates. But if you go down the list of problems we have now with insects and compare many of the little known ones which are potential problems, one can envision an assault on the plant cover which would make the locust plagues of Biblical times look like tea parties.³⁶

On another occasion, Professor Stonier alluded to the theory that an

³⁶HCAS, Hearings, Fallout Shelter Program, p. 4938. Italics added.

ice age is initiated by the reflection of solar energy by small particles in the atmosphere and he suggested that "if one makes a calculation as to how much dust might be thrown up by, let us say, one hundred 20-megaton ground burst, one begins to feel very uncomfortable. . . . I am not saying that an ice age is probable . . . [but that] it is the kind of disturbance in nature that one cannot simply ignore."³⁷

The fear that a nuclear war would seriously upset the balance of nature and render recovery impossible has also been expressed by other scientists such as Dr. Barry Commoner, the Chairman of the Department of Botany of Washington University in St. Louis.³⁸ The Commoner group felt it necessary to note that because of man's ever-greater reliance upon the products of technology, it is easy to forget that he, like any other animal, is dependent upon his environment for sustenance.

We are beginning to realize that the release of industrial wastes, of such synthetic chemicals as pesticides and detergents, and the dispersal of automobile exhausts may pose serious problems, but of what magnitude we cannot yet estimate. These disruptions in the environment are miniscule compared to those a nuclear war will produce.³⁹

³⁷Oak Ridge National Laboratory, Panel Discussion on Civil Defense. American Nuclear Society, Annual Meeting, June 23, 1965, Gatlinburg, Tennessee, (Oak Ridge, Tenn.: Oak Ridge National Laboratory, 1965), pp. 12-13. Stonier discussed this question at some length in his book Nuclear Disaster, (New York: World Publishing Co., 1964), pp. 138-141.

³⁸John Walsh, "Scientists and Civil Defense: Dialogue at Berkeley," Science, CXXXIX (January 7, 1965), p. 56. Dr. Commoner has been a leading figure in an organization called the Greater St. Louis Citizens' Committee for Nuclear Information. This group has published a periodical entitled Scientist and Citizen and is regarded, even by the OCD, as "responsible" in its criticisms. As Gerald Gallagher told the writer, "The St. Louis group opposes much of what we're trying to do. But at least they do it intelligently." Interview, July 18, 1968.

³⁹"Ecological Recovery," Scientist and Citizen, VII (May-June, 1965), p. 37.

The point of this line of attack is, of course, that there is very little to be gained in saving people from radioactive fallout only to have them perish in a hostile environment.

A somewhat similar argument against the OCD shelter proposals was that they would not protect against large-scale and harmful genetic effects in the survivors. The Committee for a Sane Nuclear Policy set forth the following figures on the genetic effects of a "small nuclear attack (1,500 megatons), and assuming that 40 million people 39 years of age or less survived."⁴⁰ The data were provided by Dr. James V. Neel, Chairman of the Department of Genetics of the University of Michigan Medical School:

TABLE V-1
MUTATIONS IN CHILDREN OF SURVIVORS ^a
(Figures for 30 generations)

	<u>Low Estimate</u>	<u>High Estimate</u>
Mutations resulting in obviously defective children	240,000 to 960,000	9,600,000 to 38,000,000
Mutations resulting in stillbirth	4,800,000 to 9,600,000	192,000,000 to 384,000,000
Mutations resulting in persons with impaired vigor or fertility	12,000,000 to 19,200,000	480,000,000 to 768,000,000

^aNational Committee for a Sane Nuclear Policy, The Effects of Nuclear War (New York: National Committee for a Sane Nuclear Policy, Inc., n.d.), p. 15.

⁴⁰National Committee for a Sane Nuclear Policy, The Effects of Nuclear War (New York: National Committee for a Sane Nuclear Policy, Inc., n.d.), p. 15.

Surprisingly, however, the issue of genetic effects of nuclear warfare was not raised to any significant degree by any of the shelter critics appearing before the Hébert subcommittee.

The effectiveness of the fallout shelter program was also criticized on the basis that it contained no provisions for dealing with chemical and biological weapons.⁴¹ The argument of the critics in this regard was simply that if an enemy had gone so far as to launch a major nuclear attack upon the United States, then it would be reasonable to assume that every weapon in his arsenal would be utilized. And, in view of the widely known fact that both the United States and the Soviet Union were in possession of chemical and biological weapons, their use could reasonably be assumed. Thus, according to one critic, the deployment of fallout shelters would cause the use of these agents "in which case the shelter ventilation system would become an over-size spray gun loaded with lethal chemicals that would kill the . . . [people] inside."⁴²

Finally, it was suggested that the fallout shelter system was not technically feasible because it could not protect the inhabitants against fires and firestorms. According to Dr. Alexander Langsdorf, a physicist at the Argonne Laboratories,

From an airburst you get a massive firestorm which might set all Chicago on fire. Concrete fallout shelters would turn into ovens, cooking the people inside. If they don't burn, they would probably suffocate, because all the oxygen would be consumed.⁴³

⁴¹HCAS, Hearings, Fallout Shelter Program, p. 3035.

⁴²Mary M. Grooms, "A Revolt Against Shelters," The Nation, CXCI (May 13, 1961), p. 413.

⁴³HCAS, Hearings, Fallout Shelter Program, p. 3034.

According to Harrison Brown, an area of 450 square miles "would be one great sea of fire, which would burn until there was nothing more to consume."⁴⁴ SANE quoted William T. Han of the Medical College of Virginia as saying that

A fire circle 25 miles in radius encompassing an area over 1,900 square miles . . . everyone and everything within this tremendous area would probably be consumed in the holocaust. . . . It is believed that the firestorms are an almost inevitable consequence of a megaton drop on a large metropolitan city. Just what measures can be adopted for survival during a firestorm are not readily apparent.⁴⁵

Those critics of the shelter program who were most concerned about the fire peril seem to have been much impressed by and drawn certain inferences from the firestorms that had occurred in Hamburg and Dresden during World War II. The Hébert subcommittee counsel, Mr. Kelleher, cited a statement made by James R. Newman who had been the "chief intelligence officer for the United States Embassy in London during World War II." According to Newman, 8,000 tons of bombs were dropped and produced a phenomenon in Hamburg

that man has never seen before, except perhaps in prehistory. Fires joined together in a radius of 3 miles. Hot gasses arose, while surrounding cool air was pulled in and acted as a bellow. Seventy thousand of Hamburg's 100,000 street trees splintered to earth. Two hundred and fifty thousand dwelling units out of 556,000 were completely destroyed. The fire lasted for seven days. Temperatures flared up to 1,400 and 1,800 degrees so that the bricks themselves actually burned. Thousands and thousands of people were in shelters at the time; all but a negligible fraction died anyway. Bodies were still being dug up 6 months later; most of them completely unmarked by fire. They had died

⁴⁴Lester Grinspoon and James Liebman, "Anxiety, Anger and 'The Enemy,'" The New Republic, CXLV (September 4, 1961), p. 11.

⁴⁵A Program to Replace Civil Defense, p. 3. *Italics added.*
This was an undated and mimeographed paper which was part of a "Civil Defense Packet" made available by SANE in August 1961. It was designed to provide the reader with a summary of the major arguments (as viewed by SANE) against the shelter program.

of suffocation and carbon monoxide--70,000 in all. In Dresden, where another firestorm occurred, 300,000--the writer has been unable to confirm the accuracy of this figure--were killed in a single night, and only 2,000 tons of bombs were dropped.^{45a}

The point at issue was, of course, that it would be of no value whatsoever to place people in shelters if those shelters were nothing more than mass crematories.

It may perhaps be observed at this point that many of these arguments, while apparently directed against the fallout shelter program, could easily have been directed against the entire subject of civil defense. Some of the criticisms, such as those relating to ecological and genetic effects, implied that no meaningful defense at all was possible once an attack had been initiated. Nevertheless, civil defense officials apparently felt themselves obliged to provide some answers to these questions even though firm support data did not always exist.

With respect to the problem of possible ecological dangers, the shelter proponents generally acknowledged that radiation was capable of causing enormous damage, including the injuring of plant life, but they argued that this did not necessarily mean uninhabitability.⁴⁶ Dr. Paul Tompkins, formerly the head of the NRDL and in 1963 the Executive Director of the Radiation Council, recalled that the island of Rongalap in the Marshall Islands had been exposed to extremely high radiation doses during the 1954 nuclear weapons tests. Yet, he pointed out, that island was again inhabited by natives who were living "quite happily and comfortably." He went on to emphasize

^{45a}HCAS, Hearings, Fallout Shelter Program, pp. 3034-3035.

⁴⁶Ibid., p. 3612.

that this particular experience on Rongalap was neither a laboratory experience nor an extrapolation: "The [radiation] levels actually arrived there, the effects have been observed. The effects are there; devastation is not."⁴⁷ Steuart Pittman argued that scientific information available to the OCD suggested several points:

In the first place, the ecological consequences of radiation damage are slow acting, particularly on vegetation.

Secondly, the effects will be highly variable depending on the amount of fallout, so that species will survive in many areas near more severely affected zones.

And finally, virtually all ecological communities in this country are susceptible to strong human influence. Man has already radically altered the balance of nature for his own purposes. So the significance of any altered ecological effects will depend upon how expeditiously man reasserts his control in the post-attack period. Since the consequences are slow to appear, there would be many months, perhaps years, in which to compensate for any destructive changes, should they occur. To illustrate: the use of pesticides on insects, agricultural chemicals on soil recovery, and so forth.⁴⁸

The impression derived from the testimony of civil defense officials and other proponents of the shelter program on the subject of the untoward ecological effects was that the danger should most certainly be recognized. But they also insisted that the ecological effects are only "approximately known"⁴⁹ and that survival could not simply be precluded, as the critics had strongly implied.

The question relating to the possible genetic damage caused by radiation exposure was not, as mentioned, discussed to any significant degree by those critics appearing before the Hébert subcommittee. Nevertheless the subject had been heavily emphasized by such opposition

⁴⁷Ibid.

⁴⁸Ibid., pp. 5155-5156.

⁴⁹Ibid., p. 5155.

groups as SANE.⁵⁰ The proponents of the shelter program have attempted to respond to some of the allegations by suggesting that uncertainties and incomplete data had often led to a "pyramiding of inferences and purely hypothetical overestimation of the dangers involved."⁵¹ Regardless of what the genetic effects of a nuclear war might be, argued Nobel physicist Eugene Wigner, "the greater the contingency appears, the greater should be the incentive to alleviate it."⁵² In view of the relatively rapid decay of residual radiation, shelters would seem to be the very measure that would reduce the harmful genetic effects. The implication of the OCD was that those who were worried about the genetic effects should be supporting the idea of fallout shelters rather than opposing it.

The proponents of the shelter program also recognized the dangers to life implicit in the existence of biological and chemical weapons, though they gently suggested that such perils could easily be exaggerated, given the present state of the "art." According to Stuart Pittman, the question of such weapons had been subjected to intensive study by the Joint Chiefs of Staff and the conclusion had been reached that

⁵⁰In addition to the activities of groups such as SANE, civil defense officials were also concerned about the effects on the people of such popular novels as Neville Shute's On The Beach which, contrary to established scientific fact, pictured radioactive fallout blanketing the entire earth and apparently never decaying. Interview with Dr. James O. Buchanan, Staff Director of the OCD Shelter Research Division, June 24, 1968.

⁵¹Marshall Brucer, "Editorial," Journal of the American Medical Association (January 6, 1962), pp. 66-67.

⁵²Eugene Wigner, "Reply to the Criticism of the Project Harbor," Scientist and Citizen, VII (August 1955), p. 55.

. . . neither chemical nor biological weapons have yet developed to the point that they constitute a threat to the continental United States, which is competitive with nuclear weapons as a killer of people. This is one of the many potential future weapons which is kept under the closest possible study so that military and civil defense measures can be developed to meet it, if and when, it ever materializes.⁵³

The problem seemed to be very largely one of controlling such weapons, used strategically, so as not to do as much damage to the attacker as to the victim. But even recognizing the vast potential of such weapons, argued Pittman, people would be "clearly better off grouped in shelters with knowledgeable leadership and the necessary defensive equipment available."⁵⁴ Furthermore, if chemical and biological warfare did materialize as an instrument of intercontinental warfare, it would be necessary and possible to secure filtration equipment, gas masks and so forth to deal with it. While such measures might be expensive, according to Mr. Pittman, "there is no question that this can be done."⁵⁵

Finally, there was the problem of fire effects. The OCD and its predecessor organizations had, of course, long recognized the need for adequate fire control measures in any civil defense program. The shelter advocates acknowledged that very large bombs, in the hundred megaton range, when detonated at high altitudes, would produce a very wide radius of thermal pulse which would ignite inflammable materials. They also recognized the clear and obvious fire hazards of the comparatively "smaller" thermonuclear bombs. However, the OCD officials also attempted to point out certain considerations that could affect

⁵³HCAS, Hearings, Fallout Shelter Program, p. 3056.

