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CASE NOTES

STATE CONTROL OF LOW LEVEL NUCLEAR WASTE DISPOSAL

ENVIRONMENTAL LAW—FEDERAL VS. STATE CONTROL OF LOW LEVEL NUCLEAR WASTE DISPOSAL: U.S. Nuclear Regulatory Commission Task Force Report recommends reassertion of federal control over low level waste disposal; New Mexico legislature imposes one-year moratorium on licensing of new sites; other states consider options.

Faced with growing public opposition to state licensing of a proposed low level commercial waste disposal facility, the 33rd New Mexico State Legislature in March 1977 passed the Radioactive Material Disposal Act¹ which includes a one-year moratorium on such licensing pending state development of appropriate regulations and standards to assure protection of the environment and the public. Within the same month, the Nuclear Regulatory Commission (NRC) Task Force Report on Review of the Federal/State Program for Regulation of the Commercial Low-Level Radioactive Waste Burial Grounds appeared in the Federal Register.² The two events are related in very important ways.

The inherent federal/state conflict in the development and regulation of nuclear power has been the source of litigation and critical discussion for some time, primarily in terms of siting and other problem areas in which federal preemption has been recognized as controlling.³ In the management and disposal of low level nuclear waste, however, the issues and problems have developed in a different direction. Here we find that state control has existed for some time through the "agreement states" provision of the Atomic Energy Act⁴

1. 1977 N.M. Laws, Ch. 122.

2. 42 Fed. Reg. 13,366 (1977). In addition to the material appearing in the Federal Register, the Report as filed included five Appendices: A. Overview of Reports and Current Events; B. History of Low-Level Waste Management; C. Background Information, NRC and Agreement State Inspection Programs, and Review of Problems at Three Commercial Burial Grounds; D. Waste Volume Projection and Estimated Site Capacities; and E. Trip Reports.

3. See Estep & Adelman, *State Control of Radiation Hazards: An Intergovernmental Relations Problem*, 60 MICH. L. REV. 41 (1961); Parenteau, *Regulation of Nuclear Power Plants: A Constitutional Dilemma for the States*, 6 ENV'T L. 675 (1976).

4. "Agreement states" are those states which have entered into an agreement with the Nuclear Regulatory Commission, pursuant to Section 274 of the Atomic Energy Act of 1954, for assumption of regulatory control of byproduct, source, and small quantities of special nuclear materials.

and that the NRC has explicitly stated its findings that the state operations are acceptable as having "adequately protected the public health and safety."⁵ It is most interesting to note that, although finding no "compelling" health or safety reason for reasserting federal control, the NRC Task Force nevertheless has recommended, under the banner of the national interest, that the development of a national waste management plan be implemented under the regulatory control of the NRC.⁶

LOW LEVEL WASTE MANAGEMENT

Low level waste is an arbitrary classification for management purposes, based primarily on heat and radiation emission rates. High level wastes are those that result from expending nuclear fuel; low level wastes are all other radioactive "garbage" generated by nuclear facilities.⁷ Low level waste has considerably less than one curie of radioactivity per cubic foot of waste, while high level waste may contain thousands of curies per cubic foot.⁸ Transuranic waste, almost a separate class, is low in heat generation and penetrating radiation relative to the high level materials but is extremely long-lived. Transuranic wastes are accepted by some commercial sites along with low level waste under NRC regulation.⁹

The estimated total volume of low level commercial waste in 1974 was 54,000 m³ (cubic meters).¹⁰ The Environmental Protection Agency considers this amount to be about the equivalent of the volume of trash produced by a typical city of 50,000 inhabitants.¹¹ After examining a number of projections for expected generation of nontransuranic low level wastes in terms of estimated remaining capacity of existing commercial burial grounds, the NRC Task Force has determined that there is sufficient existing national capacity to accommodate wastes generated until 1990.¹²

The waste disposal industry, in contrast, believes that the use of nuclear facilities to produce electricity will continue to expand, and together with continuing medical research and treatment utilizing

5. 42 Fed. Reg. 13,367 (1977).

