Waste Not, Want Not: The Role of the State in Nuclear Waste Facility Siting

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—The requirement of conspicuous wastefulness is not commonly present, consciously, in our canons of taste, but it is none the less present as a constraining norm selectively shaping and sustaining our sense of what is beautiful, and guiding our discrimination with respect to what may legitimately be approved as beautiful and what may not.¹

Public concern over the safe management, storage, and disposal of nuclear generated waste has caused many to question the advisability of increasing the United States' commitment to nuclear power. Of particular concern is the danger that such wastes may pose to future generations.² Many have proposed linking the licensing of new nuclear powerplants to a convincing demonstration that the wastes can be safely contained.³ While the Nuclear Regulatory Commission (NRC) has declared that the relationship between waste disposal and reactor licensing is not legally imposed, the Commission has determined that, as a matter of policy, it will not continue to license reactors if it does not have reasonable confidence that nuclear wastes can and will be properly disposed.⁴ Thus, resolution of the waste disposal problem is vital not only to the health and safety of the populace, but also to a continued program of nuclear generated energy.

The dilemma is two-fold in nature—not only must the outstanding technical issues and problems be resolved, i.e., the method of waste storage, but the equally important institutional issues must be resolved, i.e., the location of storage facilities.⁵ Since the two problems are interrelated, the former will be discussed briefly in order to lay a foundation for the primary emphasis of this com-

². REPORT TO THE PRESIDENT BY THE INTERAGENCY REVIEW GROUP ON NUCLEAR WASTE MANAGEMENT 5 (1979) [hereinafter cited as IRG REPORT]. This is a valid concern in view of the fact that plutonium requires almost 250,000 years of storage to render it harmless. Farney, Ominous Problem: What to do with Radioactive Waste, SMITHSONIAN MAGAZINE 20 (April, 1974). Plutonium is an element of nuclear waste and is so potent that even implantation of a single particle may be sufficient to cause cancer. Luschbauch & Langham, A Dermal Lesion from Implanted Plutonium, 86 ARCHIVES OF DERMATOLOGY 121 (Oct. 1962) (cited in Natural Resources Defense Council v. Nuclear Regulatory Comm'n, 547 F.2d 633, 647 (D.C. Cir. 1976)).
³. IRG REPORT, supra note 2, at 5.
⁴. Id. at 5-7.
⁵. Id. at 87.
ment—the role of the states in the institutional process of nuclear waste storage and siting.

Technical Nature of the Problem

Nuclear waste falls into four major categories, with the pervasiveness of federal regulation varying according to the potential hazards which each poses to the public. High-level waste (HLW) is that which is dangerously radioactive for hundreds and thousands of years. It results from atomic weapons production, spent fuel reprocessing, and the intact fuel assemblies which are discarded after their useful life in a nuclear reactor.

Transuranic (TRU) wastes are those that result primarily from spent fuel processing and the fabrication of plutonium. Many of the problems associated with HLW wastes, including heat generation and increased temperatures, are absent from TRU, and they are thus less difficult to handle. However, because of the presence in TRU wastes of substantial quantities of transuranic radionuclides, the issues related to their long term containment are identical with those relating to HLW repositories, and for purposes of this paper they will be treated as HLW.

Low-level wastes are those that have low, but potentially hazardous, concentrations of radionuclides. They consist primarily of "contaminated equipment and other materials associated with defense activities, power plant reactor operation, and medical and industrial activities and research." They require little or no shielding and are presently being disposed of by shallow land burial.

Uranium mine and mill tailings are the residues from uranium mining and milling operations which contain low concentrations of naturally occurring radioactive materials. The tailings are generated in very large quantities and are presently stored at the site of mining and milling operations. Since these mill tailings have been the subject of special legislation which specifically defines the regula-

8. IRG Report, supra note 2, at 9.
9. Id. at 69-70.
10. Id. at 69.
11. Id. at 10.
12. M. Noel, supra note 7, at 1.
13. IRG Report, supra note 2, at 10.
14. Id.
tory relationship of the states to the federal government,\textsuperscript{15} discussion of the problems associated with these tailings will not be undertaken here.

By far, the largest producer of radioactive waste is the nuclear power industry.\textsuperscript{16} The fuel for nuclear power plants is contained in fuel rods situated in the core of the reactor. As the reactor is operated, these rods gradually accumulate radioactive byproduct. When this accumulation reaches the point where the fuel can no longer be efficiently utilized, the rods are removed and replaced, even though only one to two percent of their energy potential is exhausted.\textsuperscript{17} These partially used fuel loads are referred to as spent fuel.

It was originally contemplated by the government and those utilities owning nuclear powerplants that this spent fuel would be sent to reprocessing plants where the unused portion of the fuel could be retrieved for reuse. The non-reusable portion resulting from reprocessing is highly toxic for thousands of years and must be treated as high-level nuclear waste.\textsuperscript{18} Since reprocessing also yields plutonium, which is used in making nuclear weapons, the process is favored by the military.\textsuperscript{19} However, fear of nuclear proliferation led the Carter administration to suspend reprocessing in April of 1977.\textsuperscript{20} Thus, since no reprocessing facilities are in current operation, nuclear power plants are being forced to store their spent fuel rods "on-site."\textsuperscript{21} Because the spent fuel pools (SFP's) at reactor sites were designed under the assumption that on-site storage was to be only a temporary measure, their available storage space is quite limited. Since there currently exists 3,000 metric tons of heavy metal (MTHM) in the form of spent fuel, and estimates indicate there will be 77,000 MTHM by the year 2000,\textsuperscript{22} a problem obviously arises as

\begin{itemize}
  \item \textsuperscript{16} IRG REPORT, supra note 2, at 11.
  \item \textsuperscript{17} Federal Facilities for Storing Spent Nuclear Fuel—Are They Needed? in \textit{REPORT TO THE CONGRESS BY THE COMPTROLLER GENERAL} (1979) [hereinafter cited as \textit{REPORT TO THE CONGRESS I}].
  \item \textsuperscript{18} Id. One such commercial processing plant was operated at West Valley, New York, from 1966 to 1972. Some 640 metric tons of irradiated fuel was processed there. In this process, some 612,000 gallons of liquid high-level waste was produced and is still stored there. \textit{REPORT TO THE CONGRESS I}, supra note 17, at 13.
  \item \textsuperscript{19} Id. at 1.
  \item \textsuperscript{20} Id.
  \item \textsuperscript{21} Id.
  \item \textsuperscript{22} Nuclear Regulatory Commission, \textit{Final Generic Environmental Impact Statement on Handling and Storage of Spent Light Water Power Reactor Fuel}, ES-3 NUREG 0575 (1979) [hereinafter cited as \textit{IMPACT STATEMENT}].
\end{itemize}
to what to do with the spent fuel rods. This problem has been partially solved by "reracking" the spent fuel rods within the SFP's in order to take advantage of all available space. This procedure has increased capacity by roughly three-fold.23 As of January, 1979, the NRC had received applications for modification of SFP's at 65 reactors.24 However, older reactors are not so susceptible of modification, and, in any event, there is an increasing need for away-from-reactor storage starting in the early to mid-1980's.25

The tentative solution of the Carter administration was to dispose of spent fuel in the same way that other high-level nuclear wastes were to be disposed—in mined underground repositories.26 It was in connection with this program that salt domes were tentatively considered as storage facilities. Also under consideration was the concept of a retrievable surface storage facility. The major problem with such a repository would lie in developing a reliable method to remove the heat. Should the heat removal system fail, a "melt-down" could occur in which radioactive materials, including plutonium, would be released.27