⁵⁴Ibid., p. 3055

⁵⁵Ibid.

one's perception of the seriousness or even solubility of the problem.

First, it was pointed out that the explosion of a very large weapon at heights sufficiently great to cause widespread incendiary effects would thereby reduce the blast and radiation effects. In other words, the incendiary use of weapons is somewhat competitive with the destructive effects of blast and fallout and it is by no means certain that a potential enemy would choose the former over the latter. Second, it has been suggested that the development of a firestorm subsequent to a nuclear detonation can by no means simply be assumed. Certain conditions, such as the existence of certain inflammable materials together with particular geographic distributions of such materials, are necessary for such a phenomenon to occur. The OCD pointed out, on the authority of several leading fire experts, that only six American cities had the potential of a firestorm.⁵⁶ Moreover, it was pointed out that even if a firestorm did develop, it would tend to be concentrated within the lethal blast area because the fires tend to be drawn inward toward the center of the circle. People located in fallout shelters in areas peripheral to the blast areas would not necessarily perish from the firestorm and would, in fact, be provided at least some protection by the shelter from the fires.⁵⁷ The OCD, while not minimizing the horror of the Hamburg raid during World War II did suggest that it was possible to exaggerate the loss of life due to the firestorm. According to the United States Strategic Bombing Survey, most of those who were killed were

⁵⁶Ibid., pp. 3054-3055. The names of the six cities were not revealed.

⁵⁷A. Broido, "Surviving Fire Effects of Nuclear Detonations," The Bulletin of the Atomic Scientists, XIX (March, 1963), p. 21.

victims of blast and falling debris rather than the fire effects. It was estimated by the Survey that 280,000 people were sheltered within the firestorm area, of whom 40,000 died as a result of the firestorm phenomenon.⁵⁸ While this situation was recognized by officials of the OCD to be nothing short of horrendous, their point seemed to be that suffocation from firestorms was simply not the overwhelming and paralyzing problem that the shelter critics had suggested. The deaths resulting from blast and radiation in a nuclear explosion would be far more numerous and it was towards the reduction of the latter effect that the fallout shelter program was aimed.

These, in summary form, were the major arguments raised by critics, and the responses of the shelter advocates, regarding the feasibility of the system being proposed. There was however, also a series of arguments that centered on psychological and social issues. These will now be examined.

Psychological and Social Effects of Fallout Shelters

The opponents of the fallout shelter program went beyond questions of feasibility and/or effectiveness and attempted to argue that the shelters, if deployed, would have deleterious effects upon the individual personality, American society and the international system. Specifically, some opponents and critics among the articulate public have suggested that a civil defense program would have detrimental consequences for the personality structure, particularly by enhancing overall anxiety levels, aggressiveness, selfishness and

⁵⁸HCAS, Hearings, Fallout Shelter Program, p. 5093.

pessimism. Secondly, the critics have argued that the pursuit of civil defense programs would affect the very nature of the society by changing it from a democratic to a totalitarian or authoritarian one. Finally, it was argued by some that a civil defense program would affect the international system by alienating those allies which could not afford such a system of their own, as well as the uncommitted nations who would view such a program as a poor allocation of resources in a world racked by poverty and hunger. The program was also viewed by some as provocative and thus likely to enhance, rather than reduce, the possibilities of war. These, of course, were very serious charges and they merit some attention, together with the responses of the advocates of the shelter system.

With respect to the argument that the shelter program would produce undesirable effects upon the personality structure, the critics suggested, first, that concern over shelters would induce feelings of selfishness on the part of the people. Thus, for example, Sidney Lens referred to the fact that when President Kennedy had first made his remarks on the need for shelters, there had taken place a major controversy as to whether a man has the right to shoot his neighbor in order to keep him out of his shelter. Thus, according to Lens, we see the "evolution of an ugly mood that would set neighbor against neighbor and enshrine the concept 'devil take the hindmost'. . . ." ⁵⁹ The same view, perhaps better expressed, was stated by Dr. Lester Grinspoon, a Senior Research Psychiatrist at the Massachusetts Health Center and a Professor of Psychiatry at Harvard University.

⁵⁹Sidney Lens, op. cit., p. 40.

Associated with the threat of outsiders' breaking into the shelter is the need of having to defend against such attack, presumably through some sort of violent action. There has been talk of equipping shelters with guns, yet little thought has been given to how well emotionally equipped the occupants would be to use such weapons. So sudden and so devastating would be the disruption of relationships that a neighbor who might formerly have been quite welcome to borrow a cup of sugar would now in this paranoid phantasmagoria be viewed as a dangerous enemy to be met with a shotgun.⁶⁰

According to Norman Cousins, some people "are now preparing their children psychologically to accept the murder of their playmates."⁶¹

A second effect upon personality, according to some critics, was to induce excessive anxiety in people generally, but particularly in children. According to Dr. Grinspoon, the construction and existence of shelters, in addition to practice in their use, would have "pernicious effects" upon everyone of all ages. But, he added,

. . . we may expect shelters, particularly school shelters, to have an especially harmful effect on children. First, they are likely to initiate the young in a very direct way into the anxieties of the cold war. The anxiety and the controversy stirred up in their community and among their teachers by the construction of school shelters and the institution of shelter drills will undoubtedly be communicated to the children. Efforts to solve the community's problem of who, in addition to school children, are to use the shelters will bring home to everyone the terrible choices that the shelter's existence implies.⁶²

The administration response to these charges was, as might be expected, to deny that any such psychological effects had ever been demonstrated. Pittman thus contended that the judgment that shelters would lead to neuroses and thence to belligerence is "entirely intui-

⁶⁰Lester Grinspoon, "The Psychological Problems of Life in Shelters," No Place to Hide, op. cit., p. 170.

⁶¹Norman Cousins, "In Place of Folly," No Place to Hide, op. cit., p. 175.

⁶²Quoted by Hébert subcommittee counsel Kelleher, HCAS, Hearings, Fallout Shelter Program, p. 3041. Italics added.

tive and without evidence available up to this time."⁶³ In fact, Mr. Ralph Garrett, the OCD Social Science Research Officer attempted to contact Dr. Grinspoon to find out what research had been done to support the remarks he had made concerning the anxieties allegedly produced by shelters. Personnel at the Massachusetts Health Center could not recall ever having heard of any such research and suggested that Dr. Grinspoon's views may have been derived from intuition rather than empirical research.⁶⁴

On the other hand, there were some data, though limited, to suggest that no such anxieties were produced in children by fallout shelters. A survey of guidance counselors in the state of Arizona failed to "find any evidence of concern by the children."⁶⁵ Furthermore, a study of anxiety effects upon children was carried on in Artesia, New Mexico where a completely underground school had been constructed. It was found that the "school anxiety" could not be shown to be "statistically or clinically higher" in the underground school when compared with aboveground schools.⁶⁶ The only evidence derived from clinical

⁶³Ibid., p. 3058.

⁶⁴Interview with Ralph Garrett, July 10, 1968. Also see HCAS, Hearings, Fallout Shelter Program, pp. 3821-3825. As an interesting footnote to this issue, Dr. Grinspoon complained to the Hébert subcommittee that "an official of the Department of Defense" had contacted his superiors regarding his testimony. He implied that there was some kind of harrassment involved. Ibid., pp. 3685-3686. Garrett told the writer that he had simply tried repeatedly to contact Grinspoon personally to find out the source of his ideas, but, being unable to contact him directly, finally talked to some of the other people in his Department about research, if any, in this field. But Garrett insisted that there was no intention of harrassing or intimidating anyone. His view was ~~that if data were available to indicate that children would be psychologically damaged by shelters, then the OCD ought to know about it.~~

⁶⁵HCAS, Hearings, Fallout Shelter Program, p. 4481. The survey was carried on by the University of Arizona.

⁶⁶Ibid., pp. 4267-4271.

and statistical study was, therefore, that a combination of school and fallout shelter would not, in itself, produce child anxiety. In fact, Pittman suggested that some demonstration of the fact that actions were possible that might be able to deal with the threat of nuclear war would relieve rather than cause anxiety.⁶⁷ He further pointed out that European countries, especially Sweden, were engaged in large-scale shelter construction work and had not experienced any psychological problems on the part of children, or anti-social behavior on the part of adults.⁶⁸ Expressing his own personal views, Pittman added that

. . . I have little patience with the notion that my six children should be exposed to any unnecessary possibility of the fallout radiation hazard in order to avoid upsetting them with the realities of the nuclear age.

With all due respect, I am sure that many of our forefathers who as children were raised behind stockades to keep out Indians grew into men less troubled by anxiety than most of their progeny.⁶⁹

The critics of the shelter program have attempted to argue that such a program would destroy the very democratic institutions that it was intended to protect. It would appear that there have been a good many variations of this theme, not all of which need to be described. The major argument in this regard has been that shelters would be conducive to some kind of garrison state. It may be recalled that even President Eisenhower had expressed this fear, although he was thinking of the entire military program and not simply the limited fallout shelter program under consideration in the early 1960's. According to Fred J. Cook, we are already living in a "warfare state," under the domination of an industrial-military complex in which both

⁶⁷Ibid., p. 3058.

⁶⁸Ibid., 3059.

⁶⁹Ibid.

the government and the people have become the "virtual prisoners" of the state.⁷⁰ This pattern, according to Wascow, would be strengthened and fortified when "not merely young men but all Americans would be made conscripts under Pentagon control."⁷¹ This, he contended, had already been confirmed by the arrest in New York of people who had chosen not to participate in the civil defense alert drills.⁷² The opponents of the civil defense program also noted that civil defense activity seemed to attract policemen and retired military officers who, it was implied, were an authoritarian group of people.⁷³ Some critics of the shelter program were also convinced that it would serve as a rallying point for right-wing and ultra-nationalist groups who were labelling as subversive those people in opposition to the program.⁷⁴

⁷⁰Fred J. Cook, The Warfare State (New York: The Macmillan Co., 1962), p. 337.

⁷¹Wascow, op. cit., pp. 44-45.

⁷²Ibid., p. 45. Details of the arrests referred to by Wascow may be found in New York Times, April 29, 1961, p. 48:2.

⁷³Roger Hagan, "Community Shelters," The Nation, CXCIV (February 24, 1962), p. 165.

⁷⁴Interview with Sanford Gottlieb, Staff Director of the National Committee for a Sane Nuclear Policy, July 29, 1968. Mr. Gottlieb produced as evidence for this contention a brochure published by and describing the civil defense activities of the community of Nutley, New Jersey. The purpose of the Nutley Civil Defense Organization, according to its own brochure, was to prepare for the inevitable "showdown" with "communist aggression." According to the brochure:

"There can no longer be doubt in anyone's mind that Russian and Chinese Communist aggression is both virulent and brutally planned. This disease must be wiped from the face of the earth. The psychopathic, forced withdrawal of a great people behind an iron curtain at the will and compulsion of a small group of organized, insane, power hungry bandits cannot be allowed to continue. A showdown must eventually come, or freedom shall be no man's privilege.

"Whether or not the iron curtain can be breached without brute force of arms, the world cannot continue with any degree

The critics were also concerned that the implementation of the fall-out shelter system would unduly interfere with the economic realm.

According to Arthur Wascow:

A program aimed at one fallout shelter space for every American would require Federal intervention in building regulations, in city planning and zoning, in allocation of scarce resources such as perishable drugs, in location of new industrial centers away from military targets, in office and factory training procedures in order to insure the effectiveness of civil defense preparation and a host of other ways through every nook and cranny of the American economy.⁷⁵

On a more general level it was suggested by Columbia University social psychologist Otto Klineberg that a shelter system would "threaten to impair our cherished values." Specifically, according to Dr. Klineberg,

To burrow beneath the ground for weeks, even longer, means for human beings a denial of most of the values which have been acquired slowly and painfully in the process of creating a democratic society. Instead of community there is splintering into isolated individuals or tiny groups. Instead of cooperation there is violent competition for available space. Instead of mutual aid, there is a selfish struggle for individual survival.

of sanity or security while faced with the continued pressure and threat of Communist enslavement. Where does the United States of America stand in this situation? It stands where you, the individual citizen, stands--and "stand" each citizen must. Now is the time for commitment. There can be no further delay."

