

THE EVOLVEMENT OF FEDERAL/STATE RELATIONSHIPS IN THE REGULATION OF LOW LEVEL RADIOACTIVE WASTES^a

G. Wayne Kerr, Director
Office of State Programs
U.S. Nuclear Regulatory Commission

INTRODUCTION

When the first commercial sites for disposal of low level radioactive waste were developed and licensed in 1962, the review of applications covered geological and hydrological characteristics of the site as well as the usual information related to applicant qualifications, operating procedures and the applicant's radiation safety program. Appropriate technical specialists in the State and Federal agencies, including U.S. Geological Survey staff, reviewed the applications. The scope of information reviewed at that time would be considered modest by today's standards as described in NRC's proposed rule "Licensing Requirements for Land Disposal of Radioactive Waste" published on July 24, 1981.²

Until 1975 there were six low level sites in operation that were distributed quite well on a geographical basis. In early 1974 some concern was expressed by the Atomic Energy Commission (AEC) over proliferation of new sites without fully addressing environmental concerns and the economic impact that each new site would have on existing sites.³ For example, in 1974 the AEC recommended to Oregon officials that a license for a new site not be issued until an environmental impact analysis including cost benefit was performed.

During 1975 New Mexico received an application for a new low level burial site from Chem-Nuclear. NRC commented on a low level waste licensing guide in a letter to New Mexico dated November 19, 1976.⁴ The letter included the following statement: "...the fact that we have commented on the draft guide does not imply NRC concurrence in the licensing of additional commercial burial grounds. To the contrary, because of the lack of adequate standards and criteria for commercial shallow land burial, the need to investigate alternate methods of disposing of low level waste, the lack of adequate criteria for the perpetual funding of post-operation site maintenance, and the lack of need for increased capacity for commercial burial, we do not consider licensing of new burial grounds to be prudent prior to the development of a comprehensive national low-level waste management program." This statement was based on the opinion of the NRC Task Force staff involved in reviewing the NRC and Agreement State programs relating to

^aA more complete discussion of the history of the Federal/State roles was discussed in an earlier paper.¹

regulation of low level radioactive waste. The Task Force was preparing a report in response to the General Accounting Office, the Joint Committee on Atomic Energy and the House Committee on Government Operations. When the NRC published the Task Force Report (NUREG-0217) on March 10, 1977 in the Federal Register, Vol. 42, pp. 13366-13370, it stated that there was sufficient burial capacity for disposal of commercial disposal of low level wastes until 1990. Public comments on the report questioned NRC's projections of capacity. The Commission issued its statement on implementation of NRC Regulatory Program for Low Level Waste Management on December 7, 1977 in the Federal Register, Vol. 42, pp. 61904-5. The Commission took under consideration the Task Force recommendation for more Federal control over low level waste disposal but did not adopt it as NRC policy. It noted no compelling reason for reassertion of Federal control since the States were adequately protecting the public health and safety. It further stated that there were uncertainties in the disposal capacity projections and would accept applications for new sites in the ordinary course of business.

In 1975 the West Valley, New York, site was closed pending further study of minor seepage of activity from disposal trenches. The Maxey Flats, Kentucky, site began to experience some environmental problems in 1974 and was closed in 1977. The Sheffield, Illinois site closed in 1979 because of the exhaustion of licensed trench space. In early 1976 the Beatty, Nevada, site experienced unauthorized removal of materials from the site. The license was temporarily suspended and later reinstated after security measures were strengthened.

In March 1979 the Three Mile Island incident occurred. In early April that year considerable publicity was generated over the possibility that some TMI Unit 2 wastes might be disposed of at the Barnwell, South Carolina facility.

Thus, by mid-1979 only three sites were accepting wastes. About 75% of the wastes were going to South Carolina. A number of other incidents occurred in 1979 involving leaky shipments, a truck fire, faulty vehicles, etc. In October 1979 Governor Riley of South Carolina announced a volume reduction plan for wastes to be received at Barnwell.

SHIFTING TIDES

One can see from the above brief history the situation changed significantly from 1975-1979 as follows:

1. From six well dispersed sites to three sites that were no longer geographically well dispersed.
2. From a situation of relatively problem-free operations to frequent problems with attendant publicity.

3. From a position of concern over proliferation of sites to concern over adequate capacity and appropriate regional distribution.

4. Heightened concern over the adequacy of the transportation of wastes.

As a result of the accumulating problems, apparent lack of policy and direction for the low level waste program, and the concern of Governors Riley (South Carolina), Ray (Washington) and List (Nevada) of hosting the only shallow land burial sites, the three Governors met with NRC and other Federal officials in November 1979 to express their concerns and their opinion that Federal agencies were not doing enough to improve both the regulatory program for transportation and disposal of low level wastes as well as assuring that additional capacity would be available.