Because the problems surrounding HLW are predominant in the minds of the public and most authorities, low-level wastes have on occasion been described as "the forgotten stepchild of nuclear power."28 Since low-level waste generally is considered to be any waste that is not HLW or TRU, it covers a wide variety of material from minimally contaminated articles that could be disposed of more simply and less expensively, to material that warrants more restricted disposal.29 While the nation generally has been concerned with disposing HLW and TRU wastes, a problem has surfaced concerning the lack of space for disposing of low-level wastes. As of 1975, six commercial low-level waste burial sites were licensed to operate in the United States.30 However, three of these have since closed permanently, two have closed temporarily, and the sixth has

23. Id. at ES-4.
24. Id. at ES-11.
25. Id. at ES-12.
26. REPORT TO THE CONGRESS I, supra note 17, at 1.
28. THE PROBLEM OF DISPOSING OF NUCLEAR LOW-LEVEL WASTE: WHERE DO WE GO FROM HERE? REPORT TO THE CONGRESS BY THE COMPTROLLER GENERAL 7 (1980) [hereinafter cited as REPORT TO THE CONGRESS II].
29. Id. at 7-8.
30. Those six sites are located at Beatty, Nevada; Maxey Flats, Kentucky; West Valley, New York; Hanford, Washington; Sheffield, Illinois; and Barnwell, South Carolina. REPORT TO THE CONGRESS II, supra note 28, at 3.
restricted the annual volume of waste it will receive. These recent site closings have aroused fear that medical services using radioactive materials will have to be halted or reduced because of a lack of space to dispose of the waste.

Thus, the problems of storing and disposing of both high-level and low-level radioactive wastes appear to be reaching crisis proportions. Simply put, Americans are producing more radioactive wastes than they know what to do with. Given the nation's dependence on the atom for defense, power generation, and domestic purposes, it appears unlikely that the amount of wastes generated will be significantly reduced. That leaves the alternative of developing a facility for isolating that nuclear waste. In view of the uncertainties involved in such a project, and the emotionalism of the issue, it is little wonder

31. In March of 1975, the West Valley site became the first to close as a result of radioactive water seeping out of two burial trenches. The Maxey Flats burial site ceased operations in December, 1977, after a 10 cents per pound excise tax was imposed by the Kentucky legislature. The tax, designed as a contingency against unforeseen problems, so discouraged use of the site that it could no longer operate. The Sheffield site exhausted its burial capacity in 1978 and was closed in 1979 when the operator withdrew his application to expand.

In July, 1979, the Governor of Nevada closed the Beatty site after two incidents were reported involving trucks bringing waste into the site. The Governor then joined with the Governors of Washington and South Carolina in writing the NRC to demand that the rules governing shipment of commercially generated low-level waste be enforced. After receiving assurances that a program would be set up to combat shipping and packaging problems, the Governor reopened the Beatty site in July of 1979.

Despite the NRC assurances, the Governor of Washington closed the Hanford site after learning of transportation deficiencies similar to those in Nevada. The matter became more severe when, in the same month, the Governor of Washington again closed the Beatty site. With those two sites closed, only the Barnwell site in South Carolina remained as a low-level waste burial ground. Then, on October 31, 1979, the Governor of South Carolina ordered Barnwell to scale down the amount of waste it would accept so that by October of 1981 it would bury only one-half as much as it had in 1979. 

32. Report to the Congress II, supra note 28, at 3-4. Several months before, state officials had refused to allow two trucks carrying nuclear waste from the Three Mile Island accident to enter that state. Millard, What Now? The States and Nuclear Power, 10 State Legislatures 10 (1979). This limitation on the Barnwell site was of even greater significance, however, since that site had been receiving about 85% of the low-level radioactive waste generated in the United States.

Following assurances of appropriate federal action, the Hanford and Beatty sites reopened in late November of 1979. Report to the Congress II, supra note 28, at 4.

33. Estimates are that nuclear power supplies 13% of the nation’s electric power. Office of the President, National Energy Plan II, V-14 (1979). This volume is one of a series of reports on the nation's energy policies and programs as required by the Department of Energy Organization Act. 42 U.S.C. §§ 7101-352 (1976).

34. About 25% of the volume of low-level waste is generated by institutions which use radioactive isotopes to treat or diagnose illness. Report to the Congress II, supra note 28, at 1.
that, since 1976, many states have adopted measures which would ban nuclear waste disposal facilities, or which would require that such facilities be subject to legislative approval.55 However, the validity of these measures is subject to some doubt in view of the traditional federal regulation of the nuclear field.

A History of Nuclear Power Regulation

Prior to 1946, the ownership and control of nuclear materials was vested solely in the federal government, more specifically in the military.56 In that year the first Atomic Energy Act was passed.57 That Act provided for the creation of a civilian agency, the Atomic Energy Commission (AEC), to take jurisdiction over certain aspects of nuclear power. However, the government still enjoyed an absolute monopoly of title to all fissionable materials and their related facilities.58 In 1954 changing conditions required the government to relax its regulation of nuclear material.59 To that end, a second Atomic Energy Act was passed,60 predicated upon the idea that "atomic energy is capable of application for peaceful as well as military purposes."61 As stated in the statute:

It is therefore declared to be the policy of the United States that (a) the development, use, and control of atomic energy shall be directed so as to make the maximum contribution to the general welfare, subject at all times to the paramount objective of making the maximum contribution to the common defense and security.62

The new Act provided a limited role for private industry in the atomic field. The Commission was empowered to issue licenses for


38. Miller, supra note 36.


42. 42 U.S.C. § 2111(a) (1976).
private control of certain nuclear materials for purposes of commercial power production and medical and technical research. While the states were to maintain power over the generation, sale, and transmission of power generated by civilian nuclear facilities, title to the nuclear materials remained with the government.

Further, the AEC was vested with exclusive authority to regulate "source, byproduct, and special nuclear material" in order to "provide for the common defense and security," "to protect the health and safety of the public," and because those materials "affect interstate and foreign commerce and must be regulated in the national interest." While nowhere is nuclear waste specifically mentioned, it has been judicially recognized to be included within the definition of the phrase "byproduct material." Dissatisfaction with the amorphous state-federal relationship with respect to source, byproduct, and special nuclear materials prompted Congress to amend the Act in 1959, adding section 274. Designed to provide a careful delineation between federal and state authority, the new section authorized the Commission, by way of so-called "turnover" agreements, to surrender to the states its

49. City of New Britain v. United States Atomic Energy Comm'n, 308 F.2d 648, 649 (D.C. Cir. 1962) (low-level packaged radioactive wastes do constitute byproduct material); Harris County v. United States, 292 F.2d 370, 371 (5th Cir. 1961) (high-level waste is byproduct material within the meaning of the statute). The statute defines byproduct material as: "(1) any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material and (2) the tailings or wastes produced by the extraction or concentration of uranium or thorium . . . ." 42 U.S.C. § 2014(c) (1976).