It could not be determined by the writer how extensive this kind of thinking has been within "civil defense" groups. The only other reference to this kind of problem which came to the attention of the writer was a question raised by the Military Operations Subcommittee in 1960 concerning the activities of one Rev. George S. Benson who had addressed a group of clergymen at the Battle Creek headquarters of the OCDM and who had suggested that civil defense be employed as a vehicle for increasing anti-communist militancy. Administrator Hoegh denied knowing anything about it. HCGO, Hearings, Civil Defense, 1960, pp. 70-72.

⁷⁵Wascow, op. cit., pp. 41-42.

Psychiatrists speak of regression when adults behave in a manner appropriate to children. We may speak of social regression when a whole community behaves in a manner characteristic of primitive, archaic, even animal-like existence, almost to the point of recreating a Hobbesian war of all against all. . . .⁷⁶

Not only would "burrowing beneath the ground" undermine certain democratic values but, according to some clergymen, it even smacked of immorality. According to Rabbi Maurice N. Eisendrath, the President of the Union of the American Hebrew Congregation, "It is the morality of man and affairs which challenges us, not the morality of moles or other underground creatures, slithering in storm cellars."⁷⁷

The charge that a shelter program would lead to the destruction of the very system that it was intended to preserve was an exceedingly difficult one for civil defense officials to answer. For one thing, the charge would seem to be directed at a program of total civil defense mobilization, which clearly was not being advocated by the OCD. Second, the arguments were speculative and, by their very nature, could not be refuted on the basis of factual data. The only experience with the widespread and continuous use of shelters had, of course, been during World War II. In the case of Great Britain, it is fairly obvious that that nation survived as a democratic entity despite (and even perhaps because of) the use of shelters. The axis powers were, of course, highly authoritarian even before the use of shelters had become necessary.

The OCD did argue that there did not seem to be anything immoral or cowardly about taking cover in case of a nuclear attack.

⁷⁶Otto Klineberg, "Dangers of the Shelter Psychology," No Place to Hide, op. cit., p. 165.

⁷⁷"Civil Defense," Time, LXXVIII (October 20, 1961), p. 21.

Steuart Pittman responded facetiously to those who were worried that Americans would turn into mole-like creatures by pointing out that approximately 70 percent of the fallout shelter space was located above the ground.⁷⁸ The shelter advocates were unable to answer the garrison state argument other than to point out that the program was a relatively modest one which involved the expenditure of \$3.5 billion over a period of several years. The implication of this was that if a garrison state existed or was about to come into existence, it would hardly be the result of such a small-scale program.⁷⁹ Finally, it was recognized that in a post-attack environment society would most certainly be changed. But some supporters of the shelter program, such as Kahn and Morgenstern, had suggested that democratic ideals and values would stand a better chance of survival or of being translated into some analogous form in a post-war society if there had been some contingency plans and emergency preparedness measures than if there had been none.⁸⁰

While certain members of the articulate public gave a considerable amount of attention to what they considered to be the unfortunate psychological and social effects of the shelter program, the major thrust of the opposition would seem to have been directed at the international effects of the program. An examination of the literature on this subject reveals two major strands in the critics' arguments.

⁷⁸HCAS, Hearings, Fallout Shelter Program, p. 3059.

⁷⁹Ibid.

⁸⁰Herman Kahn, On Thermonuclear War (Princeton, N. J.: Princeton University Press, 1960), pp. 89ff, 646ff. Oskar Morgenstern, op. cit., p. 153.

First, there was the proposition that a shelter program would make war more likely because it was provocative and would divert the energies of people away from efforts to achieve peace. The second set of arguments centered around the idea that a shelter program would alienate the United States from both its allies as well as the economically underdeveloped nations. It would be appropriate at this point to examine these arguments as well as the responses of the shelter advocates.

The fear has commonly been expressed by critics of the shelter program that it would be perceived by the Russians and/or the Chinese as a provocative act and would thus enhance the possibility of thermonuclear war. According to J. David Singer, an environment of hostility coupled with major military capabilities "has the inevitable consequence of each [protagonist] interpreting the other's military capability as evidence of military intent."⁸¹ Accordingly, the deployment of a mass shelter system would make credible to the Soviet Union the resolve of the United States to strike first in the event of a major crisis. This, in turn, would make it more likely that the Russians would find it advantageous to launch a preemptive strike while the odds were still relatively favorable, so to speak.⁸² This proposition that shelters would convey to the Russians a distinct threat suggests the self-fulfilling prophesy idea. A nation, expecting some kind of trouble from a potential enemy, will take measures to protect

⁸¹J. David Singer, "Threat Perception and the Armament-Tension Dilemma," Journal of Conflict Resolution, II (March, 1958), p. 97. *Italics added.*

⁸²Erich Fromm and Michael Maccoby, "The Case Against Shelters," No Place to Hide, op. cit., p. 89.

against the anticipated trouble. The enemy observing these measures, will perceive them to be manifestations of hostility and will respond in a hostile manner--thus confirming the original estimation. This was essentially the heart of the provocation thesis. An interesting variation of this argument was suggested in an "Open Letter to the President" by a group of faculty members from universities in the Boston area. According to this group's statement, an enemy "determined to destroy this country in a first strike, may respond to the mass shelter program by polishing even further his surprise attack capabilities."⁸³ The group did not, however, explain why shelters would be undesirable in the face of an enemy who was already "determined" to launch a first strike.

The proponents of the shelter program have vigorously denied that it would be provocative. They have insisted that a civil defense budget which is on the order of one-half of one percent of the defense budget is not likely to upset the balance of power and be provocative in that sense.⁸⁴ Furthermore, it was argued that a civil defense program that conceded that scores of millions of people could not be protected would hardly put the government in a position to engage in reckless nuclear adventures.⁸⁵ It was acknowledged by some authorities, such as Herman Kahn, that a crash program, with attendant propaganda, to construct not only fallout shelters but blast shelters as well could indeed be provocative.⁸⁶ But, as Steuart Pittman observed,

⁸³New York Times, November 10, 1961, p. 25:6.

⁸⁴HCAS, Hearings, Fallout Shelter Program, p. 3060.

⁸⁵Ibid.

⁸⁶Herman Kahn, Thinking About the Unthinkable (New York: Horizon Press, 1962), pp. 94-95.

"the spectacle of America struggling to get started with a 5- to 7-year shelter program" would certainly not fall into the category of a crash program.⁸⁷

A more subtle argument expressed by some opponents of the shelter program was that it would impede efforts to reach arms control agreements and arrive at the peaceful resolution of international conflicts. This particular idea manifested itself in a variety of ways. First, it was argued by some groups such as the Friends Committee that civil defense activities tend to create an atmosphere of "tension and preoccupation with war which makes possible ever-increasing military demands and controls" and that such an atmosphere "tends to weaken our nation's determination to explore peaceful solutions to the utmost."⁸⁸ A somewhat similar view was taken by a group of behavioral scientists at a conference sponsored by the Peace Research Institute.⁸⁹ According to Arthur Wascow, the creation of a shelter program would lead to the establishment of vested interests, such as government agencies, private builders and suppliers, and shelter managers, who "might well become an obstacle to efforts to end the arms race, if that meant

⁸⁷HCAS, Hearings, Fallout Shelter Program, p. 3060. Italics added.

⁸⁸"Civil Defense and Peace: A Quaker View," Bulletin of the Atomic Scientists, XIII (May, 1957), p. 176.

⁸⁹The Peace Research Institute (PRI) sponsored the conference in January 1962. Arthur Wascow, a member of the PRI staff, acted as final rappporteur for the meetings and his summary report was entitled The Shelter-Centered Society. The president of the PRI, James J. Wadsworth (who had been the first Acting Administrator of the FCDA), stated that "An operating shelter-centered civil defense system might have important effects . . . which would affect American attitudes towards peace and war" and that the purpose of the meeting was to examine "important questions about the possible effects of living in a shelter-centered society." Arthur Wascow, The Shelter-Centered Society (Washington: Peace Research Institute, 1962), p. i.

eliminating civil defense."⁹¹ Wascow also argued that a shelter program could also have important effects upon American images of the Soviet Union. His thesis, which some might consider abstruse, was that the diversion of resources into civil defense would offend groups with other priority values, such as those who might prefer that such resources be used for schools, urban renewal and so forth. According to Wascow, such groups would be understandably angry but that

. . . psychological findings suggest that they would not direct their anger at the leaders who had called for civil defense, since doing so would stir unconscious fears that they might isolate themselves from their fellow countrymen. . . . Instead, the dismay and anger would probably be refocused into fury at the Communists who would be seen as the real cause of the disturbance and deprivation. Such fury, if it did develop, might make it extremely difficult for the American government to negotiate with the Communists, even on issues where negotiation would be in the American national interest.⁹²

Not only could a shelter program actually increase hostility toward a potential enemy, according to some critics, but it could also affect people's perceptions of nuclear war. Presumably, one of the reasons that nuclear weapons have not been used since World War II has been the sheer horror that they have inspired in most people. Yet, it was argued, the preoccupation with shelters would lead to the "public habituation" to the perils of nuclear war.⁹³ In time, this would lead to the feeling that nuclear war was just "one of the ordinary risks of life in the 1960's."⁹⁴ Eventually, according to Newsweek, the shelter

⁹¹Ibid., p. 6.

⁹²Ibid., footnote to p. 5. Italics added.

⁹³Gerald Piel, "On the Feasibility of Peace," Science, CXXXV (December 7, 1961), p. 649.

⁹⁴The Federation of American Scientists, "Civil Defense Shelter Statement," Bulletin of the Atomic Scientists, XVIII (February, 1962), p. 27.

program would "transmute the unutterable horrors of thermonuclear war into a rather cozy affair. . . ." ⁹⁵ By making war "thinkable," it would be more difficult to generate public support for arms control negotiations. ⁹⁶ According to Hanson Baldwin, the "false sense of security" induced by fallout shelters would lead to greater belligerence and inflexibility in the conduct of American foreign policy. ⁹⁷

One rather interesting criticism of the shelter program centered upon Leon Festinger's theory of cognitive dissonance. According to Festinger, a human being strives to establish consistency among his opinions, attitudes, knowledge and values. That is, "there is a drive for consonance among cognitions." ⁹⁸ In the course of a man's life he accumulates a large number of expectations of what things go together and what things do not. When these expectations do not materialize, then a condition of dissonance occurs. Festinger postulates that when such a condition exists, pressures will be generated to reduce the dissonance and the strength of the pressures will largely be a function of the magnitude of the dissonance. ⁹⁹ An example of this process was provided by Festinger himself:

People are frequently faced with the possibility that a future event that would have important consequences for them may actually occur. . . .

⁹⁵"Survival: Are Shelters the Answer?" Newsweek, LVIII (November 6, 1961), p. 22.

⁹⁶The Federation of American Scientists, op. cit., p. 27.

⁹⁷Hanson Baldwin, "The Case Against Fallout Shelters," The Saturday Evening Post, CCXXXV (March 31, 1962), p. 8.

⁹⁸Leon Festinger, A Theory of Cognitive Dissonance, (White Plains, N. Y.: Row, Peterson, 1957), p. 260.

⁹⁹Ibid., p. 263.

It is possible to take some action in preparation for the possible future event so that, if it should occur, its impact upon the person would be more favorable than would otherwise have been the case. Such preparatory action, however, may involve considerable inconvenience and, if the possible future event should not occur, the preparatory action will have been useless.¹⁰⁰

Assuming that there will be motivation to reduce the dissonance, several things might be done. First, the individual might persuade himself that the preparatory action was not really inconvenient. Second, he might find some other objectives which would justify what he has done. Third, he may persuade himself that the event is still likely to occur.¹⁰¹ The point is that when dissonant relations exist, the individual will seek various means to increase consistency among inconsistent items.

This concept was used by Wascow when he argued that the shelter program was "dissonant" with arms negotiation and other efforts to bring about the peaceful resolution of disputes. Wascow asserted that the "scholars agreed" at the PRI Conference that "civil defense fits into a view of the world in which negotiation has failed, while disarmament fits into a view of the world in which negotiation seems possible and war seems avoidable."¹⁰² In other words, being told to build a shelter, while at the same time being told that war is avoidable, creates a condition of dissonance. It may be observed that there are several ways in which this "dissonance" might be reduced. One could simply ignore the advice to build a shelter; one could refuse to

¹⁰⁰Ruby B. Yaryan and Leon Festinger, "Preparatory Action and Belief in the Probable Occurrence of Future Events," Journal of Abnormal and Social Psychology, LXIII (1961), p. 603.

¹⁰¹Ibid.

