addressed in the LLRWPAA, States must ensure adequate disposal capacity for all low-level radioactive wastes, including mixed wastes. To date, progress in meeting the milestones in the LLRWPAA has been limited. In addition, uncertainties about the amounts and types of mixed waste, along with the complexities in complying with the regulations for these wastes, have hindered development of treatment and disposal facilities for mixed waste. As a result, licensees may be required to store mixed waste on-site until adequate treatment and disposal capacity has been established.

This guidance is designed to assist persons currently storing mixed waste to meet the regulatory requirements of both the AEA and RCRA. However, many of the requirements and procedures discussed in this guidance may not be applicable to nuclear power reactor facilities. The guidance describes procedures that are generally acceptable to both NRC and EPA that resolve issues of concern which have been identified to the agencies by licensees. It also addresses similar storage issues identified by the Department of Energy (DOE). The guidance first summarizes the general requirements that licensees must meet to store mixed waste in accordance with NRC and EPA regulations, then addresses specific storage issues that have been brought to the Agencies' attention by mixed waste generators. Finally, the guidance discusses EPA's RCRA enforcement policy for mixed waste in storage.

II. Background

a. Regulatory Authority

In general, NRC or Agreement State licensed facilities that manage mixed waste are subject to the RCRA Subtitle C requirements for hazardous waste in 40 CFR part 124 and parts 260–270 implemented by EPA, or to comparable regulations implemented by States or Territories that are authorized to implement RCRA mixed waste authority. EPA asserted its regulatory authority over the hazardous portion of mixed waste in **Federal Register** Notices on July 3, 1986 and September 23, 1988 (see 51 FR 24504 and 53 FR 37045).

The RCRA Subtitle C program was primarily developed for implementation by the States, and oversight by EPA. As of April 1995, EPA regulates mixed waste in Alaska, Hawaii, Iowa, Wyoming and all U.S. Trust Territories except Guam. Thirty-eight states and one territory (Guam) have been authorized to implement the base RCRA hazardous waste program (i.e., authorized States), and to regulate mixed waste activities (see 51 FR 24504, July 3, 1986). Nine states are authorized for the RCRA base hazardous waste program, but have not been authorized to regulate mixed waste.3 In these 9 States mixed waste is not regulated by EPA but may be regulated by States under the authority of State law. To understand the roles of EPA

and the States in regulating the hazardous portion of mixed waste, the following categories of States or Territories are discussed below:

- States and Territories whose hazardous waste program has not been authorized under RCRA to act "in lieu of" the federal RCRA program; these are called "unauthorized States or Territories";
- States and Territories with RCRA authorization that have adopted mixed waste authority; and
- States and Territories with RCRA authorization that have *not* adopted mixed waste authority.

As a subset of hazardous waste, mixed waste is regulated by EPA in unauthorized States and Territories (i.e., States and Territories that have not been authorized to implement the RCRA Subtitle C program). Where States and Territories are RCRA authorized and have adopted mixed waste authority, mixed waste is subject to the State's or Territory's authorized hazardous waste program (which may contain regulations more stringent than those in the Federal RCRA program). See Table 1 for a list of States with mixed waste authority as of June 30, 1995. In States or Territories with RCRA authorization that have not yet adopted mixed waste as part of the base RCRA program, mixed waste may be regulated under State or Territorial regulation, but not as a hazardous waste under an authorized RCRA program.

Facilities in RCRA authorized States (whether the State has mixed waste authority or not) should contact their respective State agency to ascertain what State regulations may apply to mixed waste. In addition, facilities in RCRA authorized States should be aware that EPA Regions may share responsibility for implementing the RCRA program with the State, particularly with respect to certain requirements promulgated under the Hazardous and Solid Waste Amendments of 1984 (e.g., corrective action and land disposal restriction requirements), for which the State may not yet be authorized to implement.⁴

Twenty-nine States have signed agreements with NRC enabling the various 'Agreement States' to regulate source, byproduct, and small quantities of special nuclear material within their boundaries. (see Table 2). Most facilities located in Agreement States are subject to regulatory requirements for radioactive material under State law. This applies to all source, special nuclear, and byproduct material except that from nuclear utilities and fuel cycle facilities, which are subject to NRC's requirements and DOE facilities, which are subject to DOE Orders. While States are required to adopt programs that are comparable with the NRC program, States may have requirements that are more stringent, or are in addition to those from the Federal program. Facility managers should determine whether their State is an NRC Agreement State and determine the scope of the program that has been relinquished by NRC to the State.

In addition to NRC regulated facilities, many DOE facilities may store mixed waste. These facilities are subject to the RCRA Subtitle C requirements or comparable State regulations. DOE Order 5820.2A, "Radioactive Waste Management," and DOE Order 5400.3, "Hazardous and Radioactive Mixed Waste Program," establish policies, guidelines, and minimum requirements under which DOE facilities must manage their radioactive and mixed waste and contaminated facilities. DOE Order 5400.3 excludes byproduct material unless it is mixed with RCRA hazardous waste. Because the storage issues discussed in this document may arise at either NRC-licensed or DOE facilities, this guidance may be useful in addressing mixed waste storage at DOE facilities. However, the primary focus of this guidance is a discussion of the requirements for the storage of mixed waste at NRClicensed and RCRA-regulated facilities. As summarized in Table 3, regulation of mixed waste may be the responsibility of the State in which a facility is located. To ensure compliance, licensees and permittees should contact their State agencies in RCRA authorized or NRC Agreement States to determine if this or other guidance is applicable.

b. Applicability of RCRA Storage Requirements

NRC licensees who store mixed waste must comply with the requirements of RCRA Under RCRA regulations, storage is defined as "the holding of hazardous waste for a temporary period at the end of which the hazardous waste is treated, disposed of, or stored elsewhere". The specific RCRA storage requirements that apply to licensees are determined by the quantity of hazardous waste generated, how long the licensee stores hazardous waste (including mixed waste) onsite,5 and the type of unit in which the waste is stored. Licensed facilities are considered RCRA storage facilities that require a RCRA permit 6 (40 CFR 262.34) if they store the waste for:

- More than 90 days, and if the facility's generation rate (both hazardous and mixed waste) is greater than 1000 kilograms per month (or greater than 1 kilogram of acutely hazardous waste/month; 7 or
- More than 180 days, and if the facility's waste generation rate (both hazardous and

³The RCRA base hazardous waste program is the RCRA program initially made available for final authorization, and includes Federal regulations up to July 26, 1982. Authorized States revise their programs to keep pace with Federal program changes that have taken place after 1982 as required by 40 CFR 271.21(e).

⁴For more information on RCRA State authorization and the authorization status of particular States, contact the RCRA/Superfund Hotline at 1–800–424–9346.

^{5 &}quot;On-site" defined by RCRA means "the same or geographically contiguous property which may be divided by public or private right-of-way, provided the entrance and exit between the properties is at a cross-roads intersection, and access is by crossing as opposed to going along, the right-of-way. Noncontiguous properties owned by the same person but connected by a right-of-way which he controls and to which the public does not have access, is also considered on-site property." 40 CFR 260.10

⁶Note that facility generation rates must be made on a per month basis for all hazardous wastes generated on-site. Waste averaging (i.e., determining the total amount of waste generated in a year and dividing by 12) is not permitted in calculating monthly generation rates. Likewise, mixed waste cannot be treated separately from other hazardous waste in terms of the generation and accumulation limits.

 $^{^7} A cutely hazardous wastes are defined in 40 CFR 261.11(a)(2) and listed in 40 CFR 261.31–33).$