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Chief, Rules and Directives Branch  
Mail Stop T6-D59  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

On behalf of the Illinois Emergency Management Agency (Agency), Division of Nuclear Safety, I hereby submit the attached comments in response to the Federal Register Notice entitled "Request for Comments on the Nuclear Regulatory Commission's Low Level Radioactive Waste Program." As stated in our comments, the Agency is concerned with the economic viability of developing new LLRW disposal facilities. Specifically, policies regarding alternative disposal of low-activity waste will likely divert waste volumes and render new regional disposal facilities uneconomical to construct or operate.

I appreciate this opportunity to provide input to NRC. If you have any questions, you may direct them to me below or at 217-782-1322.

Sincerely,



Richard Allen, Chief  
Bureau of Environmental Safety

SUNSI Review Complete

E-RIDS = ADM-03  
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Response to the "Request for Comments on the Nuclear Regulatory Commission's  
Low-Level Radioactive Waste Program"

1. What are your key safety and cost drivers and/or concerns relative to LLW disposal?

The main cost driver for LLRW disposal is volume. In order to develop new regional LLRW disposal facilities, a sufficient and consistent volume of waste is required to pay for the large capital development costs and ongoing annual operating expenses. Given the make-up of the Compact system, no compact will generate enough operational waste to justify the development of an engineered disposal facility. The facilities will only become economical when volumes increase as a result of nuclear facility decommissioning or compact region consolidation (most likely contractual arrangements similar to the Northwest - Rocky Mountain agreement).

Waste Control Specialists has submitted a license application for a shallow land burial facility located in west Texas. Published reports in trade periodicals have indicated that the economic viability of the Texas Compact facility is predicated on the development of an adjacent facility to serve the US Department of Energy.

The State of Illinois, in conjunction with the state nuclear utility, conducted economic modeling that found that the current waste volumes would not financially support the development of an engineered disposal facility. When the waste volumes associated with decommissioning the state's nuclear power stations were available for disposal, then the unit disposal cost become reasonable (comparable to today's prices).

As the state's regulatory agency for the management and disposal of LLRW, the Agency is obviously concerned about the safe management of LLRW, from generation through processing and ultimate disposal. As we approach the closure of the Barnwell facility to generators outside of the Atlantic Compact, our immediate concern is focused on the generators of Class B and C wastes. In Illinois and the Central Midwest Compact, the bulk of the Class B and C wastes are generated by the nuclear utilities. They have indicated that they will be able to safely manage their Class B and C wastes until the regional disposal facility is operational in the Central Midwest Compact. Non-reactor generators in the region have indicated they will generate minimal Class B or C wastes (less than four cubic feet per year average).

At this time, the Agency is monitoring the availability of LLRW disposal capacity and the potential impacts on the region's generators. Nothing so far has warranted the deviation from the agency's plan to develop a regional disposal facility to coincide with the decommissioning of the region's nuclear power stations.

2. What vulnerabilities or impediments, if any, are there in the current regulatory approach toward LLRW disposal in the U.S., in terms of their effects on:
  - a. Regulatory system reliability, predictability, and adaptability;
  - b. Regulatory burden (including cost); and
  - c. Safety, security, and protection of the environment?

While the current regulatory approach may not be the most streamlined, it is still very functional. Given our regulations and organizational framework, the Agency is well prepared to respond to any application for LLRW disposal in an efficient and cost effective manner.

### *Potential Alternative Futures*

3. Assuming the existing legislative and regulatory framework remains unchanged, what would you expect the future to look like with regard to the types and volumes of LLRW streams and the availability of disposal options for Class A, B, C, and greater-than-class-C (GTCC) LLRW five years from now? Twenty years from now? What would more optimistic and pessimistic disposal scenarios look like compared to your "expected future"?

Five years from now: Waste streams and volumes will be similar to those currently generated. Generators in Illinois will only have access to the EnergySolutions Clive, Utah, facility for most types of Class A waste and US Ecology's Richland, Washington, facility for NORM/TENORM wastes. In addition, some low-activity wastes will be disposed in RCRA Subtitle C landfills. There will be no disposal avenues for Greater than Class C wastes as the US Department of Energy will not have a disposal facility suitable to accept that type of waste.

Twenty years from now: Waste streams and volumes will be similar to those currently generated. Generators in Illinois will not have access to any Class A, B or C LLRW disposal facility as the EnergySolutions Clive, Utah, facility will have used its licensed capacity and the Barnwell facility will be closed to Illinois generators. Illinois generators will still have access to US Ecology's Richland, Washington, facility for NORM/TENORM wastes. Certain low-activity wastes will be disposed in RCRA Subtitle C landfills. There will be no disposal avenues for Greater than Class C wastes as the US Department of Energy will not have a disposal facility suitable to accept that type of waste.