¹⁰²Wascow, The Shelter-Centered Society, op. cit., p. 4.

believe that war is avoidable; or one might say that shelters have nothing to do with the avoidability or unavailability of war. While public opinion data suggest that between 65 and 67 percent of the "mass public" took the last mentioned position,¹⁰³ Wascow chose to argue that "almost all the people" would resolve the dissonance problem by refusing to believe that war was avoidable and thus undercutting the efforts of those seeking to relax international tensions.¹⁰⁴ He also warned of "several associated troublesome personalities that might assert themselves because of this problem:

First, the people who "want to get it over with." . . . Others will be hoping not that the bombs will drop, but that the threat of their dropping will create roles of special power of super-policemen for them. There are many people who have only a limited ability to tolerate modern American life with its shifting realities, its conflicts, its luxury, and its attachment to disorder and ambiguity.¹⁰⁵

Thus, not only would the shelter program comprise a dissonant relationship with peace efforts, but it would also give rise to various authoritarian personalities.

Thus the shelter critics had attempted to argue that shelters would make war more probable by 1) diverting energies away from the "peace race," 2) getting people into the habit of thinking that thermo-nuclear war would not really be so bad after all, 3) producing an increased belligerency and inflexibility in international intercourse and 4) setting off psychological mechanisms that would easily exacer-

¹⁰³Stephen B. Withey, "The U. S. and the U. S. S. R.: A Report on the Public's Perspectives on United States-Russian Relations in Late 1961." (Survey Research Center, University of Michigan, March, 1962), p. 42. (Mimeographed.)

¹⁰⁴Wascow, The Shelter-Centered Society, op. cit., p. 4.

¹⁰⁵Ibid., p. 12.

bate an already precarious international situation. The shelter advocates responded only partially to this veritable deluge of criticism.

As was earlier suggested, civil defense officials did not perceive the shelter program as a competitor with the "peace race" in absorbing the energies of the American people. Mr. Pittman suggested that it was highly questionable as to whether the public has a limited amount of energy available for public affairs and that energy devoted to one activity necessarily means a diminution of efforts elsewhere. But he did offer the opinion that parades and demonstrations "contribute little, if anything, to the likelihood of arms control."¹⁰⁶ He further suggested that "it takes deep distrust of the American community" to believe that a fallout shelter program "will encourage a brand of politics leading to war."¹⁰⁷ On the other hand, it was pointed out by one shelter proponent that the existence of a shelter system might cause policy makers to feel safe enough to accept an arms limitation plan that afforded good, although not perfect, means of control and inspection.¹⁰⁸ In a similar vein, Bruce Russett raised some interesting issues with respect to the alleged connection between shelters and belligerence:

First, one wonders about the idea that shelters will make the American people more bellicose or at least more fatalistic, either encouraging or acquiescing in the prior use of nuclear weapons by our government. Isn't it just as likely that the presence of many shelters--ubiquitous symbols of an ever present danger--would panic Americans into a demand for radical disarmament? Or that the people might be willing to suffer much humiliation rather than have to spend two weeks or more in those dark, dank cellar holes? Or that they will

¹⁰⁶HCAS, Hearings, Civil Defense Program, p. 3060.

¹⁰⁷Ibid., p. 3061.

¹⁰⁸W. B. Dickson, "Shelters and Survival," Editorial Research Reports, XVI (August 16, 1961), p. 612.

soon forget about their shelters, leaving public attitudes basically unchanged?¹⁰⁹

Some responses of OCD officials to the critics' arguments were expressed in interviews with the writer. Thus, for example, one official pointed out that some of the charges were contradictory with each other. On the one hand, it was suggested that shelters would turn Americans into cringing, mole-like creatures. On the other hand, it was alleged that the shelters would increase aggressiveness, bellicosity and unreasonable inflexibility.¹¹⁰ Another official pointed out that the argument that shelters would produce a war-like quality in the American people seemed to imply two things. The first was that Americans were already aggressive and intent upon going to war. The second was that the shelter program was an extremely potent agent of major personality and social change--capable of completely altering the national character. Neither, in his opinion, was correct.¹¹¹

On the whole, it may be said that OCD officials did not respond fully to those arguments relating to the threats to peace allegedly occasioned by the shelter program. The reason for this may have been that there simply were no data available with which to counter the allegations. It may also have been that the civil defense officials did not feel that the arguments had sufficient merit to warrant a reply. This attitude was, in fact, revealed in general conversations with OCD personnel. But there is another possible explanation for the

¹⁰⁹Bruce M. Russett, "The Use of CD," America, CVII (April 28, 1962), pp. 122-123.

¹¹⁰Interview with Dr. William K. Chipman, Deputy Assistant Director of OCD Plans, July 23, 1968.

¹¹¹Interview with Ralph Garrett, July 10, 1968.

silence of the OCD, especially on the arguments of Wascow and his associates. It may be argued that most of the Wascow theses were based upon the assumption that shelters had high salience in the public perceptions. That is, it was assumed that because shelters were highly visible and tangible, people would be caught up in the shelter issue and that the intensity of feelings was both deep and would persist for a very long time. The obvious rebuttal to the Wascow arguments was that shelters were not salient; and evidence will be produced later in this chapter to indicate that this was indeed the case. If, therefore, people did not feel strongly about shelters (either one way or the other) then the dire prognostications of some of the critics would seem to be dubious at best. However, civil defense officials would be in a rather awkward position if they responded to Wascow in this manner. They would be, in effect, denying that there were any great demands for the program which they were advocating. Given the rather marginal status of civil defense in the minds of many Congressional leaders, it could hardly be expected that the OCD would be in the position to use this very germane argument.

Finally, it had been argued that the civil defense program would do great damage to the American "image" abroad. On the one hand, such a program would have certain negative effects in the underdeveloped world. Again it was Arthur Wascow who placed this argument in its most characteristic form:

Concentration on civil defense would make much more difficult the granting of American aid to young and struggling

democracies, which need the aid in order to make economic progress without dictatorship. . . . As the civil defense program gains momentum, it will become necessary to set aside more and more food, medicine, construction tools and development funds for building and stocking the shelters. Not only will such an interruption or reduction in aid damage the chances of democracy overseas, but the general implications of the shelter program might well arouse intense anger in the underdeveloped world. To uncommitted and underdeveloped nations, an American civil defense effort would look like a selfish attempt to save our own population from the effects of a great-power folly in unleashing atomic war. Those parts of Asia, Africa, and Latin America that would be heavily affected by post-war fallout would see themselves as innocent victims of such a war, unable to afford the enormous efforts that would be necessary to protect their own people. For this reason, an American civil defense program might arouse the same kind of antagonism in the new nations that the testing of the H-bombs has aroused among them.¹¹²

On the other hand, the fear had also been expressed that a shelter program would have undesirable effects upon the nation's allies, especially those in Europe. It may be recalled that Secretary of State John Foster Dulles had expressed concern over this issue during the Gaither Report deliberations.¹¹³ Hébert subcommittee Counsel Kelleher gave expression to the fear of some that shelters would be interpreted as a kind of withdrawal from active participation in alliance programs and an aggressive willingness to engage in a war if such became necessary. "Might not," he asked, "the reaction of our allies be that our fallout shelter program tended to make them more 'expendable'?"¹¹⁴

With respect to the fear that shelters would lead to a retreat from alliance commitments, Steuart Pittman argued that "failure to develop an adequate defense, both civilian and military, undermines

¹¹²Arthur Wascow, "Civil Defense: Both Red and Dead," *op. cit.*, pp. 43-44.

¹¹³See p. 231 of this study.

¹¹⁴HCAS, Hearings, Fallout Shelter Program, p. 3044.

the credibility of our deterrent, both to our allies and our adversaries."¹¹⁵ The OCD did not respond publicly to the charge that a shelter program would detract from the foreign aid program. However, it is interesting to note that a group of researchers at the University of Pittsburgh had attempted to survey the foreign press on this question. They reported that "we have not uncovered any substantial body of foreign literature which deals with American Civil Defense problems; in fact, we have not uncovered anything that would suggest that people in other nations, or their Governments, show the least concern one way or another."¹¹⁶

These, then, were the major questions concerning the shelter program that were raised by some of the articulate publics. It is obvious that the emphasis in this analysis has been upon those individuals and groups who were critical of what the OCD was trying to do. It would be rather easy, however, to be seriously misled in this respect. The critics of the shelter program were largely comprised of individuals who, with some exceptions, were not widely known or respected except among those who were already strongly oriented against not only the civil defense program but also against defense activities as a whole. It is important to emphasize that no professional associations or articulate leaders in the national security policy field could be identified as overt opponents of the shelter program. On the other hand, there have been large numbers of people who have spoken out in

¹¹⁵Ibid., p. 3060.

¹¹⁶Jiri Nehnevajsa, "Civil Defense and Society: Interim Report," (Department of Sociology, University of Pittsburgh, June 23, 1963), pp. 166-167. (Mimeographed.)

favor of the shelter program and it is quite clear that the latter far outnumber the former. A listing of witnesses who actually appeared before the Hébert Subcommittee reveals that 78 supported the Shelter Incentive Bill and 13 opposed it.¹¹⁷ The supporters ranged from businessmen, to scientists, to clergymen, to academicians. Not only did the supporters of the program include in their number many private individuals, but many state and local government officials as well. The testimony of these people has not been subjected to detailed examination in this chapter because, in general, it tended to reflect the views that were expressed by the OCD officials. It should be emphasized, however, that those who opposed the program were relatively few in number. But their opinions appear to have been strongly held and very clearly articulated.

Mass Public Opinion on the Fallout Shelter Program

The remainder of this chapter will consist of a brief examination of the attitudes of the mass public toward the fallout shelter program. The focus of attention will be upon the 1961-1963 period, which would coincide with the time in which most of the public discussion occurred. However, data will be drawn from other time periods when it would appear appropriate to do so.

At the outset of this analysis it is essential to establish one crucial fact relating to the mass public's attitudes on the shelter question. And that fact is that shelters had very low salience in the minds of the public. That is, while people might express every variety

¹¹⁷U. S., Congress, House, Committee on Armed Services, Providing for Fallout Protection in Federal Structures and Nonprofit Institutions, Report No. 715, 88th Cong., 1st Sess., 1963, pp. 41-49.

of opinion on the subject, there is little evidence to suggest that the mass public considered the issue to be of great importance in comparison with other public problems. Thus, for example, Columbia University's Bureau of Applied Social Research, conducting an intensive study of public civil defense attitudes in 1963, presented to respondents in their sample a list of eight public issues¹¹⁸ and asked the respondent to indicate the most and least important. Only one percent of a nation-wide sample of 1461 people selected fallout shelters as the most important issue. Conversely, 43 percent chose fallout shelters as the least important issue, a percentage far larger than that attributed to any other issue.¹¹⁹ Of course, the "danger of war" item which ranked quite high in people's conceptions of the most important problem could be related to fallout shelters. But the researchers were convinced that fallout shelters would not have done appreciably better even if the war item had been left out.¹²⁰

There are other clues to suggest that civil defense had not aroused particular interest and/or enthusiasm in the mass public. A study conducted in 1963, two years after President Kennedy's public appeals, revealed that only 2.2 percent of the people had provided

¹¹⁸The eight issues were: danger of war, communism in the United States, juvenile delinquency, race relations, slums, taxes and fallout shelters.

¹¹⁹Gene N. Levine and John Modell, "The Threat of War and American Public Opinion," (Bureau of Applied Social Research, Columbia University, November 1964), pp. 110-111. (Mimeographed.)

¹²⁰Ibid., p. 111.

themselves with shelters.¹²¹ In another study it was found that 85.4 percent of the people had never participated in any civil defense activity and that a significant percentage of those who had done so, had participated during the "tin hat" days of World War II.¹²²

The significance of the low salience of, and apparent apathy toward, civil defense in general and shelters in particular cannot be overemphasized. If the public was generally unconcerned about shelters, it is extremely unlikely that any pressure would be brought to bear upon the legislature to take action in this field. This, in turn, would suggest that the mass public was not a major contributory factor in the determination of what policies would be adopted. On the other hand, it might be argued, if the mass public was indifferent toward shelters themselves, might not there be some public opposition to the expenditure of funds (relatively small though they were) for a program not particularly desired by the public? To answer this question it is necessary to probe a little deeper into the nature of the public's attitudes toward shelters.

While the salience of the shelter program was clearly quite low, this does not necessarily mean that people would oppose the program. Quite to the contrary, the data provide clear indication that a majority of Americans favored the public fallout shelter program

¹²¹Jiri Nehtivajsa, et. al. "Some Public Views on Civil Defense Programs," (Department of Sociology, University of Pittsburgh, December, 1964), p. 31. (Mimeographed.) It was not made clear in this study just what kind of shelters the 2.2 percent had provided themselves with. Theoretically they could range from those conforming to OCD specifications to the mere allocation of a portion of the basement as a "shelter."