The Act further defines the term "source material" to mean "(1) uranium, thorium, or any other material which is determined by the Commission . . . to be source material; or (2) ores containing one or more of the foregoing materials, in such concentrations as the Commission may by regulation determine from time to time." 42 U.S.C. § 2014(2) (1976). The term "special nuclear material" means "(1) plutonium, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission . . . determines to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing, but does not include source material." 42 U.S.C. § 2014(aa) (1976).

regulatory jurisdiction over those three classes of nuclear materials.\textsuperscript{52}

For the duration of such an agreement, the state has "authority to regulate the materials covered by the agreement for the protection of the public health and safety from radiation hazards."\textsuperscript{53} Under section 274(c) the Commission is prohibited from discontinuing its regulatory authority in certain areas, particularly: "the disposal of such other byproduct, source, or special nuclear material as the Commission determines by regulation or order should, because of the hazards or potential hazards thereof, not be so disposed of without a license from the Commission."\textsuperscript{54} However, state regulator authority in non-radiation areas is explicitly preserved by section 274(b), which provides: "Nothing in this section shall be construed to affect the authority of any State or local agency to regulate activities for purposes other than protection against radiation hazards."\textsuperscript{55}

After the addition of section 274, the federal regulatory scheme remained virtually unchanged until 1974, when the Energy Reorganization Act abolished the AEC, creating in its stead two agencies with divided authority.\textsuperscript{56} Responsibility for nuclear research and development was transferred to the Energy Research and Development Administration (ERDA),\textsuperscript{57} and the licensing and regulatory functions were transferred to the Nuclear Regulatory Commission (NRC).\textsuperscript{58} The duties and authorities of the NRC for control of source, byproduct, and special nuclear material remain intact as they existed under the Atomic Energy Act of 1954. In addition, the NRC is given specific statutory authority over the licensing and regulation of:

\begin{itemize}
\item \textsuperscript{52} 42 U.S.C. § 2021(b) (1976):
  The Commission is authorized to enter into agreements with the Governor of any State providing for discontinuance of the regulatory authority of the Commission . . . with respect to any one or more of the following materials within the State—
  (1) byproduct materials as defined in section 2014(e)(1) of this title;
  (2) byproduct materials as defined in section 2014(e)(2) of this title [uranium mill tailings];
  (3) source materials;
  (4) special nuclear materials in quantities not sufficient to form a critical mass.
\item \textsuperscript{53} 42 U.S.C. § 2021(b) (1976).
\item \textsuperscript{54} 42 U.S.C. § 2021(c)(4) (1976).
\item \textsuperscript{55} 42 U.S.C. § 2021(k) (1976).
\item \textsuperscript{57} 42 U.S.C. §§ 101-11 (1976).
\item \textsuperscript{58} 42 U.S.C. §§ 201-10 (1976). In order to avoid confusion between the AEC and the NRC, it should be noted that AEC denotes the Commission prior to 1974, and NRC denotes the Commission after that time.
(3) facilities used primarily for the receipt and storage of high-level radioactive wastes resulting from activities licensed under such [Atomic Energy] Act;

(4) Retrievable Surface Storage Facilities and other facilities authorized for the express purpose of subsequent long-term storage of high-level radioactive waste generated by the Administration [ERDA], which are not for, or are part of, research and development activities.\(^5\)

In 1977, the functions of ERDA were transferred to the newly created Department of Energy (DOE).\(^6\) Under the new department, an assistant secretary was given certain nuclear waste management responsibilities, including:

(A) the establishment of control over existing Government facilities for the treatment and storage of nuclear wastes . . . ;
(B) the establishment of control over all existing nuclear waste in the possession . . . of the Government and all commercial nuclear waste presently stored on other than the site of a licensed nuclear power electric generating facility, except that nothing in this paragraph shall alter or affect title to such waste;
(C) the establishment of temporary and permanent facilities for storage, management, and ultimate disposal of nuclear waste;
(D) the establishment of facilities for the treatment of nuclear wastes;
(E) the establishment of programs for the treatment, management, storage, and disposal of nuclear wastes.\(^7\)

The Act specifically states that none of the regulatory functions possessed by the NRC shall be construed as having been transmitted to the DOE.\(^8\)

In view of this pervasive federal scheme of nuclear material regulation, questions arise as to the extent to which state legislative power has been preempted by congressional action in the field and as to what role, if any, is to be played by the states in future waste disposal activities.

A Question of Preemption

The doctrine of federal preemption of state authority is founded

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5. 42 U.S.C. § 202 (1976). Also created by the 1974 Act is the Office of Nuclear Reactor Regulation. Located within the NRC, one of its functions is to evaluate methods of “transporting and storing high-level radioactive wastes to prevent radiation hazards to employees and the general public.” § 209(b)(2)(B).


upon the supremacy clause of article VI of the Constitution. There is an initial presumption that "the historic powers of the States [are] not to be superseded by the Federal Act unless that was the clear and manifest purpose of Congress." 63 This determination is often difficult, inasmuch as "there is not—and from the very nature of the problem there cannot be—any rigid formula or rule which can be used as a universal pattern to determine the meaning and purpose of every act of Congress." 64 Thus, it is the intent of Congress to preempt which is controlling, and this intent may be express or implied. Preemption is express when Congress has stated that the statute was intended to be exclusive. If such exclusivity is shown, "the task of the judiciary ends once it appears that the legislative measure adopted is relevant or appropriate to the Constitutional power which Congress exercises." 65 Preemption is implied when the field is one of dominant federal interest, 66 when the federal scheme is so pervasive as to leave the state no room to act, 67 or when the state law "stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress." 68

The question of preemption of state control over nuclear waste lies in the interpretation given section 274, the "cornerstone of the preemption analysis." 69 This section was designed to prevent any area of dual or concurrent state and federal control of source, by-product, or special nuclear material. 70 The Committee intended "to have the material regulated and licensed either by the Commission, or by the State and local governments, but not by both." 72 To this

63. Rice v. Santa Fe Elevator Corp., 331 U.S. 218, 230 (1947). That the Burger Court adheres to this principle is shown by Exxon Corp. v. Governor of Maryland, 437 U.S. 117 (1978). The Court rejected commerce clause challenges to a law prohibiting producers or refiners of petroleum products from operating retail service stations in Maryland. Writing for a 7-1 majority, Justice Stevens stated:

[W]e do not find that the Commerce Clause, by its own force, pre-empts the field of retail gas marketing. [T]his Court has only rarely held that the Commerce Clause itself pre-empts an entire field from state regulation, and then only when a lack of national uniformity would impede the flow of interstate goods.

Id. at 128.


67. Id.


69. H. GREEN & M. ZELL, supra note 6.


71. Joint Committee on Atomic Energy.

end, section 274 provides for the partial and conditional turnover of regulatory power to the states. Before surrendering its authority, the Commission must determine that the state plan is "compatible" with the Commission's program and that the state program is adequate to protect health and safety. In enacting these standards, the Joint Committee emphasized that by "compatible," it was meant that the radiation standards adopted by the states should be very nearly "identical" with those of the federal government. For this reason, the Committee removed the qualification of "to the extent feasible" which had appeared in the original bill. These determinations present questions of fact for the Commission and give it considerable discretion.

Some commentators feel that the mere fact that Section 274 provides for federal approval of a state plan is sufficient to indicate preemption. Yet, at the time of the passage of section 274, Robert Lowenstein, a member of the General Counsel's office of AEC, declined to say that, absent a turnover agreement, state control of nuclear materials was completely preempted: "Under this . . . we think it would be fairly apparent . . . that there has been an area of preemption . . . [It] is practically impossible to try to define, taking into account all of the various gray areas and special circumstances that might arise, where these areas of preemption should begin or end." Rather, it was felt that the determination of the precise extent of preemption should be left to the courts.

The notion of preemption is supported, however, by committee action on the bill. As first introduced, section 274(k) contained a sentence reading, "It is the intention of this Act that State laws and regulations concerning the control of radiation hazards from byproduct, source, and special nuclear materials shall not be applicable except pursuant to an agreement entered into with the Commission . . . ." This sentence was deleted because of the AEC's feeling that the sentence only stated explicitly what was substantially implicit in the remainder of the bill. Thus at least some AEC members felt
that state action concerning nuclear materials was expressly preempted absent a Commission agreement to the contrary. As stated by A.R. Luedecke, general manager of the AEC, the sole purpose for deleting the sentence was "to leave room for the courts to determine the applicability of particular state laws and regulations dealing with matters on the fringe of the preempted area in light of all the provisions and purposes of the Atomic Energy Act, rather than in light of a single sentence."

