

on process knowledge when workers' exposure to radiation is of concern and knowledge of the waste generating process allows adequate characterization of radionuclide activity. It is common practice to store waste for a period that allows short-lived radionuclides to decay to minimal levels. The most common types of treatment for LLRW are solidification or compaction of dry waste. A treatment facility may simply calculate radionuclide concentrations based on the extent of volume increase or decrease. Disposal facilities commonly use hand-held instruments to survey the exterior of waste containers, which may provide sufficient information to characterize the waste; however, packages are not normally opened for sampling in order to limit occupational exposures. This is in keeping with good health physics practice.

Under the approach presented here, RCRA-permitted hazardous waste disposal facilities will continue to ensure that mixed waste complies with the land disposal restrictions. If the generator sending LAMW for disposal at a RCRA-permitted hazardous waste facility is required to certify compliance with applicable regulatory requirements, it may or may not be necessary for a landfill to conduct independent radiological sampling. The cost associated with extensive radiological sampling and analyses might be a critical factor in a disposal facility's willingness to accept LAMW. Facilities also may perform external radiological surveys to maintain worker safety, if necessary or deemed appropriate. We expect that under the approach presented here, the waste generator would bear primary responsibility for compliance with the standards, including those under RCRA. The generator would thus be responsible for providing the information necessary to determine whether the waste can be disposed of as LAMW at the hazardous waste disposal facility. It might be necessary for the generator to provide analytical confirmation of the radiological content of the waste prior to treatment or disposal. We invite comment on the most appropriate way to ensure that radionuclide concentrations in waste sent for disposal comply with the criteria that would be established, and on whether practices common at RCRA facilities might need modification to limit potential exposures to workers.

In a related question, we would like commenters to consider whether a rule should address volume averaging or "blending" of wastes to meet the radionuclide concentrations. RCRA

regulations prohibit dilution as a means of meeting treatment standards; however, assuming that LAMW has met the RCRA standards, to what extent should higher-activity waste be allowed to combine with lower-activity waste to meet radionuclide concentration limits? Recently, NRC raised a similar question as part of a rulemaking effort for 10 CFR 40.51(e). (See 67 FR 55175, August 28, 2002.) Should this be permitted for waste from similar processes, or with the same radionuclides or RCRA waste codes? This question may be more important in the context of other low-activity radioactive wastes that are not RCRA hazardous, which are discussed in section III. For example, TENORM wastes can be high in volume with significant variation in radionuclide content, and usually a narrow range of radionuclides. Should blending be allowed for these waste streams? Would "post-blending" analytical results be necessary to demonstrate compliance with concentration limits, or would knowledge of "pre-blending" concentrations be sufficient? What would be the problems associated with analyzing blended waste?

c. *Agreement States.* Under section 274b of the Atomic Energy Act, States can enter into agreements with the NRC such that the NRC relinquishes Federal authority and the Agreement States assume regulatory responsibility over certain byproduct, source, and small quantities of special nuclear material under State laws. The degree of compatibility for such programs is determined by NRC. (NRC also retains certain functions, such as licensing and oversight of nuclear power plants.) NRC has established requirements for specific program elements which States must meet. These compatibility requirements consider trans-boundary issues and program element effects on public health and safety. Depending on the outcome of the NRC rulemaking and the degree of compatibility required for State programs, a LAMW rule could be implemented differently among Agreement States.

d. *Non-Agreement States.* In States that have not entered into agreements with NRC under section 2746 of the AEA, NRC regulations apply directly. Approximately one-third of the States are not Agreement States.

3. Regional Low-Level Radioactive Waste Compacts

The Low-Level Radioactive Waste Policy Act authorizes and encourages States to form regional "compacts" to address their long-term disposal needs for "commercial" low-level radioactive waste. Most compacts do not plan to

accept mixed waste. In general, the terms of a compact spell out the process for selecting a "host" State; picking an appropriate site for the disposal facility; and funding site selection, construction, and operation. The ultimate purpose of the compact is to ensure that its member States are self-sufficient and able to manage commercial LLRW generated within the compact. At present, there are ten compacts, encompassing 44 States. Six States remain unaffiliated with any compact. Only the Northwest Compact has an operational waste disposal site, in Richland, WA. The Rocky Mountain Compact may use the Northwest Compact site by agreement. The Barnwell site in South Carolina will remain open to States outside the Atlantic Compact for several more years.²⁰ Some compacts have delayed their siting process, and at least one compact and several unaffiliated States apparently have no intention of siting disposal facilities. To date the siting of new compact facilities has had very limited success. A number of compact host States, including California, Illinois, Nebraska, Texas, and North Carolina, have expended large amounts of time and money, and undergone a great deal of sensitive political debate, without yet establishing new disposal sites. Regional compacts have procedures to allow waste to enter and exit the compact, which could influence the disposal of low-activity mixed waste at RCRA facilities. Compacts may determine that it is necessary to approve RCRA facilities that accept LAMW as "regional" disposal facilities. The limited number of compacts with LLRW disposal facilities has lessened the impact of these "cross-boundary" issues thus far. We request comment on how the approach would impact regional low-level waste compacts.

1. Request for Information: LAMW

In order to assist us in planning and conducting our future deliberations related to low-activity mixed waste, we are requesting the voluntary submission of data describing the present situation with respect to the storage, management, transportation, and disposal of LAMW. We are aware that some States perform annual inventories of the different kinds of radioactive waste generated or disposed annually

²⁰ Barnwell may accept waste from outside the Atlantic Compact (South Carolina, Connecticut, and New Jersey) as long as the non-regional waste does not cause the facility to exceed overall volume limits. Those overall volumes drop from 160,000 cubic feet in fiscal year 2001, the year after South Carolina joined the Atlantic Compact, to 35,000 cubic feet in fiscal year 2008. Under current plans, generators outside the Atlantic Compact will not have access to Barnwell after 2008.