There is a good possibility that the Barnwell facility will be closed in 20 years due to an insufficient waste volume from the Atlantic Compact. The three-member states do not generate enough wastes to support the necessary infrastructure associated with operating the facility. In the first seven months of this year, the Atlantic Compact generators only disposed of less than 7,400 cubic feet of waste.

Optimistically, the waste stream volumes would increase in the Central Midwest Region such that a regional disposal facility would be economically feasible.

Pessimistically, the decommissioning of the region's nuclear power stations will be delayed an additional 20 years due to a second plant life extension.

4. How might potential future disposal scenarios affect LLRW storage and disposal in the U.S., in terms of:
  - a. Regulatory system reliability, predictability, and adaptability;
  - b. Regulatory burden (including cost); and
  - c. Safety, security, and protection of the environment?

If disposal facilities are made available to generators in the Central Midwest Region, then waste will not require storage. Likewise, if disposal facilities are denied to the region's generators, then more waste will require on-site storage. As mentioned previously regarding the economic viability of a regional disposal facility, the same volume related economic pressures apply to a regional interim storage facility. Without sufficient waste volumes (and a reasonable understanding of the length of time storage would be required), it is uneconomical to develop a centralized facility for a state or compact region.

From a regulatory perspective in Illinois, the various scenarios have no effect on the Agency's licensing program. The Agency will continue to provide the same efficient and cost effective regulatory oversight of the radioactive waste industry in Illinois from generation through disposal.

*Can the Future Be Altered?*

5. What actions could be taken by NRC and other federal and state authorities, as well as by private industry and national scientific and technical organizations, to optimize management of LLRW and improve the future outlook? Which of the following investments are most likely to yield benefits:
  - a. Changes in regulations;
  - b. Changes in regulatory guidance;
  - c. Changes in industry practices;
  - d. Other (name).

The optimization of the management of LLRW continues with the cooperative effort of Compact organizations, state regulators, and private industry. Given the pending restrictions on waste disposal (i.e. closure of the Barnwell facility), it is imperative that artificial roadblocks are not placed in the way of securing waste processing. Access to treatment facilities throughout the country should be secured through the continued use of inter-regionally access agreements between state and compacts. These agreements should not prohibit the return of processed waste to the generator.

The waste processing industry will need to be diligent in segregating waste that will be returned to the generator to ensure that the generator does not receive waste for which they are not licensed.

The NRC needs to make sure that its policies and actions do not interfere with the commerce of waste processing. Engaging in an open and inviting dialogue with states, compacts, generators, and waste processors will help ensure that all potential impacts can be identified and mitigated prior to adopting any new policy or procedure.

6. Are there actions (regulatory and/or industry initiated) that can/should be taken in regard to specific issues such as:
  - a. Storage, disposal, tracking, and security of GTCC waste (particularly sealed sources);
  - b. Availability and cost of disposal of Class B and C LLW;
  - c. Disposal options for depleted uranium;
  - d. Extended storage of LLRW;
  - e. Disposal options for low-activity waste (LAW)/very low level waste (VLLW);
  - f. On-site disposal of LLRW;
  - g. Other (name).

From a national security perspective, it is important that GTCC sources are managed properly. To aid in that management, the federal government should take possession of GTCC wastes as it is required under the Low-Level Radioactive Waste Policy Act. The disposal of Class B and C wastes will be severely limited in 2008. However, this does not constitute an emergency that warrants emergency access to the Richland facility.

Sufficient guidance exists for the long-term storage of LLRW. Alternative disposal options are available for low-activity waste within the current regulatory framework. On-site disposal of LLRW should not be encouraged, as it will only proliferate the number of radioactively contaminated sites.

In developing disposal options for low-activity waste or very low-level radioactive waste, the NRC needs to keep in mind that these alternative disposal options take away from the available volume of LLRW and further hamper the economic viability of existing and proposed LLRW disposal facilities.

7. What unintended consequences might result from the postulated changes identified in response to questions 5 and 6?

The NRC needs to remain cognizant that by diverting some portion of the LLRW waste streams to alternative disposal options, they are further hindering the economics of new facility development. Provided that these waste remain under the LLRW definition, compact commissions exercising their authority over waste produced in their region could limit this diversion.

*Interagency Communication and Cooperation*

8. Based on your observations of what works well and not so well, domestically and/or internationally, with regard to the management of radioactive and/or hazardous waste, what actions can the NRC and other federal regulatory agencies take to improve their communication with affected and interested stakeholders?

The NRC should continue to participate in national organizations such as the LLRW Forum, Inc., and have a presence at national meetings such as FEDRAD and Waste Management. NRC staff should be receptive to input and consider ideas and suggestions that may be out of the norm.

9. What specific actions can NRC take to improve coordination with other federal agencies so as to obtain a more consistent treatment of radioactive wastes that possess similar or equivalent levels of biological hazard?

No response.