Perhaps an even more significant indication of preemption is clause (c) of section 274, which provides that no turnover agreement entered into by the Commission shall provide for discontinuance of its authority to regulate "the disposal of such other byproduct, source, or special nuclear material as the Commission determines by regulation or order should, because of the hazards or potential hazards thereof, not be so disposed of without a license from the Commission." Disposal jurisdiction was restricted to the AEC because, as to such issues, the interstate, national, or international considerations were considered paramount and because the technical safety considerations were of such complexity that the states could not adequately deal with them. Thus, under the dual justifications of public policy and public safety, it appears that the federal government maintains exclusive authority in the disposal of nuclear waste.

It is in light of this apparent monopoly of power that paragraph (k) of section 274 looms important. It provides that "[n]othing in this section shall be construed to affect the authority of any state or local agency to regulate activities for purposes other than protection against radiation hazards." Inclusion of this provision negatively implies that states cannot regulate for purposes of protection from radiation hazards. Thus, any attempt by a state to regulate waste disposal must be based on some independent ground. The limits of

82. Id. at 500. (letter from A.R. Luedecke, general manager of AEC, to Chairman Anderson of the Joint Committee (Aug. 26, 1959)). This view is supported by a later interpretation by the AEC general counsel as to jurisdiction over nuclear facilities and materials under the Atomic Energy Act of 1954. This interpretation declares that "the individual states may not, in the absence of an agreement with the AEC, regulate the materials described in the Act from the standpoint of radiological health and safety." Further, "[t]he Atomic Energy Act of 1954 had the effect of preempting to the Federal Government the field of regulation of nuclear facilities and byproduct, source and special nuclear material." This interpretation is currently regarded as correct by the NRC. 10 C.F.R. § 8.4 (1980).
83. 1959 Hearings, supra note 70, at 500 (Luedecke letter).
85. S. REP. NO. 86-870, 86th Cong., 1st Sess. 9, reprinted in [1959] U.S. CODE CONG. & AD. NEWS 2873-74. However, such things as x-ray machines and thorium, while presenting dangers, were left to state regulation.
state authority are made somewhat obscure because nowhere is the term "radiation hazards" defined. With respect to location of nuclear power plants, state courts have upheld state regulations concerning both the location of a plant at or near an active earthquake fault zone, and the effects of steam, fog, and icing resulting from operation of the plant's cooling pond. In neither case did the court consider whether a state could enjoin construction of an AEC-licensed facility for non-radiological reasons, and the federal courts have not considered the issue.

Federal courts have spoken, however, with regard to state regulation of radiological hazards. In United States v. City of New York the court rejected the notion that section 274 allows states any degree of regulatory authority based on protection from radiation hazards. The suit involved a challenge to a New York City ordinance requiring a city permit before a nuclear power reactor could become operational. In overturning this ordinance the court expressed the view that section 274 prohibited any and all state regulation of radiation hazards associated with power plant operation.

Other state attempts at regulation have likewise fared poorly in federal courts. In Northern States Power Company v. State of Minnesota, the plaintiff power company sought a judgment that the state lacked authority to regulate waste releases from its Monticello plant. The Minnesota regulations embraced the same area, but were substantially more restrictive than those imposed by the AEC. Minnesota contended that the regulation of radioactive waste was within the traditional tenth amendment power of the states to protect and promote the health, safety, and welfare of their citizens. Further, Minnesota argued that subsection (c) of section 274 prohibited only total relinquishment by the AEC over certain specified activities.

87. Northern California Ass'n to Preserve Bodega Head and Harbor, Inc. v. Public Utilities Comm'n, 390 P.2d 200 (Cal. 1964). The court stated:
[S]ince the location of an atomic reactor at or near an active earthquake zone involves safety considerations in addition to radiation hazards, it is clear that the federal government has not pre-empted the field ... and that the state's powers in determining the locations of atomic reactors are not limited to matters of zoning or similar local interests other than safety. Id. at 204.

88. Marshall v. Consumers Power Co., 65 Mich. App. 237, 237 N.W.2d 266 (1975). While the court held this to be a proper area of state control, it was valid only insofar as grounded on common law nuisance doctrines.

90. Id. at 612.
92. The specific provision with which Minnesota was concerned was section 274(c)(1), which prohibited surrendering authority with respect to "the construction
According to this view, the concurrent exercise of state control over nuclear facilities was not forbidden by the Act. In rejecting this argument, the court stated:

We cannot agree with Minnesota's position that dual control over atomic power plants and the level of effluents discharged therefrom is permissible under the Act. While the 1959 amendment does not use the terms "exclusive" or "sole" in describing existing regulatory responsibilities of the Commission, we think it abundantly clear that the whole tone of the 1959 amendment, upon examination of the statutory language alone, demonstrates Congressional recognition that the AEC at that time possessed the sole authority to regulate radiation hazards associated with by-product, source, and special nuclear materials and with production and utilization facilities.\(^9\)

However, since the Act did not expressly declare that the federal government had the sole and exclusive authority to regulate radiation emissions from nuclear power plants, the court refused to find express preemption. But the court had no trouble in finding implied preemption based on the pervasiveness of the federal scheme, the nature of the subject matter, and the legislative history of the Atomic Energy Act. If states were allowed concurrent regulation of waste discharges, they might become so overprotective as to "unnecessarily stultify the industrial development and use of atomic energy for the production of electric power."\(^9\)

In *Train v. Colorado Public Interest Research Group*,\(^9\) the Supreme Court reiterated the reasoning of *Northern States*. The issue in *Train* was whether the discharge of nuclear waste into the nation's waterways was to be regulated by the Environmental Protection Agency under the Federal Water Pollution Control Act (FWPCA). After a review of the legislative history of FWPCA, the

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\(^9\) Subsection (c)(4) prohibited relinquishing authority over waste disposal.
\(^9\) In addition, as if to echo the AEC's interpretation of the regulatory scheme (see text and accompanying note at note 74, *supra*), the court stated:

Finally, we are of the firm opinion that the mere enactment of elaborate and detailed legislation authorizing turnover agreements to effect a cession to the states of regulatory authority over some activities associated with radiation hazards, and specifically prohibiting the relinquishment of authority over others, in itself evinces an inescapable implication that the federal government possessed exclusive authority absent the agreements authorized by the 1959 amendment.
Court held that Congress intended such discharges to be regulated exclusively under the Atomic Energy Act.96

Undaunted by these unequivocal expressions of federal preemption in the nuclear waste management field, the California legislature enacted section 25524.1 of the Public Resources Code, which provides that no nuclear fission powerplant shall be permitted land use in the state until "the commission finds that there has been developed and that the United States through its authorized agency has approved and there exists a demonstrated technology or means for the disposal of high level nuclear waste."97 This provision was attacked by the Pacific Legal Foundation, the "grandaddy of the conservative public interest firms,"98 as invading "a field of regulation which has been preempted by the federal government."99

By couching the regulation in terms of land use, the defendants sought to justify the statute based on the "other than protection against radiation hazards" authority left to the states by section 274 (k).100 It was argued that this indirect regulation was enacted for the economic purpose of insuring that "Californians will not have to bear the financial risk of funding nuclear power plants which may later be shut down because of inadequate permanent waste disposal facilities."101 In arguing for the validity of this provision, Professor Tribe emphasized not only the economic aspects of such a regulation, but also the protection from the "anxieties of uncertainty."102

96. The Court noted that:
Senator Muskie's specific assurance to Senator Pastore that the FWPCA would not affect existing law as interpreted in Northern States can only be viewed, we think, as an indication that the exclusive regulatory scheme created by the AEA for source, byproduct, and special nuclear materials was to remain unaltered.