6. *Id.*

7. House Comm. on Gov't Operations, Low-Level Nuclear Waste Disposal, H.R. Rep. No. 94-1320, 94th Cong., 2d Sess. 6 (1976).

8. *Id.*

9. 42 Fed. Reg. 13,368 (1977).

10. U.S. Environmental Protection Agency, Office of Radiation Programs, Issues and Objective Statements, April 1977, at 8.

11. *Id.*

12. Task Force Report, Appendices C and D. Summarized at 42 Fed. Reg. 13,369 (1977).

radioactive materials, will require the establishment of additional disposal sites.¹³

The history of low level waste management begins in the 1940's with the Manhattan Project, and it is fairly startling to realize that the predominant technique of shallow land burial of the waste has continued relatively unchanged since that time.¹⁴ It was generally believed that the disposal of low level wastes by landfill burial was a simple, safe, and inexpensive methodology. New proposals have added such "refinements" as providing a one percent slope from end to end and from side to side to drain moisture away from the buried waste, but the major operation continues to be the use of large trenches and standard land fill techniques.

The licensing of burial sites began in the 1960's, with the phase out of sea disposal also beginning at that time. The Atomic Energy Commission (AEC) established regulations in February 1961, following the 1959 amendments to the Atomic Energy Act, permitting commercial operation of low level burial grounds on federal or state owned land. These regulations were essentially procedural, with very little technical criteria for site selection or monitoring. With the actual initiation of the agreement state program in 1962, the regulation of commercial burial grounds became the province of the agreement states involved. It was believed that the regulation of commercial sites was well within the technical and financial capabilities of the states and would be encouraged under agreement states guidelines. The first site was licensed by the AEC in 1962 at Beatty, Nevada, and five additional commercial sites were licensed under the agreement state arrangement during the next ten years.

Until the early 1970's no problems were identified in the regulation and operation of the commercial burial grounds. Problems subsequently arose at four sites: Maxey Flats, Kentucky; West Valley, New York; Beatty, Nevada; and Sheffield, Illinois.¹⁵ The public became interested and alarmed, the Congress became interested and alarmed, and state governments began to worry about their specific responsibilities in the face of the growing concern.

THE CONGRESSIONAL RESPONSE

Within the climate of public concern, the U.S. House Government Operations Committee adopted its report, *Low-Level Nuclear Waste*

13. Chem-Nuclear New Mexico, Inc., Summary of Application for Radioactive Material License, submitted to State of N.M. Env't'l Improvement Agency, May 3, 1977.

14. Task Force Report, App. B, at 22.

15. Task Force Report, App. C, at 34.

TABLE 1
Low Level Waste Disposal Sites

<i>Location</i>	<i>Year Licensed</i>	<i>Operator</i>	<i>Operational Status</i>
Beatty, Nevada	1962	Nuclear Engineering Co. (NECO)	Special materials license suspended*
Maxey Flats, Kentucky	1962	NECO	Operator suspension expected
West Valley, New York	1963	Nuclear Fuel Services	Closed
Hanford, Washington	1965	NECO	Open
Sheffield, Illinois	1967**	NECO	Open
Barnwell, S. Carolina	1971	Chem-Nuclear Systems	Open

*The NRC licenses special nuclear material at Beatty, Hanford and Barnwell because the amounts exceed those which agreement states may license.

**The Sheffield site was licensed by NRC; Illinois is not an agreement state.

Source: Appendix B, History of Low Level Waste Management, Nuclear Regulatory Commission, Task Force Report on Low-Level Waste Burial, January 1977.

Disposal,¹⁶ which recognized three primary problems: 1) the need for sharpened criteria for waste form specifications and disposal site selection; 2) the steps to be taken following decommissioning of "full" disposal sites; and 3) the necessary financial arrangements for long-term care of decommissioned sites by state or federal authorities. The Committee found the prospect of achieving uniformity of licensing standards to be "remote" even in the agreement states arrangement and concluded that the problem of radioactive waste is national in scope, deserving a national solution. Finding that public health and environmental quality require both proper administration and provision for long term perpetual care, the Committee asserted that "it may be necessary for the Federal Government to reassert its managerial and regulatory role" for the administration of the burial sites.¹⁷

THE NRC TASK FORCE REPORT

The Task Force Report, as part of an overall NRC examination of waste management, was clearly designed to cover the issues raised by

16. *Supra* note 7.