¹²²Martha Willis Anderson, "Levels of Activity," (Department of Sociology, University of Pittsburgh, October 1964), p. 2. (Mimeographed.)

advocated by the Administration. In the Columbia University study, previously referred to, it was found that among 1394 people who had an opinion on the subject, 16 percent said they "strongly" favored and 43 percent said they "somewhat" favored fallout shelters. On the other hand, 25 percent were "somewhat" opposed, while 16 percent opposed shelters "strongly."¹²³ Thus a total of 59 percent of this sample expressed support for the program. An even more favorable picture of public attitudes toward civil defense as a whole was reflected in a study conducted by the University of Pittsburgh that indicated "maximum approval" by 24 percent, "approval" by 47 percent and "indifference or opposition" by 29 percent.¹²⁴ The only evidence to even suggest that less than a majority was in favor of shelters was a 1961 poll in which only 45 percent felt that a nation-wide program would not be "a waste of time and energy."¹²⁵ However, it should be pointed out that almost 19 percent of the sample had no opinion on the matter.

Aside from the generally favorable attitude of the public toward shelters, two additional points should be made with respect to these overall attitudes. The first is that there is reason to believe that the opinions may lack substantial stability. As might be anticipated, support for shelters tends to increase in times of crisis. After the Cuban missile crisis of 1962 it was found that 35 percent

¹²³Levine and Modell, op. cit., p. 115.

¹²⁴J. Elliot Seldin, "Attitudes Toward Civil Defense. An Examination of the Attribution of Maximum Approval," (Department of Sociology, University of Pittsburgh, October, 1965), p. 15. (Mimeographed.) Respondents in this study were given seven choices ranging from +3 through 0 to -3. The +3 responses were indications of "maximum approval."

¹²⁵American Institute of Public Opinion Poll No. 652. November 1961. (Unpublished.)

of a sample of 1434 people viewed shelters "more favorably" than they had before the crisis.¹²⁶ Furthermore, it was found by the Columbia University researchers that about 32 percent of the respondents changed their position on favorability toward shelters during the course of the interview. Most of those who did so, it may be noted, became more favorable toward shelters as the interview progressed.¹²⁷ While this undoubtedly suggests that the interview itself may be an opinion-molding device, it also suggests a certain lack of conviction at the very least.¹²⁸

The second point that should be made with respect to the overall support for shelters evidenced by the survey data is that community shelters were preferred to private shelters. A 1961 poll, conducted at the time that the Administration was still considering the question of public versus private shelters, found that 58 percent of the respondents felt that emphasis should be placed upon community shelters, compared to 22 percent who favored home shelters.¹²⁹ This pattern apparently continued into 1963, when it was found that slightly more than 50 percent favored fallout shelters while 40 percent

¹²⁶"Civil Defense and Cold War Attitudes: Data Book for the 1963 National Probability Sample," (Department of Sociology, University of Pittsburgh, June, 1964), p. 90. (Mimeographed.)

¹²⁷Levine and Modell, op. cit., pp. 127-129.

¹²⁸It should be noted that Levine and Modell concluded that opinion in this matter was stable since 67.7 percent did not change their minds. But they did suggest that the large number of people changing their minds indicated that interest in the issue was "not extraordinarily high." Ibid., p. 127.

¹²⁹American Institute of Public Opinion Poll No. 652. November, 1961. (Unpublished.)

indicated a preference for home shelters.¹³⁰ It is interesting to note, however, that as the Administration publicly began to place emphasis upon community shelters, the number of those favoring home shelters increased.

While these overall figures provide clear indication that shelters were supported, or perhaps more accurately, accepted by a majority of the mass public, they do not explain why such opinions were held or by whom. According to Gabriel Almond:

Opinions must be placed in their subjective matrices of values and basic attitudes if we are to gain an impression of their stability, ramifications and possible future development. Opinions must be sociologically placed if we are to speculate intelligently about the potential political behavior of large social aggregations and their sub-groupings. Opinions and attitudes must be located in the political structure if there is to be any possibility at all of predicting policy developments from public opinion data.¹³¹

It goes without saying that the fallout shelter program has been intended as a particular response to a threat to the lives and well-being of the American people. In order to understand the public response to the program proposals of the Administration, it would first seem to be necessary to understand the public's perception of the threat. This would be the psychological setting in which opinions are expressed or Almond's "subjective matrices of values and basic attitudes."

For purposes of analysis, it is assumed that a people's perception of the threat, as it pertains to civil defense, would consist of at least three major elements: anxiety about war, the weapons to

¹³⁰"Foreign Affairs and Civil Defense: Data Book," (Department of Sociology, University of Pittsburgh, May-June, 1964), p. 83. (Mimeographed.)

¹³¹Almond, op. cit., p. 5.

be used along with targets likely to be attacked, and the estimated effects of the weapons. Each of these will be discussed in turn.

One of the few certainties that can be found in the hazy atmosphere surrounding public opinion on foreign and national security policy affairs is the persistent worry of people about their fate in a world which they consider to be dangerous and risky. Although it has become commonplace to observe the striking ignorance of many Americans of the world about them, studies have clearly demonstrated that when people are asked what issues facing the United States are the most serious, approximately 70 percent mention some problem having to do with international affairs.¹³² Closely associated with the concern over the dangers relating to international affairs is anxiety about war. Studies indicate that anxiety about war is virtually endemic among the American people. In 1963 the Columbia University researchers found that 20 percent of their sample worried "a great deal" about a nuclear attack upon the United States, 31 percent worried "some," 21 percent worried "a little," and 28 percent worried "not at all."¹³³ While there is evidence that the level of anxiety had dropped slightly in 1964,¹³⁴ it is fairly clear that the fallout issue did not fall on completely deaf ears during the period of its maximum discussion.

While these overall patterns may be of considerable interest, an adequate description of public opinion in this respect must consider

¹³²Levine and Modell, op. cit., p. 51.

¹³³"Fallout Shelter Study, Codebook Number Five, Survey of Publics in Nine Communities," (Bureau of Applied Social Research, Columbia University, August, 1963), p. 62. (Mimeographed.)

¹³⁴"Civil Defense and Cold War Attitudes: Data Book for the 1963 National Probability Sample," op. cit., p. 26.

the relationship of certain demographic factors to anxiety about war. In the interest of expediting this study it may be sufficient to present an overall demographic profile of that portion of the public which has exhibited the greatest anxiety about war. This is presented in Table V-2.

TABLE V-2
ANXIETY ABOUT WAR ACCORDING TO DEMOGRAPHIC FACTORS ^a
(in percent)

Demographic Factor	Degree of Worry			
	Great deal	Some	A little	Not at all
<u>Geographical Location</u>				
New England	16.0	29.3	26.7	28.0
Middle Atlantic	20.8	23.8	20.0	35.4
East North Central	13.5	32.1	27.0	27.4
West North Central	9.7	29.1	29.1	32.1
South Atlantic	18.1	28.0	25.9	28.0
East South Central	12.9	32.9	28.6	25.7
West South Central	13.2	26.3	30.5	25.9
Mountain	19.6	21.7	21.7	37.0
Pacific	16.3	31.6	24.2	27.9
<u>Age</u>				
10-19	41.2	29.4	23.5	5.9
20-29	16.4	34.0	31.9	17.6
30-39	13.8	33.6	29.1	23.5
40-49	17.8	32.9	23.0	26.3
50-59	13.9	25.9	25.5	34.7
60-69	16.7	15.5	20.1	47.7
70-79	13.7	18.6	17.6	50.0
<u>Marital Status</u>				
Single--never married	14.7	24.8	30.3	30.3
Married	15.2	29.3	26.3	29.2
Divorced	16.7	24.1	18.5	40.7
Widowed	17.4	26.8	18.8	36.9
Separated	27.0	27.0	35.1	10.8

TABLE V-2--Continued

Demographic Factor	Degree of Worry			
	Great deal	Some	A little	Not at all
<u>Children 12 and Under</u>				
None	15.1	25.2	23.8	35.9
One	14.9	31.3	31.8	21.9
Two	17.8	31.4	29.8	20.9
Three	13.4	37.8	24.4	24.4
Four	25.4	37.3	18.6	18.6
Five	31.3	18.8	31.3	18.8
Six	--	28.6	28.6	42.9
Seven or more	16.7	50.0	33.3	--
<u>Religion</u>				
Protestant	14.1	28.1	26.4	31.4
Roman Catholic	19.1	30.2	23.5	27.3
Jewish	20.4	32.7	16.3	30.6
Other	27.3	18.2	36.4	18.2
None	12.8	25.6	35.9	25.6
<u>Education</u>				
No Schooling	52.6	31.6	10.5	5.3
Grammar school (1-8 years)	21.9	23.2	21.0	33.9
Some high school (9-11 years)	18.2	25.3	25.0	31.4
Completed high school (12 years)	14.8	29.0	31.1	25.1
College, Incomplete	7.3	36.8	24.4	31.6
College graduate	1.2	44.2	20.9	33.7
Higher than college	9.5	22.2	34.9	33.3
<u>Income</u>				
Under \$3,000	22.0	20.3	22.3	35.4
\$3,000 to \$4,999	13.7	31.7	25.1	29.5
\$5,000 to \$7,499	13.6	29.5	29.0	27.9
\$7,500 to \$9,999	14.9	32.4	25.2	27.5
\$10,000 to \$14,999	14.5	32.5	26.5	26.5
\$15,000 to \$24,999	5.3	26.3	28.1	40.4
\$25,000 and over	5.6	27.8	33.3	33.3

TABLE V-2--Continued

Demographic Factor	Degree of Worry			
	Great deal	Some	A little	Not at all
<u>Occupation</u>				
Professional	9.2	35.3	29.9	25.5
Farmers and Farm managers	8.6	14.3	20.0	57.1
Managers, officials, proprietors	13.8	29.2	24.6	32.3
Clerical	10.0	26.4	30.9	32.7
Sales	14.7	32.4	20.6	32.4
Craftsmen and foremen	13.7	27.4	23.0	35.9
Operatives	20.2	32.3	24.2	23.3
Service workers	19.9	35.0	25.7	29.4
Farm laborers	18.3	30.1	27.5	30.1
Laborers	24.5	20.3	32.2	23.1
<u>Sex</u>				
Male	13.6	22.1	--	--
Female	17.5	33.7	--	--

^aDonna K. Kontos, "Threat Perception and Civil Defense," (Department of Sociology, University of Pittsburgh, March, 1965), pp. 4, 12-18, 21-22. (Mimeographed.)

Perhaps these figures may generally be summed up by saying that people living in the eastern part of the United States and along the Pacific coast worry about the possibility of war more than people in other parts of the country. Second, people with greater responsibilities, such as young parents, also tend to worry more. Finally, if it is assumed that education, income and occupation are meaningful indices of socio-economic status, then it is quite clear that those having a low socio-economic status worry more than others in this hierarchy.

While it is apparent that a lot of people do a lot of worrying

about war, does it necessarily follow that most people expect a war to occur? The evidence in this regard clearly indicates that the number of people who expect an all-out war has been dropping continuously. In April 1952, 53 percent believed it to be either "likely" or "very likely" that a world war would occur; in March 1953 this had dropped to 47 percent; in June 1956 to 38 percent; in October 1961 to 34 percent; in November 1961 to 33 percent.¹³⁵ In 1961 a Michigan State University study reported that 62 percent of the interviewees believed that war was unlikely.¹³⁶ In 1963, the Pittsburgh studies found that 61.3 percent were of this opinion and the Columbia University study of the same year reported a figure of 60 percent who did not believe that war was likely.¹³⁷ There thus existed the rather paradoxical situation wherein a majority of people were worried about war and yet a majority was also of the opinion that a war was not likely to occur.

A second element of the public's perception of the threat involves the likely target areas to be attacked and the nature of the weapons to be used. With respect to the first of these, it is apparent that a majority of Americans expect their own communities to be attacked. In 1961 the American Institute of Public Opinion found that 52.6 percent of the respondents thought that their own locality would be

¹³⁵ Stephen Withey, The U. S. and the U. S. S. R.: A Report on the Public's Perspective in Late 1961, (Ann Arbor, Mich., Survey Research Center, University of Michigan, March 1962), p. 36.

¹³⁶ David K. Berlo, "The Fallout Protection Booklet: (I) A Report of Public Attitudes Toward and Information about Civil Defense," (Department of Communications, Michigan State University, April, 1963), p. 5. (Mimeographed.)