There was sentiment expressed in some circles that the Federal Government should solve the problem. We received several calls asking "What are you (NRC) doing to solve the problem?" but quickly adding "We don't want the waste in our State." and that included waste generated within their own State. Considerable concern was expressed that services such as nuclear medicine might be curtailed if they could not dispose of their wastes. One popular proposal was that the U.S. Department of Energy should allow disposal of wastes at the DOE sites. DOE opposed this and pointed out that even if permitted the most likely sites were located in South Carolina, Washington and Nevada -- the same three States who objected to being the host States for all U.S. low level wastes. Further, the Federal agencies pointed out that all the States and their citizens reap the benefits of the use of radioactive materials; be it electric power, nuclear medicine, academic institutions, industry, etc. Thus, the States should be the problem solvers. A key statement was made by NRC's Chairman Hendrie when testifying before the Subcommittee on Energy Research and Production of the House Committee on Science and Technology on November 7, 1979. He stated that "I think we should stick with the thrust of State sites. There was a while a year or two ago, perhaps before, when I think I would have told you that I thought the Federal Government should step in and take over the low level waste disposal responsibilities across the country. I have changed my mind on it. It seems to me the States could do a perfectly good job." Congressman Wydler asked "Why were you for handling this problem at the Federal level and now you are convinced the States can do it?" Chairman Hendrie replied, "Let me sketch the reasons as follows: As I observed, the difficulties that we have in what clearly is, and ought to be, a Federal program and responsibility for high-level waste. As I view the difficulties that the Federal Government has in doing even preliminary exploration of the possible geologic medium in various portions of the country, I see an attitude which is a Federal problem, like 'They are not going to bring it into my State; it has to be solved, but it will be

solved in somebody else's place and not here.' I am afraid if the Federal Government accepts a responsibility to deal with the low-level wastes and starts looking for additional sites, we are going to get exactly the same kind of response from the States."

"Because low-level wastes are, in fact, generated in every State in the Union and because there are very clear benefits to the citizenry-at-large from activities that then yield those wastes, I think that putting it on an individual State responsibility basis puts the problem right back where it ought to be. After all, if we look at what you do with assorted chemical and industrial wastes and manufacturing processes of all kinds, there isn't a big Federal program to accept responsibility for arsenic compound wastes. They are out there, and the States have to deal with them."

"Radioactive wastes are no different. I think particularly for the low-level wastes it should be a State responsibility. I think furthermore, for reasons along the lines I have been talking about here, that we can get decent regional disposal capacity to place them in a lot faster if they are a State responsibility."

RESULTING ACTIONS

As a result of this, many organizations took action to address the situation.

President Carter established the State Planning Council on Radioactive Waste Management on February 13, 1980 by issuance of Executive Order 12192. The Council was to provide advice and recommendations on nuclear waste management including ways of resolving institutional issues related to radioactive waste management. State officials gradually recognized their responsibility for solving these problems and this view culminated in the final recommendation of the State Planning Council. Further, it was recognized that the States are capable of solving these issues.⁵ The following excerpt from the State Planning Council's Report to the President is particularly significant: "The Council recommended that national policy be redefined to make states responsible for ensuring the safe disposal of commercial low-level radioactive waste and for seeing that the required new sites are developed. In making this recommendation, the Council recognized that every state generated low-level waste. It concluded that state officials should be able to regulate the disposal of these wastes and that they are capable of resolving the political and institutional obstacles to opening new sites."

The Low-Level Radioactive Waste Policy Act, Public Law 96-573, (LLRWPA), was approved on December 22, 1980. It states a very clear Federal policy as follows:

"Sec. 4(a)(1). It is the policy of the Federal Government that (A) each State is responsible for providing for the availability of capacity either within or outside the State for the disposal of low level radioactive waste generated within its borders except for waste generated as a result of defense activities of the Secretary or Federal research and development activities; and (B) low-level radioactive waste can be most safely and efficiently managed on a regional basis." Thus, it placed responsibility on the States for solutions and it sanctions a regional solution by way of compacts after January 1, 1986.

The NRC revised its policy statement "Criteria for Guidance of States and NRC in Discontinuance of NRC Regulatory Authority and Assumption Thereof By States Through Agreement" on January 23, 1981. Specifically, Criterion 27 was amended to allow a State to seek an agreement with NRC pursuant to Section 274 of the Atomic Energy Act of 1974, as amended solely for a low level waste disposal facility. Although a fair amount of interest has been expressed for such a limited agreement there has been no great rush of States applying for limited agreements. We have discussed the matter with some State officials including members of their legislatures.

