
NATURAL RESOURCES JOURNAL

Volume 28
Issue 1 *Environmental Dispute Resolutions*

Winter 1988

Nuclear Imperatives and Public Trust

Ronald G. Cummings

BOOK REVIEWS

NUCLEAR IMPERATIVES AND PUBLIC TRUST

LUTHER J. CARTER
Baltimore: Resources for the Future, 1987. 450 pp. $25.00 h.c.

Mr. Carter's book provides the reader with a detailed accounting of the political and technical history of the growth and development of the nuclear power industry in the United States, as well as (with lesser detail) in other countries. His analyses of nuclear power developments in the United States is organized around a common theme, viz, that nuclear power is subject to two indisputable imperatives: to safeguard potential nuclear explosives, and to contain radioactivity in reactor and fuel cycle operations. Many, if not most, of present day political and technical problems faced by the nuclear power industry are, in the author's mind, attributable to the failure of responsible officials in the U.S. to adequately recognize these imperatives in their stewardship of the industry.

Two basic themes cut across Mr. Carter's arguments as they relate to failures of the Department of Energy and the Nuclear Regulatory Commission (and their predecessor agencies) in terms of their resolving problems now faced by the nuclear power industry. First, the failure of responsible agencies to consider early on the management implications of the entire fuel cycle has resulted in an accumulation of radiation "mishaps" which have eroded public confidence in the government's ability to safely regulate the industry. Carter's examples in these regards focus particularly on U.S. experiences with mill tailings and waste disposal efforts. These failures result in what Carter describes as a "technology ahead of itself," a nuclear power industry relatively advanced in production methods, but lacking in consensus as to methods for dealing other aspects of the fuel cycle, particularly in decommissioning and waste disposal.

Secondly, but related to the above, Carter's primary concern is with issues surrounding the disposal of nuclear wastes—both low- and high-level wastes. He seems convinced that such wastes can be dealt with in a manner which satisfies his imperatives, and argues for "simplicity" as a fundamental criterion for choosing among the options involving reprocessing and deep storage. This criterion leads him to argue for deep storage as a best means for dealing with the waste problem. After a review of problems (particularly those associated with groundwater) associated with nuclear waste storage in salt beds or salt domes, as well as in volcanic rock (basalt and tuff), Carter (or those that he has interviewed) would seemingly have a preference for disposal in the tuff deposits at Yucca Mountain in Nevada (pp. 174-76).

While an interesting journalistic tracking of problems associated with nuclear waste disposal, Carter's book is notably lacking in terms of efforts to analyze socio-economic factors associated with his problem—efforts which one would surely expect from works emanating from Resources for the Future, Inc. This is to say that politics was not the only force giving rise to controversy in the U.S. concerning the choice of sites for waste disposal. As an example, economic analyses of the WIPP site conducted by researchers at the University of New Mexico gave substance to the "who gains-who looses" issue in the state of New Mexico, as well as pointing to the discrepancy between safety conditions subsumed in DOE risk estimates and actual conditions extant in the state; such analyses of potential economic impacts were then used by the state in acquiring federal funds to bring safety conditions to the state of the art presupposed by risk estimates. Carter seems to have ignored these and other studies of economic and socio-institutional dimensions of the waste disposal problem.

Finally, Carter's book may be subject to two other relatively minor criticism. First, he makes an admirable effort to maintain a level of exposition which might make the book accessible to the lay reader. These efforts are most notable in early chapters. In a number of later instances, unfortunately he tends to become distracted by technical issues, the result being lapses into the use of a great deal of technical jargon. In all, however, the dedicated lay reader can get a great deal out of the book. Secondly, Carter seems to ignore one dimension of the nuclear waste issue which has contributed much to the public's unease with the waste siting issued, viz, risks associated with the transportation of nuclear wastes from sites or origin to any given waste facility. As noted by Carter, in some cases communities in close proximity to a proposed site may welcome the economic benefits which may accrue as a result of public investments in the area. The remainder of the state may then see little in terms of direct benefits attributable to the facility, but may see what are to them unacceptable costs associated with the risks of the transportation of nuclear wastes through their communities.

Taken as a whole, however, *Nuclear Imperatives* is highly recommended for the reader interested in developing some understanding as to where the nuclear power industry now stands, how it got there, and the general nature of the socio-political and technical issues which remain for resolution if our society is to adequately deal with the imperatives relevant for nuclear power.

Ronald G. Cummings
University of New Mexico