17. *Id.*, at 18.

Congress and explicitly considers the underlying issue of federal versus state regulation of the commercial burial grounds.

The major conclusion of the Report is that the development and implementation of a national plan for low level nuclear waste disposal is desirable and that disposal can best be achieved under NRC control, including assumption of responsibility for regulation as well as perpetual care of the sites. Without new legislation, however, any reassertion of federal control would probably have to be conditioned on some finding that the states are *not* adequately protecting the public health and safety from radioactivity.¹⁸

Congress has been found to have had in mind "only the special hazards of radioactivity" in its many references to the health and safety of the public in the 1954 Atomic Energy Act.¹⁹ In the Task Force Report, however, the NRC has clearly stated that the agreement states have adequately protected the public health and safety in licensing and regulation of low level waste disposal. Thus, the Task Force "can find no compelling health or safety reason for reassertion of Federal control at this time."

The Report concluded that even the serious leakage problems recognized at Beatty, Nevada, and Maxey Flats, Kentucky, somehow are not serious enough as health and safety hazards to justify an outright and legally authorized reassertion of control. At the same time, the Report explicitly recognizes an undefined "national problem" connected with low level waste management "requiring centralized control for standards development, environmental assessment, licensing, decommissioning, and long-term care and maintenance."²⁰ One must openly question whether the NRC is being less than candid in its appraisal of the adequacy of the current state regulatory programs or if the NRC simply desires to impose federal controls over future sites for other reasons. Without legislation authorizing such a reassertion of control absent a health or safety problem, the NRC should expect litigation aimed at determining the appropriate responsibility.

THE STATES' RESPONSE

In order to obtain first-hand information and also to ascertain the existence of any state opposition to federal regulatory activity, the Task Force sent teams of investigators to the various agreement states already involved in licensing low level disposal sites.²¹ The responses are interesting.

18. 42 Fed. Reg. 13,369 (1977).

19. *New Hampshire v. Atomic Energy Comm'n*, 406 F.2d 170, 174 (1st Cir. 1969).

20. 42 Fed. Reg. 13,369 (1977).

21. Task Force Report, App. E.

Illinois, although not an agreement state, supports the concept of a national policy and plan for site selection on a regional or national basis rather than a state basis. Kentucky, New York, and South Carolina officials also indicated their support of the national policy concept. Washington was somewhat less definite in its support statement and indicated that federal control from a distance is not always effective in dealing with problems at the state level. It noted that a better understanding of state needs and concerns motivates states to continue fulfilling their regulatory role. Nevada also expressed misgivings about federal control, pointing out that the state government in Nevada has a higher degree of credibility with local citizens than does the federal government.²² The practical difficulties of financial and other resources at the state level were underscored, however, and the Nevada officials indicated their view that the responsibility of the industry itself has not been stressed enough. A Nevada official also expressed his concern that federal and regional interests may *not* coincide with the state's interest.

Both the tentativeness of Nevada's support for any federal or regional plan and the adoption of the New Mexico moratorium may well be linked to the fact that both states have hydrogeologic settings that are preferred for burial sites and that neither state is particularly anxious to become a national dump site for either low level or high level wastes. The U.S. Geological Survey is currently conducting a long range, independent study to develop geologic and hydrologic criteria for site evaluation and to develop waste transport models.²³ Nevada and New Mexico citizens and officials are probably accurate in their realization that the two states do seem to "fit the picture" for future disposal sites: a land surface devoid of surface water, available geomorphically stable sites, water tables below the disposal trenches by several meters, and generally "simple" hydrogeologic conditions that will allow reliable estimates of "residence-times" for radio-nuclides.²⁴ Thus, without continued state involvement and control, the future for these particular states as receivers of nuclear waste can probably be predicted without much difficulty.

THE NEW MEXICO MORATORIUM

The New Mexico licensing moratorium was specifically designed to halt the licensing of a particular site by an individual commercial

22. Nevada Governor Mike O'Callaghan recently signed legislation restricting disposal of radioactive waste and authorizing the State Board of Health to set provisions in regard to fees. The legislation also provides for perpetual care and maintenance upon closure. 8 ENV'T'L REP. 106 (1977).

