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LY Waste file

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MEMORANDUM FOR: Frank L. Ingram
Assistant to the Director
Office of Public Affairs

FROM: Robert E. Browning, Director
Division of Waste Management, NMSS

SUBJECT: NEWS MEDIA INQUIRY REGARDING ENVIRONMENTAL
AND HEALTH AND SAFETY CONSEQUENCES OF LOW-LEVEL
WASTE DISPOSAL SITES

My staff has reviewed your memorandum of November 2, 1984 as well as the enclosed copy of the press release from Mr. Gene N. Lebrun, a Rapid City Attorney for Chem-Nuclear. In your memorandum, you raised several concerns regarding the accuracy of certain statements that Mr. Lebrun's press release attributed to the NRC. You were particularly concerned with the statement that "...none of the so-called 'closed sites' present a problem of health and safety for future generations" and "...the NRC does not believe that any of the sites pose any significant harm to the environment".

There are currently three operating low-level waste facilities: Beatty, Nevada; Hanford, Washington; and Barnwell, South Carolina. The facilities at Maxey Flats, Kentucky and West Valley, New York are closed and the facility at Sheffield, Illinois is no longer accepting waste. All of these facilities are licensed by Agreement States except for Sheffield which is licensed by the NRC.

During the time when each of these sites were first licensed, the only standards for the maximum permissible concentrations for releases to the environment were those in Appendix B of 10 CFR Part 20 and these standards were applied to waste disposal. The concentration limits in Appendix B are associated with a maximum whole body dose rate of 500 millirems per year for continuous exposure by any member of the general public. However, these standards were superseded when the NRC issued its 10 CFR Part 61 regulation for the disposal of low-level waste on December 27, 1982. This regulation became effective on January 26, 1983. Based on a philosophy of keeping exposure as low as is reasonably achievable (ALARA), Subpart C of Part 61 associates allowable releases with a maximum whole body dose rate of only 25 millirems per year for the general public. Furthermore, Part 61 establishes requirements for NRC licensees and is the basis for Agreement State regulations, since state regulations must be compatible with NRC rules.

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When the Part 61 Regulation was under development, past performance and experience of the six sites was included in the analysis. The regulation now requires operators apply practices which field experience and increased technical knowledge has shown to be good, and prohibits or excludes practices which have shown to be unacceptable. Applicability of Part 61 requirements to existing licenses will be determined on a case-by-case basis and will be implemented through terms and conditions of the license or by orders issued by the Commission or Agreement States.

At this time, there are no low-level waste disposal facilities that have been licensed exclusively under Part 61. However, any new commercial low-level waste facilities licensed by the NRC or Agreement States would have to meet the requirements of our Part 61 regulations. As a result of the Low Level Radioactive Waste Policy Act of 1980 the NRC expects to be licensing new sites or assisting Agreement States in licensing new sites within the next five years.

The NRC staff is confident that low-level waste can be safely disposed by shallow land burial provided that the scenarios assumed in the Environmental Impact Statement for Part 61 and the requirements set forth in the Part 61 regulation are met. These requirements include four performance objectives for waste disposal, including minimizing long-term maintenance, assurance of operational safety, protection against inadvertent intrusion, and protection of the environment.

There are currently studies being conducted at all six low-level waste facilities. NRC technical staff have studied the NRC-licensed Sheffield site and have not found any imminent threat to health and safety. The other five sites are under the jurisdiction of the Agreement States and as noted in Section 274 of the Atomic Energy Act of 1954 (AEA) it is the responsibility of the Agreement States to protect the public health and safety at their sites.

The NRC has the responsibility for regulating the disposal of LLW through the authority of the AEA, as amended and the Energy Reorganization Act of 1974, as amended. However, under Section 274 of the AEA, the NRC is permitted to relinquish its regulatory responsibility for certain classes of radioactive materials to the states on a state by state basis. Among other things, a state is allowed to enter into an agreement with the NRC under which it would become an "Agreement State" and would assume those NRC regulatory functions associated with the licensing and inspection of LLW disposal sites. Although a state with a regulatory program meeting NRC requirements would have most of the regulatory responsibility for licensed LLW disposal under the Agreement, NRC does retain direct regulatory control over wastes containing special nuclear materials in amounts sufficient to form a critical mass.

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Problems that have been encountered at the six sites resulted from a combination of factors such as poor site characteristics; poor site design and operation; form and content of the waste, and unanticipated costs for site closure and maintenance to mitigate risks to health and safety. In the Commission's response to Congressman Ottinger, last year, NRC staff indicated, however, that these problems had not resulted in any threat to the public health and safety and that the overall performance of the sites ranged from marginal to very good.

It should be noted, however, that at the Maxey Flats site several radioactive contaminants were found to be migrating away from the trench area although they are still within the site boundary. The State of Kentucky has been pursuing remedial work for site closure and decommissioning since early 1983 and was successful in nominating the site for remedial action by the Environmental Protection Agency under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (better known as "Superfund").

The last paragraph on page 3 of Mr. Lebrun's press release, noted that long-term monitoring will continue at these sites as well as at any new sites to provide early detection and mitigation of unforeseen problems. In contrast to the EPA and the States which are responsible for a very large number of hazardous wastes sites, the NRC and Agreement States are currently responsible for only the six sites that have been cited in this memorandum. This limited number of sites permits NRC and the Agreement States to provide the monitoring necessary in order to take prompt action. Furthermore, all of the sites are located on state-owned (5 sites) or federal-owned (1 site) land for which there should always be resources for early detection and remedial action. NRC technical staff therefore foresee very little problem in being able to take corrective actions in a timely manner subject to the availability of funds from the site owner.

I hope that this response has answered your questions. If you need any additional information, please contact Mr. Ken Kalman of my staff.

Robert E. Browning, Director
Division of Waste Management, NMSS

Handwritten notes above the table: *Phone*, *Legal Opinion*, *Concurrence*

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