Id. at 16-17.


98. Lewin, War of the White Knights, NAT'L L.J., Dec. 24, 1979, 1, at 10. The group was established in 1973 to combat the environmental groups' litigation blitz of the west coast. With a total of 18 lawyers and a $2 million budget, the group has been most active in environmental issues. In addition to bringing a number of suits on behalf of the nuclear industry, the group has forced the EPA to lift its ban against DDT spraying in the forests of the Pacific Northwest and has delayed the EPA's plan to stop Los Angeles from dumping sewage into the ocean.


102. Tribe, California Declines the Nuclear Gamble: Is Such a State Choice Preempted?, 7 ECOLOGY L.Q. 679, 709 (1979). Professor Tribe's article was an expanded
He further noted that state regulations for purposes other than protection from radiation are not preempted if they only incidentally affect federal regulation of nuclear material. Rather, "state requirements not directed at radiation safety would not be duplicative of federal efforts, and a holding of preemption in such a case would create a legal vacuum."\(^{103}\)

Despite the forcefulness of this argument, the court found such "an exceedingly broad interpretation of section [274] (k)" to be unwarranted. In finding implied preemption, the court expressed fear that adoption of such reasoning would allow the nullification of exclusive federal regulation by the careful tailoring of state legislative purposes:

It is scarcely credible that Congress, in enacting section [274] (k), intended to furnish the States with a means of evading and undermining the NRC's exclusive regulatory authority under section [274] (c). Rather, the better inference would seem to be that Congress envisioned that section [274] (k) would be interpreted in such a fashion as not to nullify what Congress provided in section [274] (c).\(^{104}\)

After a review of the legislative history of the Atomic Energy Act, the court further explained:

In the exercise of its discretion, the NRC has decided not to require the existence of a technology for the permanent disposal of nuclear waste as a condition precedent for the construction and operation of nuclear reactors. The NRC's decision in this regard falls within the preempted sphere because it relates to, touches upon and involves the regulation of radiation hazard pertaining to the construction and operation of nuclear power plants and to nuclear waste disposal.\(^{105}\)

Finally, the California regulation was held invalid because it stood "as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress."\(^{106}\) It was felt that Congress's policy of encouraging the development and utilization of nuclear energy would be decidedly frustrated if all states had similar statutes. Thus, while the Atomic Energy Act leaves some room for the states to regulate on the subject of nuclear energy, "the power to regulate is not the power to prohibit."\(^{107}\)
Alternative Bases For State Regulation

While it appears from the foregoing that the Atomic Energy Act precludes direct nuclear waste regulation by the states, it is not wholly irrelevant to explore alternative bases of indirect regulation and the legal doctrines affecting them. It must be remembered that the Act does not preclude state regulation for purposes other than protection against radiation hazards. It is difficult to assess the application of this provision in the absence of specific state or local regulations on the subject. Yet, certain areas of potential state regulation suggest themselves.

The first and foremost of these areas, mentioned in the Joint Committee on Atomic Energy Hearings on Federal-State Relationships, is the field of zoning laws. Arguably, a zoning ordinance prohibiting commercial or industrial developments may validly preclude establishment of a waste disposal facility in the zoned area. Such an ordinance would not be based on protecting the public from radiation hazards, nor would it specifically discriminate against waste disposal facilities.

However, several factors militate against the validity of such an ordinance as applied to a federal facility. Federal regulations require that any nuclear waste repository be located on federal lands. Such lands may be acquired either through mutual agreement or by condemnation. Article I, section 8 of the Constitution provides that if the land is purchased with the consent of the state, then the federal government will have exclusive jurisdiction over the land. Clearly, any local regulations would be inapplicable to facilities so located. If the state does not consent to the federal purchase, then article IV, section 3 governs, and states have jurisdiction over the property as if owned by a private person. However, this state power is qualified by the fact that the United States has unlimited jurisdiction over property acquired for the exercise of its constitu-

109. 1959 Hearings (statement of Mr. Hydeman).
111. U.S. CONST. art. I, § 8, cl. 17. This clause provides that Congress has the power "To exercise exclusive legislation in all Cases whatsoever over all Places purchased by the Consent of the Legislature of the State in which the Same shall be, for the Erection of Forts, Magazines, Arsenals, dock-Yards, and other needful buildings."
112. In United States v. Cornell, 25 Fed. Cas. No. 14, 868, at 650 (1819), Justice Story stated that a fort purchased under article I "was not within the body of any county of Rhode Island, for the state had no jurisdiction there. It was as to the state as much a foreign territory, as if it had been occupied by a foreign sovereign." Id. at 653.
tional powers, regardless of state consent. As stated in Fort Leavenworth Railroad Company v. Lowe, this qualification is to prevent states from frustrating the performance of federal constitutional functions. In such a case, the exercise of exclusive federal jurisdiction is independent of the doctrine of preemption, and the state law need not openly conflict with federal law to be required to yield.

Thus it appears that state zoning laws will provide an insufficient basis for state regulation of waste depositories. Yet, because waste siting has such broad regional implications, states feel, with some degree of justification, that they should not be totally precluded from regulatory control merely because the waste is located on federal lands. A second argument that can be structured on behalf of valid state regulation is that regulations which only incidentally affect waste siting would be valid. This argument was seemingly rejected in the Pacific Legal Foundation decision; but in that case, California was seeking to exercise direct control over nuclear facilities. The provision in question provided that, in the event no demonstrated technology for waste disposal was developed, fission powerplants were specifically denied land use in the state. Such a statute, which clearly discriminates against nuclear facilities, flies in the face of federal control. But, if a state exercised an independent, non-discriminatory mode of regulation based on its inherent police powers, such regulation might be valid notwithstanding its inciden-

114. Id. See Kohl v. United States, 91 U.S. 367 (1875).
115. 114 U.S. 525 (1885).
116. "Where, therefore, lands are acquired in any other way by the U.S. within the limits of a State than by purchase with her consent, they will hold the lands subject to this qualification: that if on them forts, arsenals, or other public buildings are erected for the uses of the general government, such buildings, with their appurtenances, as instrumentalities for the execution of its power, will be free from any such interference and jurisdiction of the State as would destroy or impair their effective use for the purposes designed." Id. at 539. Cf. Berman v. Parker, 348 U.S. 26 (1954) (a federal residential housing project was allowed to be built in a local area zoned for commercial property). The Berman v. Parker Court stated: "Once the object is within the authority of Congress, the right to realize it through the exercise of eminent domain is clear. For the power of eminent domain is but a means to an end." Id. at 33. Similarly, the Supreme Court of New York held that the builder of a closed cycle cooling system need not obtain all local permits and zoning variances. It was reasoned that the nuclear area had impliedly been preempted and to require a license to acquire local permits would interfere with federal control. In re Consolidated Edison Co. of New York, Inc., 2 Nuc. Reg. Rep. (CCH) 20,018 (N.Y. 1975).
119. See text at notes 97-107, supra.
120. See text at note 97, supra.
tal effect on a nuclear facility. This argument is supported by the fact that, in passing the AEA, Congress was concerned with dual regulation.\textsuperscript{121} A police power regulation based on the “other than radiation hazards” provision of section 274(k)\textsuperscript{122} would not be duplicative, and it can be argued that the nullification of such a provision because of its incidental effects would create a regulatory void. The modern principle seems to be that, in view of the potential contributions of state and local action to the regulation of complex activities, the state regulations must be permitted to supplement federal efforts, so long as the effectuation of a valid federal purpose is not impaired.\textsuperscript{123}

Thus, in \textit{Huron Portland Cement Company v. Detroit}\textsuperscript{124} the Court upheld a Detroit ordinance regulating smoke emissions from ships, despite extensive federal licensing of such ships in interstate and foreign commerce. The Court found no overlap between the federal inspection laws (setting safety standards for federal licensing) and local pollution control laws.\textsuperscript{125} The former were aimed at safety; the latter concerned pollution.