¹³⁷ "Civil Defense and Cold War Attitudes. . . ." op. cit., p. 14. "Fallout Shelter Study, Codebook Number Five, Survey of Publics in Nine Communities," op. cit., p. 66.

one that the Russians would want to bomb.¹³⁸ Also in 1961, Michigan State University researchers conducted telephone interviews with 3514 people selected at random from eight cities throughout the country. The respondents were asked, among other things, whether they thought that "any bombs or missiles would fall on (name of the community)?" If the answer was no, the researchers asked, "Do you think this part of the country would be hit directly?" The results of this survey are included in Table V-3.

TABLE V-3
PERCEPTIONS OF LIKELY TARGETS OF ENEMY ATTACK ^a
(in percent)

Community	This particular community would be attacked	This part of the country would be attacked
Minneapolis, Minn.	82	8
Boston, Mass.	90	4
Oklahoma City, Okla.	86	5
Santa Monica, Cal.	75	12
Lansing, Mich.	61	28
Manhattan, Kansas	47	38
Chapel Hill, N. C.	20	48
Seattle, Wash.	90	4

^aDavid Berlo, "The Fallout Protection Booklet: (I) A Report of Public Attitudes Toward and Information About Civil Defense," (Department of Communications, Michigan State University, April 1963), Appendix A, p. 2. (Mimeographed.)

¹³⁸American Institute of Public Opinion Poll No. 649K, August 22, 1961. (Unpublished.)

If these percentages were averaged it could be seen that approximately 70 percent of the people expect their own communities to be attacked and, among those who do not expect direct attack, 18 percent feel that their area will be hit. It may thus be concluded that few Americans consider themselves to be immune from the effects of a nuclear attack, should such an event occur. Similarly, by 1963 more than 96 percent of Americans assumed that nuclear weapons would be used, to a greater or lesser degree, in an all-out war.¹³⁹ Furthermore, 35 percent believed the use of chemical and biological weapons was either "somewhat likely" or "very likely."¹⁴⁰

The third element in the public's perception of the threat pertains to weapons effects and survival. The survey data available on weapons effects suggest that Americans were quite well aware of all the major effects including fallout. Thus, for example, by 1964 it would appear that 80 percent of the people believed that the danger from fallout would be very great even though their own community or area had not been destroyed by the blast and thermal effects.¹⁴¹ Perhaps more significant for purposes of this analysis is the fact that Americans are generally pessimistic about their own chances for survival in the event of an all-out war. In 1961 it was found that only 8.4 percent of the public felt that it had a "good chance" for survival.¹⁴² In the Columbia University study it was found that only about 1 in 4

¹³⁹"Civil Defense and Cold War Attitudes. . . ." op. cit., p. 34.

¹⁴⁰Ibid., p. 36.

¹⁴¹Ibid., p. 29.

¹⁴²American Institute of Public Opinion Poll No. 649K, op. cit.

of the respondents believed that the chances for survival were good.¹⁴³
The Pittsburgh studies revealed virtually the same picture.¹⁴⁴

It may be appropriate at this point to generally sum up the information thus far presented on the public's perception of the threat. First, a large number of people were worried about the threat of war, although increasing numbers of people were becoming convinced that all-out war was unlikely. Second, a great majority of Americans believed that their own communities or areas would be the targets of any nuclear attack. Third, there was a general awareness among the population of the various effects of nuclear weapons and certainly some understanding of the widespread danger of radioactive fallout. Finally, the majority of Americans were pessimistic about the chances for survival, with few believing the chances to be "good." With this overview of the public's perception of the threat it is possible to determine generally what kinds of people supported the shelter program and for what reasons.

As might be expected, those who worried most about the threat of war were most favorably disposed toward shelters. Thus the Columbia University study found the greatest support for shelters among the young, women, the poor, the less educated, and the blue-collar workers.¹⁴⁵
Thus it may be said that the primary reason for shelter support was

¹⁴³"Fallout Shelter Study, Codebook Number Five, Survey of Publics in Nine Communities," op. cit., p. 75.

¹⁴⁴Jiri Nehnevajsa, "Americans' Views on Civil Defense In the Cold War Context: 1966," (Department of Sociology, University of Pittsburgh, December 1966), p. 106. (Mimeographed.)

¹⁴⁵Levine and Modell, op. cit., pp. 151-158. In 1953 the researchers surprisingly found that "the more ties and obligations a person has, the less likely he was to support shelters. But by 1964 this relationship seems "to have disappeared." Ibid., p. 155. No explanation was offered by the authors.

anxiety about war, which is hardly a startling conclusion. But there were apparently other reasons for support as well. It was found, for example, that among those who did not worry at all about war, 49 percent were still in favor of shelters.¹⁴⁶ The Columbia researchers concluded that even though such people did not exhibit worry about war, it is still conceivable to them. In such circumstances, support for shelters is simply a means of "coming to terms with a world that is perceived to be dangerous."¹⁴⁷ Finally, the Columbia studies found that those people in the lower socioeconomic groups tended to acquiesce in whatever the government proposed and it was suggested that at least some of the support for shelters was due to this phenomenon, as well as anxiety about war.¹⁴⁸

Conclusions

This chapter began on a cautious note. It was observed that any discussion of public opinion and its relation to public policy was beset with innumerable pitfalls. The difficulties that were noted are even further compounded when the public policy involves the issue of national security. For one thing, national security policy involves questions that are often of a highly specialized and technical nature. In order to make intelligent judgments as to what weapons systems are technologically feasible, what resources should be allocated to their development, what effect the new systems might have upon existing strategic designs, there is need for specialized knowledge and technical competence of a very high order. Second, the nature of national

¹⁴⁶Ibid., p. 142.

¹⁴⁷Ibid., pp. 144-145.

¹⁴⁸Ibid., pp. 161-167.

security policy is such as to necessitate a rather high degree of secrecy. Whatever the advantages or disadvantages of this condition, the fact remains that widespread public discussion of such matters as force levels or weapons systems design could easily compromise their utility. Such public discussion with respect to such matters therefore often tends to be general in nature and without a complete basis in fact. Finally, in many matters of national security policy, the stakes are so great as to be virtually meaningless to the man on the street. The very size of the national security budget, for example, is such as to almost preclude comprehension. Or when the issues concern the very life or death of cultures and societies, rational argument is often the exception rather than the rule. Of course, the same points may be raised with respect to other areas of public policy, but the point that is being raised here is one of degree.

Many of these difficulties can be seen in the fallout shelter issue. The weapons effects against which the system was intended to protect are highly complex and likely to be understood by only a very few highly qualified individuals. Furthermore, given the relative newness of the field, certain gaps in the relevant factual data are inevitable. The same may be said for the problems of radiation shielding. Not only is a high degree of technical expertise essential for a thorough understanding of all of the ramifications of fallout protection, but the problem of secrecy applies here as well. It was shown in an earlier chapter that even civil defense officials have, from time to time, had difficulty gaining access to relevant material.

Finally, when the question of civil defense is raised, and one speaks of scores of millions of deaths and injuries, of long-term ecological and genetic effects, the ordinary mind is truly boggled. This is simply to suggest that the problems of relating public opinion to national security policy also clearly relate to civil defense.

Given these circumstances, it would be reasonable to anticipate that the mass public would have little to do with the formulation of shelter policy. It may be further suggested that the maximum potential linkage with policy in this particular situation would be one of setting limits to that policy once it has been formulated. Public opinion could, in other words, be a significant instrument of control after, rather than before the fact.

In examining the data dealing with public opinion and the shelter issue, certain points have been made during the course of this analysis and, at the risk of some redundancy, should be reemphasized. The shelter program was simply not salient in the minds of the mass public. People just did not think that it was important in comparison with other public issues. It is therefore very doubtful that they gave the matter much thought and, indeed, the instability of attitudes suggests just that. The basic disinterest in shelters must also be seen against the backdrop of several other factors such as the declining belief that war was likely and the widespread skepticism that much could be done to enhance the chances of survival in the event of an attack. There was also the fact that so few people took any action whatsoever on their own behalf or as part of the community program.

These, it would seem, would only serve to underline and emphasize the low salience issue. What it means, in the mind of the writer, is that there is no reason to believe that the Administration would be subjected to great pressure to significantly broaden the program, or to move faster on it, or to push out into new areas of protection. But, as has often been observed, "public opinion seldom acts to promote a new policy, but it often acts negatively to demonstrate its dissatisfaction with existing policies."¹⁴⁹

In the case of the fallout shelter program, there is no evidence that the public was dissatisfied with what the government was doing. Overall, if not overwhelming, support for the program seems to be fairly clear. But the nature of that support was peculiar in a number of ways. First, it does not seem to have been derived from any firm conviction that shelters were going to do a great deal of good. Second, while support was very strongly associated with anxiety about war, it was also tied to other things such as traditional habits of acquiescence in governmental programs by significant groups of people, as well as a general and somewhat vague apprehensiveness about the world we live in. These considerations make it somewhat questionable, in the mind of the writer, as to just how deeply the support was rooted in American society. It would therefore seem to be more accurate to speak of acceptance of, rather than support for, the shelter program. Furthermore, it would seem that this acceptance was aimed largely at a reduction of the tensions endemic in the international system which was felt by the very large majority of the people. It is therefore hardly likely that

¹⁴⁹Harwood Childs, Public Opinion: Nature, Formation and Role (Princeton, N. J.: D. Van Nostrand Company, Inc., 1965), p. 318.

the public would exercise its veto--at least with respect to the limited program proposed by the Administration.

Therefore, as far as the mass public is concerned, it may be concluded that no significant linkage existed between it and the policies that were actually formulated. This would seem to mean that the passive acceptance of shelters by the mass public provided a generally free hand to the "proximate policy makers," including both those in the Administration as well as Congress.

If it be concluded that the mass public had little impact upon public policy in this particular matter, then what about the articulate publics? Surely it cannot be said they were disinterested or that they did not articulate their views with considerable skill and vigor. Could it not be argued that they had some impact which the mass public did not? It is extremely difficult to provide an unqualified answer to this question. It could well be that they may have influenced some of the better educated individuals around the country. However, the list of highly educated persons from all fields of knowledge who actively supported the programs raises some doubts as to the extent of this influence. It could also be argued that they caused the Administration and Congress to "sit up and take notice" of their misgivings. But the action of the Hébert Subcommittee in unanimously reporting out the shelter bill suggests that such notice as might have been taken was scant indeed. Furthermore, there was little evidence found by the writer in his discussions with OCD officials to suggest that the criticisms were taken seriously. Indeed, it would appear that a good

many of the shelter critics were regarded by civil defense officials as unknowledgeable and irresponsible "extremists" and their arguments often provoked a negative or reverse action on the part of the officials. There were of course, some exceptions; but, the general attitude of OCD officials was generally one of the patient schoolmaster dealing with a "slow" pupil. If, therefore, the articulate publics had any significant impact upon the shelter policies, it has not been discernible to the writer. The most that might be said is that they may have forced the civil defense professionals to reexamine their assumptions and to sharpen their arguments. But there is no evidence that they produced any significant changes of mind.

However, the articulate public did, to a certain degree, precipitate something of a public debate on the shelter issue. It would seem appropriate to make a few comments on the quality of that "debate," especially in relation to the kind of public opinion-national security policy problems discussed earlier.

The first reaction of the writer to the fallout shelter debate is surprise that it took place at all. Given the extremely modest scope of the program, at least in comparison with other defense programs, the criticisms and vehemence of the attacks seem somehow out of proportion to what was being proposed. A possible explanation of this may be found in the rather unique political vulnerability of the civil defense organization and function. Other much larger and potentially more controversial programs have been approved, often without debate. A major difference in this particular situation was that, in

contrast to many other Defense Programs, civil defense was highly visible to the general public and, probably even more important, was lacking the overt support of major economic and political interests. It was one of those kinds of public programs which must stand or fall on its merits. It may be suggested that civil defense was therefore a convenient target for anti-war and anti-military groups which could not seem to make much progress elsewhere. This is not to suggest that the opponents were not seriously concerned about civil defense itself. But it is rather difficult at times to know precisely what was being attacked: the shelter program, civil defense generally, the Defense Department, or war itself.

While the debate was beclouded from time to time by a lack of data, high emotions and issues heavily encrusted with questions involving personal values, it would appear that the articulate public did make some substantial contributions to the thinking about civil defense. First, they did call attention to the dangers of making optimistic assumptions about attack conditions and recuperative capabilities in the face of vast uncertainties. That this may have been of greater value to the mass public than to the civil defense professionals does not diminish its importance. Second, the opponents of the shelter program correctly, in the view of the writer, drew attention to the interrelatedness of attack effects. This pointed to the need for more refined analyses and more thorough emergency preparedness measures if recovery was ever to be any more than a remote possibility. Finally, by their stress on the long-term social, psychological,

political and physical effects of nuclear war, the American people were reminded that civil defense is not just another engineering problem that will yield a solution if a sufficient number of permutations and combinations are properly analyzed and evaluated.

