

LOW-LEVEL WASTE DISPOSAL PRACTICE

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Discussion:

During 1967-68 State of S.C. officials agreed to develop the mechanism for establishing a low-level waste burial site. This was done only with the understanding that such an operation would be owned and controlled (regulated) by the State. This site was to serve generators of nuclear waste in the southeastern region of the U.S. It was felt such a site was justified, since other burial sites were somewhat removed from this region of the U.S. being in New York, Illinois, and Kentucky.

During 1967 the S. C. Legislature enacted the Atomic Energy and Radiation Control Act and on September 15, 1969, the State became an "Agreement State" pursuant to Section 274 of the Atomic Energy Act of 1954 as amended, thereby assuming regulatory responsibility for certain radioactive materials. Such responsibility includes the licensing of low-level waste burial facilities; and on April 13, 1971, one such license was issued to Chem-Nuclear Systems, Inc. authorizing the use of approximately 300 acres of property in Barnwell County near the Savannah River Plant property as a low-level radioactive waste burial facility. The Chem-Nuclear site property is owned by the State of South Carolina; whereupon, the State leases the site for Chem-Nuclear to operate. Chem-Nuclear's operation is licensed by both the State of S.C. and the U. S. Nuclear Regulatory Commission. Special Nuclear Material disposal authorization is licensed by NRC in quantities greater than is authorized under State Jurisdiction.

The Barnwell Site was the last of the six commercial sites licensed in the U. S. Three of these sites are now closed for various reasons. West Valley, New York closed during March of 1975. Maxey Flats, Morehead, Kentucky, closed during June of 1976, Sheffield, Illinois closed during March of 1978. Beatty, Nevada closed during March 11, 1976 to May 25, 1976, due to site operator removing equipment and waste from site. The suspension was lifted subject to the strengthening of inadequate security measures at the site. The closing of the Sheffield, Illinois site left the Barnwell site the only remaining commercial low-level burial site east of Beatty, Nevada.

The volume of low-level radioactive waste disposed of at the Barnwell site has increased significantly over the past several years. For example, in 1975, the total volume of waste buried was 638,137 cu. ft.; whereas, in 1978 this volume had increased to 2,225,049 cu. ft. of waste with a collective activity of 652,061 curies. It is estimated that approximately 85% of all commercial low-level waste generated in the U. S. is presently being disposed of at this site. The nuclear industry which makes up the fuel cycle accounts for approximately 75% of the waste by volume. Medical, academic, industrial, and research facilities categorized as non-fuel cycle, generate the remaining 25%. The percentage (by volume) of waste received from each state is reported to state officials on a monthly basis. Regionally, the largest volume comes from the northeast with 47.8% of the total, followed by the southeast with 32.5%, the north central with 18.2% and the Midwest with 1.4%. Chem-Nuclear received no waste in 1978 from the far west.

The State of S.C. has recently placed a ceiling on the annual volume of waste that can be disposed of at the Barnwell site. With an average volume of 185,421 cubic feet per month during 1978, the importance of volume reduction at the point of origin becomes obvious. How serious volume reduction and the development of alternatives to shallow land disposal remains to be seen. Regardless, I can assure you that our present volume limitation on the Chem-Nuclear site shall not be exceeded.

I feel the present situation with low-level waste disposal is a critical one. Many states have passed what I consider irresponsible legislation prohibiting disposal of any radioactive waste within their borders. Most of these states that pass such legislation depend heavily on nuclear power reactors for electrical generation.

During 1972 the Conference of State Radiation Control Directors Task Force report on Nuclear Waste Management called for the establishment of a National plan for nuclear waste management. This recommendation along with others made by the Task Force seems to have fallen on deaf ears. However, the recent IRG Committee Report (Draft) calls for the development of a National Plan for management of all nuclear waste. With regard to LLW, the IRG draft report recommends that DOE assume responsibility for developing and coordinating the needed National plan for LLW, with active participation and advice from other concerned federal agencies and input from the states, general public, and industry. We agree further, that the states should be provided the option to retain management control of existing commercial LLW sites or to transfer such control to the federal government. Future sites could be developed either by the individual states or by the federal government, but such action should be taken within the agreed upon framework of an overall LLW siting plan, developed through a joint federal, state partnership.

In conclusion, we need licensing criteria, guides, and standards for sites that are now in operation and for future sites that must be developed. We need criteria guides and standards now.