The NRC's proposed rule "Licensing Requirements for Land Disposal of Radioactive Waste" 10 CFR Part 61 was published in the Federal Register, Vol. 46, pp. 38081-38105 on July 24, 1981. Although applications for new sites would have been received and reviewed by NRC and the Agreement States prior to that time using available regulatory guidance, this proposed rule was anxiously awaited by the States and was an extremely important step.

The Department of Energy was charged with assisting the States in carrying out the policies stated in the Low Level Radioactive Waste Policy Act of 1980. In addition to preparing a report defining needed disposal capacity, the status of the sites, evaluation of transportation requirements, and the DOE sites, DOE has been providing technical assistance and planning grants to several States and interstate groups to facilitate the development of compacts and sites.

Finally, a number of individual States and groups of States have been initiating action to solve the problem.

CURRENT STATUS

The Beatty, Hanford and Barnwell sites are continuing to operate. However, the level of use at Beatty has dropped considerably, partly as a result of State policies and Nevada's third party inspection program. Volume received at Beatty went from 7400 cubic meters in 1979 to 3400 cubic meters in 1981. Volume of waste received has increased considerably at the Hanford site from 12,200 cubic meters in 1979 to about 40,200 cubic meters in 1981. Barnwell is under a volume reduction plan

which was implemented in late 1979 resulting in a change from 62,300 cubic meters in 1979 to about 42,500 cubic meters in 1981. This dramatically illustrates the effectiveness of the South Carolina volume reduction plan. It has reduced the share of total U.S. commercial waste received from 76% to less than 50% in two years. All three States have resident inspectors at the sites and have implemented various types of escalated enforcement action including suspension of user permits and civil penalties in some cases.

The development of interstate compacts began first in the northwest region comprised of eight potential party states. Idaho and Washington enacted the compact into law on April 7, 1981 and May 8, 1981 respectively. Oregon, Utah and Montana subsequently joined. They have submitted the compact and a draft implementing bill to some of their Congressional representatives but no bill has been introduced in either house of Congress as yet. The NRC has expressed its concern over certain provisions of the compact; namely, the effective date of July 1, 1983 is inconsistent with the LLRWPA, the definition of waste is inconsistent with the LLRWPA, there are discriminatory provisions against out-of-region wastes and the matter of onsite inspections of NRC licensees has to be addressed.

There are currently several regional groups which are developing compacts as shown in Fig. 1. The Southeast, Rocky Mountain and South Central groups currently have compact legislation ready for submission to their legislatures. The Midwest and Northeast groups are not as far along. It should be noted that several States are negotiating with more than one compact group. Further, there are several States which are unaffiliated at this time or are going it alone. Included in the latter category are Texas, by choice, and California -- apparently as a result of choice by others.

One would have expected that development of compact groups might have reflected factors such as transportation costs and distances and economic viability of a site based on volume of waste generated within their region. It appears, however, that, in some cases, these factors may not have been given much consideration since the volume of wastes generated in some regions is relatively small, at least at present. Other considerations such as political factors and perceived public acceptability, or lack thereof, were probably overriding. It has been expressed before that the political and institutional questions relating to the safe disposal of these wastes may be more difficult to solve than the technical issues.

POLICY CONSIDERATIONS

I would now like to present some views on various issues which may have influenced some of the actions which have taken place and some which still need to be addressed. These are clearly personal observations and views but have no doubt had a significant bearing on developing policies.

<u>Northwest</u>	<u>Rocky Mountain</u>	<u>Central</u>	<u>Midwest</u>	<u>Southeast</u>	<u>Northeast</u>	<u>(Going Alone)</u>	<u>(Unaffiliated)</u>
Alaska	Arizona	Arkansas	Delaware	Alabama	Connecticut	California	South Dakota
Hawaii	Colorado	Iowa*	Illinois	Florida	Maine	Texas	West Virginia
Idaho	Nevada	Kansas*	Indiana	Georgia	Massachusetts		Dist. of Columbia
Montana	New Mexico	Louisiana	Iowa*	Mississippi	New Hampshire		Puerto Rico
Oregon	Utah*	Minnesota*	Kentucky	North Carolina	New Jersey		Virgin Islands
Utah*	Wyoming*	Missouri*	Kansas*	South Carolina	New York		Guam
Washington		Nebraska*	Maryland	Tennessee	Pennsylvania		Northern Mariana Islands
Wyoming*		Oklahoma	Michigan		Rhode Island		Trust Territory of the Pacific Islands
			Minnesota*		Vermont		
			Missouri*				
			Nebraska*				
			North Dakota				
			Ohio				
			Virginia				
			Wisconsin				

*States potentially belonging to more than one compact.