Unfortunately, some of these potentially important contributions were possibly negated by the failure of the critics to make essential distinctions concerning capabilities and limitations of weapons. The controversy over the fire effects is a good example of this. Part of this may be due to a lack of information, however. The critics also tended to assume the likelihood of the most extreme situation and tended to ignore the likelihood of lesser situations. To assume that the worst that could happen would happen does not indicate a very clear picture of history. But this, too, could be a function of a lack of technical knowledge. Finally, it can be seen that the very scope of the civil defense task caused a kind of mental block among some critics. The inability to think about the "unthinkable" prevented many of the critics from facing up to what could or should be done to mitigate the effects of a possible, if unlikely, catastrophe. These and other problems of the shelter critics simply underscore the inherent difficulties of public involvement in national security policy issues. And they go far in explaining why the public has had such little control over activities in this area of public policy.

CONCLUSIONS

Throughout this study a number of conclusions have been advanced concerning the materials presented in the individual chapters. It might be appropriate, however, to describe and discuss some general observations that have grown out of this study and which may serve as an overall conclusion.

At the outset it should be acknowledged that certain problems have presented themselves in the course of this study which should be considered in the overall conclusions that follow. While a vast amount of written material on the subject of civil defense is available, and while civil defense officials were unusually cooperative in making themselves available for interviews, there appear to be certain limits to the amount of information that can be gained by an "outsider." Specifically, the records of the Bureau of the Budget, which could be expected to have yielded much information with respect to intra-executive politics, were never made available to the writer. It should also be noted that civil defense officials were not always at liberty to tell all that they knew about the various decisions that had been made for the simple and understandable reason that to do so would be a violation of the principle of executive privilege and might also have served to embarrass the agency or certain individuals within it.

Therefore, while every effort has been made to describe as fully and accurately as possible the things that occurred within the Executive branch, it is recognized that there may be some gaps which future students of the subject may yet uncover. However, it is believed that the facts, as presented in this study, do provide the basis for certain broad conclusions regarding the politics of policy making in the field of national security.

The fundamental fact that emerges from this study is that the civil defense shelter policy is, in large measure, a political problem. The basic goal of a shelter system is to reduce the incidence of death and destruction resulting from a nuclear attack upon this nation. There can be little doubt that the task of providing some measure of protection for the American people is not only one of obvious importance to the people themselves, but it is also one of immense complexity. However, while there may be little disagreement as to the basic goal of such a program, the problem of how that end is to be achieved is inescapably tied to questions of value and questions of fact for which there do not appear to be any definitive answers. Such questions as whether to proceed with a shelter program at all or, if so, what kind and how extensive a program are the kinds of issues upon which neither the experts nor the politicians have been able to agree. Thus a condition of conflict may be said to exist which can only be resolved in the political arena through the instruments of persuasion, bargaining and compromise. It is for this reason that, regardless of the many technical and scientific issues raised in the course of this study,

the basic question has always been a political one.

Turning to the specific question of civil defense shelter policy, the conclusion is inescapable that the proponents of this program have not been notably successful in the political arena during the period covered by this study. This appears to be so despite the fact that most of the program proposals, or at least those presented to Congress, have been extremely modest in comparison with other defense programs. The inability of the civil defense shelter proponents to get what they wanted has also existed despite the fact that according to logic and common sense such a program should be considered complementary to other national security programs which have not, as a rule, had much difficulty in gaining congressional support since at least the early 1950's. This is not to suggest that notable advances have not been made during the several years covered by this study. However, the fact that little or no federal money has been expended for the construction of shelters would suggest, at the very least, extremely limited success if not complete failure. This entire study has been an effort to explain this puzzling situation.

A large number of factors may be cited in explanation of why the civil defense shelter system has not made greater advances than it has. Some of the causes may be found in the organizational arrangements prescribed for the civil defense function. Other causes are related to the nature of the civil defense field itself. Other factors are related to the human characteristics of the actors involved. And still others are related to the nature of the policy making process.

It may be useful to examine some of these factors not only to account for what has happened in the field of civil defense, but also to point out some of the enduring problems of public policy making of which civil defense is but one example.

Some of the most fundamental and enduring difficulties which have befallen the civil defense function have stemmed from the division of responsibility for civil defense between the federal and state governments. Despite the fact that the task of protecting the United States from enemy attack is a fundamental duty of the federal government, the argument early developed that civil defense was a responsibility of individual citizens but that, since many individuals did not possess adequate resources of their own for this purpose, the state and local governments should also enter the picture. As long as civil defense largely consisted of organizing the local populations for war support purposes, such an arrangement was not without some merit. Also, very largely on the basis of the British experience in World War II, the protective function appeared to be best handled by local authorities on the scene of the attack. Hence, the Civil Defense Act of 1950 assigned primary responsibility for the operational aspects of civil defense to the state and local jurisdictions. However, serious difficulties became apparent when the issue of protective structures was raised. Specifically, the cost of such structures was generally beyond the capability of most of the state and local governments to assume. While it might have been possible for these levels of government to engage in some construction work if the costs of the shelters could be

self-liquidating, the 1950 Act specifically prohibited the use of federal matching funds for dual-purpose shelters. To all intents and purposes, this served to preclude the construction of any shelters whatsoever. While it is true that the Civil Defense Act of 1950 was subsequently amended to vest civil defense responsibility "jointly" in the federal and state governments, the prohibition against the use of federal funds for self-liquidating shelters was never removed. It may thus be concluded that the very legislation authorizing civil defense activities in the United States also served to cripple any real prospects of a major shelter program.

It may also be suggested that the determination to maintain the civilian character of the civil defense function may also have had certain untoward effects in the long run. This issue is, of course, rather delicate in view of the widespread fear in the United States of "creeping militarism" and the "garrison state." It is also quite possible that the state and local jurisdictions, which are notoriously sensitive to issues of authority, may not have been particularly keen that the military participate except in a very subservient role. The issue of military involvement has been further complicated by the apparent reluctance or unwillingness of the military to assume the burden of civil defense because of the fear that such additional responsibilities would undermine combat effectiveness. Whatever the arguments of civilian vs. military control of civil defense--and there appear to be many legitimate points of view on the subject--the decision to vest authority in civilian hands has not only deprived the

civil defense function of some of the qualities, such as cohesive organization and clear authority, which are obviously necessary under disaster conditions, but it has also served to weaken the perceived connection between civil defense and overall national security. Regardless of how closely the two areas are interrelated, the fact that one function is in the hands of civilians and the other is in the hands of the military implies a distinct difference between the two. The writer believes that much greater support for civil defense would have been evidenced by Congress had the function been thoroughly integrated into the nation's military planning from the very beginning.

Another principal problem that has beleaguered the civil defense shelter proponents was derived from the very nature of the threat toward which the program has been directed. It is, of course, quite obvious that the task of protecting the civilian population from the varied effects of nuclear weapons is an exceedingly complex one. However, if possible, that task has been further complicated by the fact that advancements in weapons technology since World War II have been of revolutionary proportions and have occurred with stunning rapidity. The intellectual difficulties occasioned by this state of affairs are staggering. The problem was eloquently described some years ago by Arnold Toynbee when he said that:

The heart of our difficulty is the difference in pace between the hare-swift movement of the scientific intellect, which can revolutionize our technology within the span of a single lifetime, and the tortoise-slow movement of the subconscious underbelly of the human psyche, which knows no change or shadow of turning and is the same yesterday, today and tomorrow.¹

¹Arnold J. Toynbee, "Men Must Choose, " Atlantic Monthly, CXCI (January 1953), p. 29.

On a less philosophical and more mundane level, the problem of attempting to come to grips with an increasing array of nuclear and thermonuclear weapons, coupled with increasingly sophisticated delivery systems has, among other things, resulted in a rather high rate of obsolescence among the concepts and techniques of civil defense. The concept of evacuation is a case in point. That approach was conceived not only because it was thought to be relatively inexpensive but also because it was considered to be at least one answer to the immense destructive capability of the hydrogen bomb. Yet the dual principles of distance and warning time, upon which the entire approach was based, were quickly invalidated by the radioactive fallout effect and the development of the ICBM.

A second problem that is implicit in the civil defense task is the great uncertainty as to just what the results of a nuclear attack might be. For example, it is by no means clear how the surviving population might behave under attack conditions. Also, as has been illustrated in this study, it is not precisely known what the long and short range effects of the enemy weapons might be. This condition has necessitated a great deal of guesswork, the use of computers notwithstanding. Thus, while a great many variables may be taken into account in the design of a civil defense system, the entire field of endeavor has remained enshrouded in an aura of uncertainty.

Progress in the field of civil defense has also been severely hampered by the fact that the very definition of the problem is greatly affected by the perceptions, values and interests of the individual

actors involved in the policy making process. Often the actions and attitudes of individuals are ignored or downplayed by students of the policy making process because their great variability makes generalizations difficult if not impossible. Yet in the final analysis, policy is made by individual human beings, either acting alone or in groups, and the writer is convinced that to ignore this particular perspective is to risk serious distortions or lacunae in the analysis.

It is perhaps obvious that not everyone involved in the policy making process will perceive a given problem in the same way. The perceptions of men are affected, in part, by their knowledge and experience, expectations, needs and desires, values, and the influence of others. Furthermore, it is generally recognized that when the object of a perception is vague or ambiguous, the greater is the importance of these various factors in comparison with the object or event itself. Thus it is quite possible for two intelligent people to view the same object or event and yet perceive quite different things. For example, Representatives Chet Holifield and Albert Thomas, two key figures in this study, perceived the threat facing the United States and the means for coping with it in entirely different terms. Holifield was obviously and deeply concerned about the possibility of a nuclear war and perceived certain civil defense programs as efficacious means of dealing with the threat. Thomas, on the other hand, repeatedly expressed the belief that all-out war was extremely unlikely and that, in any event, civil defense measures would largely be a waste of time, effort and money. The point is not whether one was "right" or "wrong"

or what may have caused the differing perceptions. The important point is that these two individuals acted on the basis of what they perceived and, by virtue of their positions in Congress, were able to affect the course of civil defense history. While this is but one example, it is also highly probable that some of the perceptions that were so clearly articulated by the shelter critics in the 1960's were also shared by some influential members of the Congress and Executive.

What occurs in the public policy making process is also, in part, a function of the values which men possess. It is perhaps obvious that value systems vary from person to person even within the same social and economic groupings. Typically, the values toward which an individual strives will differ in objective content and arrangement and these differences take the form of priorities.

This phenomenon has manifested itself quite clearly in the area of civil defense policy making. Thus, for example, people may perceive a major threat of nuclear attack but place higher value on the use of the deterrent or active defense forces in coping with it. Even if they value civil defense highly, they may give priority to one approach, such as individual shelters, over another approach, such as community shelters. Others may perceive a great life-saving potential in a strong civil defense system, but may value even more highly the freedom of action which they feel might be threatened by such a system. The possibilities and combinations of such values and perceptions are practically limitless and this condition not only invariably gives rise to conflict but, as will be noted in subsequent

pages, also constitutes a serious barrier to conflict resolution.

It should also be emphasized that even where the perceptions and value systems of individuals are quite similar, the interests of the actors may vary. This, too, generates conflict. It has been shown, for example, that the mayors of most of the cities were in agreement with some federal officials over the need for shelters in the early 1950's, but they differed widely on the question of financing. They conflicted, in other words, because the federal approach to financing would impose a heavier burden than the mayors were willing or politically able to accept. The mayors of the larger cities were also greatly concerned about traffic and parking problems in the downtown areas and perceived dual-purpose shelters as a means of alleviating this problem as well. Federal officials, on the other hand, appeared to be interested only in the protection function and were obviously anxious to avoid the commitment of federal funds for any purpose other than protection. Similarly, the opposition of John Foster Dulles to the shelter recommendations of the Gaither Committee does not appear to have derived from a belief that the United States was safe from attack or that shelters were bound to be ineffective. Rather, it was derived from the fear that a massive shelter program would have adverse effects upon the nation's allies and the uncommitted nations. In this particular instance, it might be suggested that Dulles' views derived from his perceptions of the international system, his views of what the most important problems were that were facing the United States and his interests as Secretary of State.

Finally, it needs to be noted that perceptions, values and interests change with time and along with events. In any political system demands are constantly being generated which compete with each other for the attention of the policy makers. For example, while a President may express interest in a given issue and devote a considerable amount of time to it, there is no reason to expect that his interest must be maintained from "beginning to end." President Kennedy perhaps expressed greater interest in civil defense than any other chief executive; yet, even this interest waned over a period of time as other demands were forced upon him.