Again in 1973 the Supreme Court upheld a California law prohibiting compulsory arbitration in the wage disputes of New York Stock Exchange employees, despite a contrary Exchange rule enacted pursuant to federal securities laws.\textsuperscript{126} The Court gave strong credence to California’s independent policy of protecting wage earners. Since the state legislation only incidentally affected the federal goal of investor protection,\textsuperscript{127} the Court deemed the proper approach to be to “reconcile the operation of both statutory schemes with one another rather than holding one completely ousted.”\textsuperscript{128}

Any such state regulatory provision would have to be carefully tailored, since a court would surely look both to its actual intent and to the scope of its incidental effects. In the recent case of \textit{Ray v. Atlantic Richfield Company},\textsuperscript{129} the Court invalidated oil tanker safety standards adopted by Washington State which were deemed stricter than those of the Ports and Waterways Safety Act of 1972. The

\begin{itemize}
\item \textsuperscript{121} 42 U.S.C. § 2021(k) (1976).
\item \textsuperscript{122} See text at notes 100-103, supra.
\item \textsuperscript{123} Tribe, \textit{supra} note 102, at 687.
\item \textsuperscript{124} 352 U.S. 440 (1960).
\item \textsuperscript{125} Id. at 446.
\item \textsuperscript{126} Merrill Lynch, Pierce, Fenner & Smith, Inc. v. Ware, 414 U.S. 117 (1973).
\item \textsuperscript{127} Id. at 134-36.
\item \textsuperscript{128} Id. at 127, quoting Silver v. New York Stock Exchange, 373 U.S. 341, 361 (1963).
\item \textsuperscript{129} 435 U.S. 151 (1978).
\end{itemize}
Court found that Congress had entrusted to the Secretary of Transportation the duty of adopting appropriate design standards. Since the two statutes were aimed at precisely the same ends, the federal judgment that a tanker was safe must "prevail over the contrary state judgment."\(^{131}\)

The justification for the state regulation argument is strongest, and the *Atlantic Richfield* logic arguably does not apply, when state-owned facilities, such as sewage systems, highways, and streets, are involved.\(^{132}\) For example, while the supremacy clause would prohibit states from permitting higher radiation exposure levels in highway transportation, it would not appear to prohibit the application of lower exposure standards. Arguably, the federal system should be amenable to states' imposing stricter radiation standards when only state-owned facilities are involved.\(^{133}\) If the federal government were opposed to such standards, it could either condemn the property and pay a reasonable price, which might be prohibitively expensive, or find substitutes, which could prove prohibitively troublesome.\(^{134}\)

Yet the federal government is not without its arsenal of weapons in this area, particularly with regard to the state's regulation of its highways. The NRC is given complete authority to regulate the transportation of source, byproduct, and special nuclear materials by the Atomic Energy Act of 1954.\(^{135}\) Under this authority, the NRC licenses, regulates, and sets standards for the shipment, receipt, and packaging of certain nuclear materials. Pursuant to an agreement with the NRC, the Department of Transportation regulates carriers in the more traditional safety areas, viz, conditions of equipment, qualifications of personnel, carrier loading and unloading, etc.\(^{136}\) The Department of Transportation derives further authority over nuclear materials from the Hazardous Materials Transportation Act,\(^{137}\) under which the Department is authorized to issue regulations "for the safe transportation in commerce of hazardous materials."\(^{138}\) Under this statute, the Department has issued extensive regulations dealing with the transportation of nuclear materials.\(^{139}\)
The Hazardous Materials Transportation Act, however, permits a degree of state regulation. Under the Act, states may impose restrictions on hazardous materials transportation provided that the restrictions are authorized by the Secretary of Transportation.\textsuperscript{140}

Significantly, the states may provide "an equal or greater level of protection to the public" than is provided by the federal law.\textsuperscript{141} In so doing, however, the states must walk a tightrope in that such restrictions must not unreasonably burden commerce.\textsuperscript{142}

Thus, under the Hazardous Materials Transportation Act, any unreasonable state regulation of nuclear waste carriers could be invalidated by the mere finding of a burden on interstate commerce. Even absent such a finding, however, permissible state regulation may be limited by the principle announced in \textit{Johnson v. Maryland}.\textsuperscript{143} In holding that a state’s regulation of its instrumentalities is not absolute, the Supreme Court reversed the conviction of a post office employee for driving a truck without a state license. Justice Holmes stated:

It seems to us that the immunity of the instruments of the United States from state control in the performance of their duties extends to a requirement that they desist from performance until they satisfy a state officer . . . for a necessary part of them and pay a fee for permission to go on. Such a requirement does not merely touch the Government servants remotely by a general rule of conduct; it lays hold of them in their specific attempt to obey orders and requires qualifications in addition to those that the government has pronounced sufficient.\textsuperscript{144}

However, the scope of this immunity was left somewhat unclear:

Of course an employee of the United States does not secure a general immunity from state law while acting in the course of his employment. . . . It very well may be that, when the United States has not spoken, the subjection to local law would extend to general rules that might affect \textit{incidentally} the mode of carrying out the employment . . . .\textsuperscript{145}

Of course, in the nuclear field, the federal government has spoken, and one is left to wonder whether its words preclude even an incidental effect on federal activities which arises from state regulation of wholly-owned instrumentalities.

\textsuperscript{140} 42 U.S.C. § 1811(b) (1976).
\textsuperscript{141} \textit{Id.} (emphasis added).
\textsuperscript{142} \textit{Id.}
\textsuperscript{143} 254 U.S. 51 (1920).
\textsuperscript{144} \textit{Id.} (emphasis added).
\textsuperscript{145} \textit{Id.} (emphasis added).
A third possible basis for valid state regulation of nuclear waste is that the federal government could be bound by general state safety regulations dealing with such matters as electrical wiring, plumbing and sanitation, structural design and materials, fire prevention, and safety standards of non-radiation machinery. Though such standards are non-discriminating and may produce only incidental effects, the validity of their application to a federal nuclear waste facility seems doubtful. Initially, the nuclear power area may be deemed one of such dominant federal interest that state and local ordinances are powerless to impede federal activities. For example, when Congress sought to secure the comprehensive development of national water resources and set forth these intentions in the Federal Power Act, an Iowa statute requiring the granting of a state permit by the State Executive Council prior to obtaining a federal water license was deemed tantamount to a state veto and therefore void. It was reasoned that such a provision would destroy the effectiveness of the Federal Power Commission. Secondly, such regulations may be improper for the same reason that zoning provisions may be questioned, i.e., a state is powerless to regulate a federal instrumentality in the absence of congressional authorization when the federal entity has been established on federal land and in furtherance of a Constitutional power.