Fig. 1 - STATUS OF POTENTIAL PARTY STATES OF LOW-LEVEL RADIOACTIVE WASTE INTERSTATE COMPACTS

Who Accepts Responsibility?

Some States (small generators) have tended to lay low thinking the problem will go away by 1986 or the Feds will bail them out.

Some large States have acknowledged they have a greater responsibility for solving the problem.

The Governor of a host State needs to extract a pound of flesh from other States within a compact region.

We have already paid our dues by having a site, why should we commit to having another?

We are a candidate State for a high level waste site so we shouldn't have to commit to a low level site.

The Northwest Compact

Desire to be first prompted the early development of this compact.

The July 1981 date in the Washington initiative for cutoff of wastes from outside the State and uncertainty of the outcome of the attendant law suit put pressure on Washington to exert substantive efforts to solve the problem.

The quick action on this compact resulted in some provisions which NRC noted as problems -- effective date, definition of low level waste and jurisdictional matters including State inspection of NRC licensees.

Regulation vs Development

Texas has enacted legislation creating a Waste Management Commission to develop and operate a site but regulation of the site would be conducted by the Health Department.

Illinois legislation creating the Department of Nuclear Safety charges it with development of a site as well as regulation (possible conflict of duties).

Some States would like to develop a total waste management program starting with generating processes for all types of licensed operations, packaging, transportation and disposal. We believe the Low Level Waste Policy Act does not alter previously existing authorities regarding waste management and is limited to the compact aspects of actual disposal.

Other Impacts on Site Development

NRC and the Agreement States have been encouraging good waste management practices, including segregation, volume reduction, storage for decay, etc. which should result in reduced use of available disposal space.

As a result of proposals for interim and long-term onsite storage, NRC has sent a letter to power reactor licensees that encourages good waste management practices and also encourages working with States on development of sites. It states that NRC will not take deliberate action that would hinder the establishment of additional disposal capacity by the States yet would accommodate operational flexibility by licensees.

Outstanding Problems

There are a few "orphan" States. These States are those that do not appear to be participating actively in compact negotiations or those that have been excluded by fellow negotiators.

States may encounter as much opposition at the County and local level when a new regional site is proposed as the Federal Government would encounter when a site in a given State was selected.

NRC licensees may have to play by the State rules if they want to use the regional compact site. In commenting on the Northwest and Rocky Mountain compacts, NRC offered a Section 274i agreement which we expect will accommodate the need for onsite inspection of certain NRC licensed activities.

SUMMARY

One can see that the evolution of the low level waste disposal problem was gradual or perhaps exponential, with the peak of the problem occurring in late 1979. Solutions have been initiated since that time with extensive efforts by a number of individuals, States, Federal agencies, interstate organizations and by licensees. An acceptance of responsibility by the States and the policy directions established by the Low Level Radioactive Waste Policy Act were key factors in initiating solutions. This is not to say that all problems are solved. There is still a lot of jockeying for membership in various compacts, local acceptance of new sites will have to be obtained, and the establishment of a new site is not yet on the horizon. When an announcement is made on selection of a new site we may well see the next peak in this problem.

Various activities in this country bring benefits to all of us but there are usually some associated burdens. In the nuclear industry, waste disposal is one of the burdens. Just as there are trade-offs among States in various areas, it seems clear that some continued horse trading between and amongst States and localities will be necessary in order to fully solve the low level radioactive waste problem.

REFERENCES

1. "A Historical Review of Federal/State Roles in Regulating Commercial Low Level Radioactive Waste Burial Grounds," Proceedings of Health Physics Society Twelfth Midyear Topical Symposium, February 11-15, 1979, EPA 520/3-79-002, pp. 219-230.
2. Nuclear Regulatory Commission Proposed Rule "Licensing Requirements for Land Disposal of Radioactive Waste," 46FR142, pp. 38081-38105, July 24, 1981.
3. Letter dated January 16, 1974 from S. H. Smiley, AEC to All Agreement States.
4. Letter dated November 19, 1976 from G. Wayne Kerr, NRC to Dr. Theodore Wolf, New Mexico Radiation Protection Section.
5. "Recommendations on National Radioactive Waste Management Policies," Report to the President by State Planning Council on Radioactive Waste Management, August 1, 1981, p. 20.