The policy problems created by the implicit complexity of the civil defense task, together with the multiplicity of perceptions, values and interests of the actors involved help to explain some of the difficulties encountered in the field of civil defense. But having said all of this, it may be observed that such conditions are by no means confined to civil defense. Indeed, it may be argued, by the time most problems mature to the extent that they require a public policy, they are usually by definition highly complex. It can thus be said that the "problem" of the American city, or the "problem" of the anti-ballistic missile defense system is no less complex than that of civil defense and very possibly a good deal more so. Similarly, the vagaries of individual personalities impinge upon other public policy areas as much as they do upon civil defense. Yet major progress may be made in other problem areas. If, therefore, one attempts to explain the lack of accomplishment in the field of civil defense, it

would also seem to be necessary to examine it in connection with the policy making process.

It was earlier suggested that in a pluralistic political system, the resolution of conflict over policy ends and means generally occurs as a result of persuasion and compromise through bargaining. The writer is of the opinion that the failure of the civil defense effort is rooted in the apparent inability of its proponents to either persuade or bargain effectively.

The difficulties of the various civil defense organizations to persuade others as to the efficacy of what they were trying to do has been made manifest throughout this study. There would appear to be a number of causes for this particular difficulty. First, the ability to persuade involves a skill in formulating issues and communicating them to those who are in a position to do something about them. Throughout most of the 1950's the FCDA and OCDM spokesmen seem to have been unusually inept in this respect. This ineptitude stemmed in no small measure from the individuals themselves. For example, when Representative Holifield on one occasion asked Administrator Peterson whether he had any reservations as to the worth of what he was doing, he was not being merely specious. The Administrator exhibited a pessimistic and negative attitude in the justification of his program and was extremely hostile to the only subcommittee of Congress that had ever shown sincere and continuous interest in the field of civil defense. It is true that the Holifield hearings may have had some political overtones, but the FCDA could still have done a better job

in presenting its case. Mention has also been made of the Caldwell program in the days of the Truman Administration. In the crucial first encounters with the House Appropriations Committee, the FCDA spokesmen clearly had not formulated any specific plans and even when they had developed the outlines of a program, they failed to communicate it to the committee. In fairness to those spokesmen, however, it is recognized that they were members of the Executive branch and were duty bound to follow whatever policy had been set forth. But even within these limits a more effective job of presentation was clearly possible.

There were, however, other barriers to successful persuasion in the case of civil defense. The changes in weapons technology, as noted, had necessitated frequent changes of policy and this may have caused many people (including state and local officials as well as Congressmen) to wonder whether civil defense officials knew what they were doing. A sense of bewilderment may also have been reinforced by the obvious and frequent disagreement among the experts as to what shelters could or could not accomplish.² Also it may be suggested that the rigorous financial limitations imposed upon the civil defense activity by the Congress and the upper echelons of the Executive provoked civil defense officials to continuously propose inexpensive programs (such as evacuation or do-it-yourself shelter schemes) which generally proved, upon analysis, to be inadequate. What may thus have occurred was that the credibility of the civil defense spokesmen was in

²This problem is extensively discussed in a series of case studies involving the Congressional handling of scientific information in U. S., Congress, House, Committee on Science and Astronautics, Information for Congress: Report to the Subcommittee on Science, Research and Development, 91st Cong., 1st Sess., 1969.

a constant state of erosion. Finally, it should be apparent that the civil defense proposals over the period covered by this study took on a highly repetitive character which may have been a function of a lack of new ideas, a lack of options, or a result of the financial restrictions just mentioned. Whatever the case, it becomes questionable whether the harried members of the Appropriations committees would listen very carefully to what the civil defense spokesmen were saying if it was believed--as well it might have been--that nothing new was being said.

Thus, to a considerable extent, the inability of defense officials to persuade was seriously undermined by a marked ineptitude on the part of some (but not all) of the spokesmen, confusion over the question of what kinds of programs might be effective, and the manifest inadequacy of some of the programs that were actually proposed. It should also be added, perhaps at the risk of some redundancy, that the ability to persuade depends upon the definition and redefinition of the issues. But when, because of the multiplicity of perceptions, values and interests of the policy process participants, there is little or no understanding or agreement concerning the issues, it is hard to see how persuasion can be a meaningful approach to conflict resolution.

It is also the opinion of the writer that persuasion and, indeed, communications on the subject of civil defense was seriously handicapped by the fact that the subject was a highly distasteful one for many people. Quite understandably, it is not particularly comfort-

ing to contemplate the death of scores of millions of people and perhaps even of civilization itself. A great many people would prefer not to "think about the unthinkable." A nuclear catastrophe is so much at variance with what people think ought to be that they simply put the subject out of their mind and/or accuse anyone who attempts to talk about the possibility of being morbid, if not worse. The implications of such attitudes are perhaps too obvious to merit elaboration.

The second means of resolving conflict over policy ends and means is bargaining and compromise. In examining the field of civil defense as a whole, there appears to be some outward manifestation of political compromise. The fallout shelter program may be seen as compromise between those who wanted a full-blown blast and fallout shelter system and those who wanted no shelters at all. Similarly, the emphasis upon shelters in existing buildings rather than the construction of entirely new shelters may be another indication of compromise.

Yet, for all of this, it does not appear to the writer that the case of civil defense represents a particularly good example of bargaining as an instrument of conflict resolution. Basic to a pattern of bargaining and compromise is the element of power. It may be argued that meaningful negotiations can occur only when both parties to a conflict possess some degree of leverage or power. If one of the parties is substantially without this, there would seem to be little point in the other side conceding anything at all. Throughout this study it has been apparent that civil defense officials were attempt-

ing to operate without a significant power base. That is to say, there were few significant power-holding groups upon which civil defense advocates could depend for support. Presidential backing was sporadic at best and opposition within the executive branch was significant from time to time. Only in the 1960's did the civil defense proponents find powerful champions in the Secretary of Defense and, for a time, the President himself. Similarly, civil defense had few friends in Congress, with the notable exception of Representative Holifield and some of his colleagues on the Military Operations Subcommittee. On the other hand, civil defense confronted continuous opposition (more or less articulately expressed) by such powerful figures as Representative Clarence Cannon, Carl Vinson and Albert Thomas. Unlike other areas of defense policy, there were few major economic groups to lobby for civil defense and a good many of the ideological groups were opposed to it. There is no readily apparent explanation as to why such economic interests as the concrete and steel industries did not come forward on behalf of the civil defense shelter program. However, it may be suggested that while they may have stood to gain from a major shelter construction program, they were already deeply involved in the massive inter-state highway program and in the general construction boom of the 1950's and 1960's. Certainly, construction lobbyists would not have been unaware of the general antipathy of Congress and certain elements of the Executive to a major shelter construction program and could well have concluded that little was likely to be gained and much good-will might be lost through the advocacy of a program which

could divert resources away from popular programs and toward one which, at best, inspired little enthusiasm anywhere. Finally, the low salience of the shelter issue in the minds of the public made it rather impractical for civil defense proponents to take the issue to the public in hopes of bringing indirect pressure on behalf of their proposals. Therefore, throughout the period under discussion, civil defense officials were in the unenviable position of having to approach, with hat in hand, those individuals with the necessary power and presenting their case purely on its merits. And, as has been suggested, even that was rarely done effectively. In the absence of power, no real bargaining seems to have taken place and the civil defense program was generally left to the tender mercies of such people as Representative Thomas.

If the civil defense advocates were so lacking in bargaining power and persuasive abilities, then the obvious question is: why was any civil defense activity undertaken at all? On the basis of the attitudes expressed in congressional hearings, particularly those of the appropriations committees, two major reasons might be suggested. The first was the simple caution and prudence on the part of the actors in both branches of government. While there may have been little enthusiastic support for civil defense, there was toleration of it because of the uncertainties implicit in the international situation. As long as the commitment remained a minimal one, it could do little harm and might even possibly avoid some future charge of irresponsibility and/or negligence. Thus, even while the program lacked overt

support, no one was willing to take the responsibility for cutting it out completely. The second reason for allowing the continued appropriations was habit. Having authorized a civil defense program in 1950 and set a rather low level of expenditures for that program in the early years, the tendency was to continue at that level regardless of the changing circumstances, the nature of the programs being proposed or the pleas of the civil defense advocates. Whenever an effort was made to significantly increase the scope or change the direction of the program, it was met by strong resistance on the part of the Appropriations committees. This pattern has been cogently discussed by Wildavsky and appears to have been operative in the case of civil defense as well.³

If this analysis is accurate and civil defense in the United States is tolerated rather than supported, then it would appear that the civil defense shelter program will remain in the shadows. Of course, this situation could change if the scales of power are somehow tipped in the direction of the shelter proponents. While this does not appear to be likely, it is nevertheless possible. For example, the Sentinel ABM system, as proposed by the Johnson Administration would clearly have armed shelter advocates with a powerful argument that might well have brought shelters to the fore again. As mentioned in an earlier chapter, an ABM system deployed around cities would not necessarily protect the lives of the inhabitants of those cities unless fallout shelters were also available. However, it is worth noting that despite Secretary of Defense McNamara's

³Aaron Wildavsky, The Politics of the Budgetary Process (Boston: Little, Brown and Co., 1964), pp. 58-59.

remarks on this point, the Congress approved the ABM system with little or no regard to the fallout shelter issue. The Safeguard system of the Nixon Administration, at the time of this writing, appears to be designed to reduce the vulnerability of the retaliatory strike capability and is thus less directly and logically associated with shelters than its predecessor. However, this too could change as a result of a number of circumstances such as a possible escalation of the arms race, a significant increase in Chinese nuclear capabilities, deterioration of U. S.-Soviet relations, or a more clear-cut demonstration than has heretofore been provided of the technical and operational feasibility of the ABM system itself. In such cases it would hardly be surprising to witness strong pressures to extend the ABM system to industrial and population centers and, if this were to occur, fallout shelters could once again emerge from the shadows.

Overall Observations Derived from this Study

Having examined the general evolution of the civil defense shelter policies and programs over the course of a number of years, and having set forth some of the major reasons why events took the course that they did, it would be appropriate to make a few general remarks as to the applicability of what has been learned to the overall process of public policy making.

First, given the multiplicity of actors involved in most public problems, together with the varied perceptions, values and interests of those actors, it is apparent that few public problems

exist as units. That is to say, not only are most public problems multi-faceted in themselves, but their nature and importance is strongly affected by the relevant actors in the political system. A given situation may constitute a crucial problem for one group of people and may be of little significance to others. Also, various aspects of a situation may be emphasized by one group and not by another. This, of course, precludes the possibility of a single objectively "right" or "wrong" answer to any given problem. It also implies that the major key to understanding the policy making process lies in the effort to determine the origins and distribution of the various perceptions of the key political actors. To focus upon individuals in this manner clearly constitutes a very difficult problem for the researcher who seeks to generalize his findings. But, in the opinion of the writer, the generalization would not be particularly meaningful unless the individual element is somehow taken into account.

Second, it is perhaps obvious that strong and continuous executive leadership is essential in those problem areas where there may be a need for action, but where public interest remains low. Congress can, perhaps, be expected to provide some leadership but, as numerous studies have shown, the Congress is a divided body and its many voices often tend to confuse rather than enlighten and its numerous centers of power often tend to cancel each other out. On the other hand, when the President assumes a firm position of leadership on national security issues, a certain amount of progress is at least possible. But without it, little can be done.

Third. It is evident from the materials presented in this study that the general public does not ordinarily exert a strong influence in the making of national security policy, although it should be pointed out that the degree of influence would seem to vary from issue to issue. However, while the attention of the researcher might most fruitfully be focused upon the activities of the "proximate policy makers," this does not necessarily imply the existence of an interlocking "power elite," which is so often referred to in the literature. There can be little doubt that some individuals and groups exert more influence than others; however, the evidence presented in this study strongly suggests that influential individuals and groups are likely to be strongly opposed to each other in many respects. To suggest that such groups are monolithic would be to deny the multiplicity of perceptions, values and interests so clearly demonstrated in this study.

Finally, it is often suggested in the literature that bargaining is a "hidden hand" which is at the root of the policy making process and which produces the incremental pattern of policy development that was described in the Introduction. That bargaining is a key element in the policy making process would seem to be undeniable under most circumstances. Furthermore, the history of the shelter program as presented in this study, strongly suggests an incremental pattern. However, it is the opinion of the writer that public policy is not necessarily the result of persuasion, bargaining or even coercion. It is also a product of habit and the simple fear on the part of

politically responsible politicians of doing nothing in a world filled with uncertainty. What this study would therefore seem to suggest is that while policy is very much affected by the process through which it is formulated, so too is the process affected by the nature of the particular policy issue.

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