A final possible method for state regulation of nuclear waste would be an absolute prohibition upon its importation into the state. Such a quarantine was upheld in Bowman v. Chicago & Northwestern Ry. Company when applied to articles which were not deemed "legitimate subjects of trade and commerce." The articles there excluded were those:

[W]hich, on account of their existing condition, would bring in and spread disease, pestilence, and death, such as rags or other substances infected with the germs of yellow fever or the virus of small-pox; or cattle or meat or other provisions that are diseased or decayed, or otherwise, from their condition and quality, unfit for human use or consumption.

This case was relied on by New Jersey in defending the validity of

146. Estep & Edelman, supra note 76, at 60.
149. See text at notes 110-17, supra.
a state provision barring importation of "solid or liquid waste which originated or was collected outside the territorial limits of the State. . . ."\textsuperscript{153} The state sought to justify its regulation on the basis that waste was not commerce. In rejecting this plea on commerce clause grounds, the Court noted that, in saying that innately harmful objects are not legitimate subjects of trade or commerce, the \textit{Bowman} Court was stating its conclusion, not the starting point of its reasoning: "In \textit{Bowman}, and similar cases, the Court held simply that because the articles' worth in interstate commerce was far outweighed by the dangers inhering in their very movement, States could prohibit their transportation across state lines."\textsuperscript{154} Here, there was no claim that the very movement of the waste endangered health: "The harms caused by waste are said to arise after its disposal in landfill sites, and at that point, as New Jersey concedes, there is no basis to distinguish out-of-state waste from domestic waste."\textsuperscript{155} Following this reasoning, a state ban on nuclear waste importation could be upheld only if the state alleged that transportation endangered the populace, an issue considered above, or if the state had no waste currently within its borders. In either event, it must still be found that the articles' worth in interstate commerce was far outweighed by the dangers inhering in their very movement. The definition given to "worth in interstate commerce" would probably not be the intrinsic worth of the waste itself, but rather the value to general commerce of storing its nuclear waste and thus of keeping nuclear power plants in operation. It therefore appears that there is little in the way of vindication for state quarantine provisions dealing with nuclear waste.

In each of these instances, the validity of state regulation of nuclear repositories seems unlikely, whether the federal rejoinder be preemption, intergovernmental immunity, dominant federal interest, or the commerce clause. But in reviewing such state regulations, three factors should be noted. The first is that Congress adopted section 122 of the Clean Air Act Amendments of 1977.\textsuperscript{156} That section transfers from the NRC to the EPA, and to some extent, to the states, the authority to set air quality standards, emission levels, and control requirements for radioactive air pollutants to protect the public health. In exercising this authority, the states may set standards more stringent than federal standards, and when federal standards have not been set, the state may establish any standards it deems

\textsuperscript{154} 437 U.S. at 622.
\textsuperscript{155} Id. at 629.
\textsuperscript{156} 42 U.S.C.A. § 7422 (1978).
This is significant for two reasons. First, it indicates that Congress may be willing to tolerate a degree of dual regulation in the nuclear field. Second, it demonstrates that Congress is not totally opposed to allowing states to regulate nuclear materials from the standpoint of protection from radiation hazards.

The second factor is that even though states may not be able to legally regulate nuclear waste storage, as a practical matter they may do so. That is, by enacting regulatory provisions and by engaging in protracted legal battles as to their validity, the states may delay waste storage to the extent that the federal government must make concessions to state interests. Finally, in seeking to support any of their regulatory interests, the states may advance the argument that, even though the federal government has sought to assume full responsibility for waste storage, by failing to reach a solution to the problem, the federal government has surrendered the right to exclusive regulation. This is a novel argument, but not without some merit. The problem is growing increasingly serious, and in the event of future failure on the part of the federal government to reach a decision, the states may be justified in acting on their own. Fear of just such an argument may, in part, be responsible for the recent bevy of federal activity in the nuclear waste management field.

Recent Government Actions on Nuclear Waste Storage

After taking office in January of 1977, President Carter took several steps to address major nuclear issues. As a part of his National Energy Plan, he ordered a review of the United States' nuclear waste management program. This led to the creation of an internal Department of Energy task force. That task force carried out the review and in February of 1978 published a draft report expressing preliminary views on key waste management issues. That report

157. Joint Explanatory Statement of the Committee on Conference, H.R. REP. NO. 564, 95th Cong., 1st Sess. 122 (1977). Thus, the holding of the Northern States decision was legislatively negated.

158. As Professor Tribe points out, while this is the first explicit manifestation of congressional intent that the states may regulate for such a purpose, it does not necessarily mean that such manifestation is required. The "clear statement rule" requires a clear showing of congressional intent that states may not regulate for such a purpose. Tribe, supra note 102, at 699 n.105.

159. It should be noted, however, that such an argument would justify only a state's regulation of nuclear waste within its borders, not prohibition of storage within its borders. Presumably, capacity for the latter is what most states seek.

160. UNITED STATES DEPARTMENT OF ENERGY, DIRECTORATE OF ENERGY RESEARCH; DRAFT REPORT OF TASK FORCE FOR REVIEW OF NUCLEAR WASTE MANAGEMENT; FEBRUARY 1978.
recommended the creation of a federal waste management program which reflected the views not only of all involved government agencies, but also of the Congress, the states, local government, industry, the scientific and technical community, and the public.\textsuperscript{161} In response to these findings, on March 13, 1978, the President established the Interagency Review Group (IRG), composed of representatives from fourteen governmental entities.\textsuperscript{162} Its duty was to formulate, by October 1, 1978, recommendations for the establishment of a comprehensive policy towards long-term management of nuclear wastes.\textsuperscript{163}

On February 12, 1980, after a review of the IRG findings, the President announced a comprehensive program aimed at management of all types of nuclear waste.\textsuperscript{164} As the first point of a seven-point program, the President announced a commitment to provide an effective role for state and local governments in the implementation of the plan.\textsuperscript{165} This step included three actions: first, the

\begin{itemize}
  \item \textsuperscript{161} IRG REPORT, supra note 2, at 1.
  \item \textsuperscript{162} These government entities included the Department of Energy, the Department of State, the Department of Interior, and Department of Transportation, the Department of Commerce, NASA, the Arms Control and Disarmament Agency, EPA, the Office of Management and Budget, the Council on Environmental Quality, the Office of Science and Technology, the Office of Domestic Affairs and Policy, the National Security Council and the Nuclear Regulatory Commission. The NRC participated as a non-voting member.
  \item \textsuperscript{163} IRG REPORT, supra note 2, at 1.
  \item \textsuperscript{164} President’s Message to Congress Transmitting a Radioactive Waste Management Program, 16 WEEKLY COMP. OF PRES. DOC. 296 (Feb. 12, 1980) [hereinafter cited as Message to Congress].
  \item \textsuperscript{165} Id. at 297. The remaining six points are: second, the establishment of an interim planning strategy focusing on the use of mined geologic repositories capable of accepting waste from both reprocessed and unprocessed commercial spent fuel. The plan calls for selection of the site by 1985 and the beginning of operation by 1990. Also the Waste Isolation Pilot Plant, a project for the unlicensed disposal of transuranic waste from the national defense program, is cancelled.
  
  Third, the federal government is directed to maintain interim storage of defense waste, while utilities are directed to maintain interim storage of commercial nuclear waste. However, a limited amount of government storage capacity is to be provided for those utilities unable to expand their storage capabilities.
  
  Fourth, the DOE is directed to work jointly with states, government agencies, industry, other organizations, and the public to develop a plan for regional disposal sites for commercial low-level wastes.
  
  Fifth, the authority of NRC to license disposal of high-level waste and low-level waste in commercial facilities is extended to include the disposal of transuranic waste and non-defense low-level waste in new government facilities.
  
  Sixth, all departments and agencies involved in the program are directed to develop and improve mechanisms for public participation. The program is to be carried out in full compliance with the National Environmental Policy Act.
  