23. Task Force Report, App. A, at 22.

24. *Supra* note 7, at 8.

operator. New Mexico is an agreement state, and Chem-Nuclear, Inc. conducted extensive testing in preparation for its application with the state Environmental Improvement Agency for a license to dispose of radioactive materials. The company probably thought New Mexico, a state with important nuclear research activities, would not be unfriendly to the idea of disposing radioactive waste in the state. The amount and strength of the public opposition may well have surprised the company, the state officials, and federal officials considering New Mexico as a site for high-level disposal.

The New Mexico Radioactive Material Disposal Act includes a declaration that the environmental and public health concerns of the state require that disposal of commercial waste generated from outside the state be prohibited. The inclusion of an environmental "land-use" underpinning strengthened the authority of the legislation. It is interesting that the legislation is directed specifically toward "interstate" waste and probably reflects concern aroused by the statements of Chem-Nuclear officials that their proposal would be for acceptance of waste from an area within a 750 mile radius.

The mechanism in the legislation is a moratorium on licensing rather than an absolute prohibition. Although originally introduced as a two-year moratorium, heavy lobbying by the nuclear industry left only a one year moratorium in the final legislation.²⁵ The statute also gives the state Environmental Improvement Agency the duty of developing, maintaining, and enforcing regulations and standards for disposal of commercial radioactive waste.

The moratorium device has become increasingly popular as a means of asserting some measure of state control over federal activities in the nuclear power controversy.²⁶ The New Mexico moratorium is too short; however, the period of the moratorium does give the state agency time to read the five volume, 1200 page application that Chem-Nuclear submitted a few weeks after the legislation became law. The legislation did not prohibit the accepting of applications, only the granting of licenses. And given the limited budget and staffing of the state agency, it would be hard pressed to accomplish in one year what the Nuclear Regulatory Commission, with its staffing and budget, could not—the development of adequate siting and decommissioning regulations and standards. The state agency has informally agreed to consider the federal finding that no new disposal sites are actually needed until 1990, but there is no real

25. Interview with N.M. State Senator Edmund J. Lang (May 17, 1977).

26. Murphy & La Pierre, *Nuclear "Moratorium" Legislation in the States and the Supremacy Clause: A Case of Express Pre-Emption*, 76 COL. L. REV. 392 (1976).

way to enforce that cooperative position on either the state or federal level.²⁷

The moratorium device is an appropriate means of reasserting state control in areas involving unclear lines of responsibility. In New Mexico, the moratorium could work if it could be extended and if adequate financial support to the state Environmental Improvement Agency were provided.²⁸ It is possible that each state, given enough time, money, and staff, could develop regulations and standards for nuclear waste disposal. The NRC Task Force Report, however, indicates that the actual scenario calls for the role of the states to be "satisfied" with some participation in site selection and in monitoring day-to-day operations of what will be federally approved burial sites.²⁹

There is no question but that the need to isolate radioactive wastes from the human environment is "urgent unfinished business."³⁰ It will not be accomplished, however, without greater public understanding and an adequate examination of the federal/state problems inherent in current waste management programs. The recognition of the federal/state conflict by the NRC Task Force is a step forward, but recognition is a long way from solution, and the public issues must be faced promptly by all concerned. Whatever one's opinion of the desirability of nuclear energy, Professor Harvey Brooks' assessment of the policy problem is accurate:

No single aspect of nuclear power has excited so persistent a public concern as has radioactive waste management. . . . I would predict that, should nuclear energy ultimately prove to be socially unacceptable, it will be primarily because of the public perception of the waste disposal problem.³¹

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27. 42 Fed. Reg. 13,370 (1977).

28. The 30 day 2nd Session of the N.M. legislature in early 1978 will be devoted solely to fiscal matters and it is unlikely that the moratorium will then be considered, *supra* note 25.

29. 42 Fed. Reg. 13,370 (1977).

30. 195 SCI. 661 (1977).

31. *Id.*