  Seventh, a commitment is made to encourage and support the bilateral and multilateral efforts to advance the technical capabilities and understanding of spent fuel and waste management programs. Id. at 298-300.
\end{itemize}
issuance of an executive order pursuant to the Federal Advisory Committee Act, creating a State Planning Council. Composed of nineteen members, the Council is designed to advise the executive branch and to work with the Congress to address such radioactive waste management issues as planning and siting, construction, and operation of facilities. Second, the President announced that the program was to be based on the principle of consultation and concurrence with the states. Finally, the Secretary of Energy was directed to provide financial and technical assistance to the states to facilitate full participation in review and licensing proceedings.

State consultation and concurrence, if taken to its logical extreme, would imply a state veto power over any unsatisfactory waste facility siting. Yet, in explaining the principle, the release says only that "under the framework of consultation and concurrence, a host State will have a continuing role in Federal decision-making . . . ." This statement implies that all decisions will be federal decisions, with states only able to voice an opinion. At its fifth meeting, the State Planning Council expounded on what it saw as the proper procedure for consultation and concurrence. The council recommended a conflict resolution mechanism based on an incremental decisionmaking process which would lead to a "growing consensus" on public health, safety, and technical issues. In addition, the process should involve a neutral and expert third party agreeable to both sides. In the event that a state's objections could not be resolved in a mutually satisfactory manner, the council recommended that an explicit presidential determination and affirmative action by both houses of Congress be required to override those objectives.

While the State Planning Council is only advisory in nature, its mere creation, as well as its substantive recommendations, gives great legitimacy to the positions of the states. It is quite probable that the role of the states will be legitimized in a much more formal way by the Congress. The Nuclear Waste Policy Act, introduced in the first session of the 96th Congress by Senator Johnston, sought

167. Message to the Congress, supra note 164, at 297.
168. Id.
169. Id. at 298.
170. Id.
171. Id.
172. DOCKET BOOK TO THE STATE PLANNING COUNCIL ON RADIOACTIVE WASTE MANAGEMENT, ADDENDUM 70 (1981).
173. Id.
174. Id.
to mandate a federal program for nuclear waste storage. As originally introduced, the bill was silent on the role of state and local governments in the waste facility siting process. Yet over half of the committee hearing time was devoted to the issue of consultation and concurrence. When it finally reached the Senate floor, the bill was still silent in this regard. But the first major amendment to the bill dealt directly with state concerns. Senator Glenn offered amendment 1499 to the bill. Title VII of the amendment provides for the creation of an advisory committee, to be known as the State Planning Council on Nuclear Waste. The functions of the Council are to recommend mechanisms for timely and effective involvement of state and local governments, to ensure that the plan adequately addresses the needs of the state and local areas affected, and to advise on all aspects of nuclear waste facility siting. Title IX of the amendment directs the secretary of the DOE to identify and notify all states with one or more potentially acceptable sites for a waste repository. Each affected state is to be given the right to participate in a process of consultation and concurrence, based on health and safety concerns, in all aspects of planning, siting, development, construction, and operation of a repository. By consultation and concurrence it is meant that the secretary of the DOE shall keep the state fully and currently informed about any aspects of the project concerning health and safety, shall solicit and receive all objections of the State Repository Review Panel, and shall work diligently and cooperatively to resolve such concerns and objections. The views of such panel are to be incorporated into the Repository Development Report and submitted to the Congress prior to the beginning of construction. Unless and until Congress adopts a concurrent resolution stating that the Repository Development Report fully addresses state and local concerns, no construction license will issue.

176. Id. at 40-286.
179. The Council was to be composed of eight governors, five state and local officials, a tribal government representative, and the Secretaries of Energy, Interior, Transportation, and EPA. Id. at 9982.
180. Id.
181. The State Repository Review Panel was created by Title X of the Amendment. Essentially, such panels are defined as any organization, task force, council, committee, or other body established by state law to represent such state in its relations with the federal government concerning nuclear waste repositories. Id. at 9885.
182. Id. at 9983-85.
183. Id. at 9983.
Before a vote on the Glenn amendment, Senator Johnston submitted an amendment in the nature of a substitute. The Johnston substitute essentially adopted all of the provisions of the Glenn amendment except the concurrent resolution procedure. Under the Johnston proposal, the Repository Review Panel is entitled to submit its objections to the proposed site to the Congress. No construction is to begin on the waste facility if, during the sixty-day continuous session after submission of the objections, one or both houses of Congress pass a resolution stating that the report does not adequately address state and local concerns with respect to the storage of civilian and military wastes respectively. The change from the positive to the negative adoption of a resolution by Congress is intended to deal with a situation involving a totally recalcitrant state that refuses to enter into negotiations. The amendment was subsequently agreed to unanimously. Two days later, the entire bill passed the Senate by a vote of 88-7.

The House passed a markedly different bill from the Senate version. The House bill provided for burying wastes permanently in geologic formations and set a timetable for selecting sites. During debate on the bill, sponsored by Representatives Udall and Dingell, a bitter debate broke out over states’ rights. An amendment, offered by Mr. Kostmayer, which would have given states an absolute veto power over waste storage within their borders, was eventually defeated by a vote of 161-218. As passed, the House bill allows an affected state to veto a waste site, although that veto would not

185. Id. at 10008.
186. Id. at 10009.
187. 126 CONG. REC. 10009 (daily ed. July 28, 1980). As further evidence of the concern of the states in the nuclear waste management field, Senator Long read into the Congressional Record the “Principles of Understanding” between the State of Louisiana and the Department of Energy. The agreement provided that in return for concession on the part of Louisiana allowing the establishment of the Strategic Petroleum Reserve in the state, the federal government agreed not to store nuclear wastes in Louisiana without the state’s permission. Section 8 of the 10 point plan stipulated: The Department of Energy will not construct any nuclear waste repository for long-term disposal in Louisiana if the state objects. Studies of possible areas in Louisiana as well as in other states would continue with some test drilling which will always be preceded by complete discussion with state officials. 126 CONG. REC. 10002 (daily ed. July 28, 1980) (remarks of Sen. Long.).
188. 126 CONG. REC. 10266 (daily ed. July 30, 1980).
191. The text of the amendment is present at 129 CONG. REC. 11756, and the vote is found at 129 CONG. REC. 11768 (daily ed. Dec. 3, 1980).
stand or be implemented unless either the House or Senate approved it. Thus, in terms of state consultation and concurrence, the House bill is very similar to the Senate version in that a state's objections must be ratified by Congress. Yet the remaining differences in the two bills were too great to be reconciled in the remaining days of the 96th Congress. One would suppose that when the matter is taken up in the 97th Congress, the solution with regard to the states will approximate that achieved in the previous session.

Conclusion

Nuclear waste management is a federal responsibility which, if not solved, will constitute a failure of national leadership. Yet the wide-ranging implications of nuclear waste storage necessitate that the concerns of state and local governments be given adequate consideration. To give these parochial concerns too much weight, however, would be to take the ability to solve the problems out of the hands of the federal government and to place it with officials who have no responsibility for that national problem. To give these considerations too little concern would violate fundamental notions of federalism. It could further provoke the states into engaging in extended legal battles which would only confound the problem. Both versions of the Nuclear Waste Policy Act seem to strike a reasonable compromise, insuring that adequate notice is given to local concerns, while at the same time leaving the ultimate decision in the hands of elected officials representing both national and local interests. It is hoped that the issues surrounding nuclear waste storage, and the role of the states therein, will soon be resolved.

Daryl H. Owen

192. See note 189, supra.