licenses. Examples of instances where an NRC license amendment may be needed

- If the total activity of the radioactive material at the facility (both in use, storage, or in waste) would exceed the activity authorized by the facility license;
- If the licensee intends to store the waste in a portion of the facility not authorized by the license:
- If the chemical or physical form of the waste is not authorized by the license; or
- · If the storage program is not specifically included within the scope of the authorization.

If a licensee is required to amend its radioactive materials license, NRC will require the licensee to provide sufficient information to evaluate the request and determine if the proposed amendment impacts on the level of protection afforded by the existing license.

## NRC License Amendments

While EPA regulations concerning the storage of hazardous waste (40 CFR Part 264. Subpart I and J) are fairly prescriptive, NRC regulations regarding the storage of radioactive waste, other than spent fuel, are more performance based. NRC licenses incorporate conditions specific to a facility or licensee that prescribe acceptable practices for the storage of radioactive material. Typically, licensees propose materials management practices to NRC and an evaluation of the proposed practice is performed by NRC prior to approving (or disapproving) the request. These license conditions are then enforceable conditions under which the licensee must conduct his

Those facilities already possessing a radioactive materials license may need to amend their license to store mixed waste. Currently, NRC guidance on LLW storage is contained in several Generic Letters and Information Notices. Appendix A lists these Generic Letters and Information Notices. Licensees contemplating storing mixed waste should review the NRC guidance and contact NRC to determine the information that should be included in a request to store mixed waste at their facility.

[In a memorandum to the Commission dated August 1, 1994 (SECY 94-198), NRC staff provided the Commission with revisions to the existing guidance for on-site storage of low-level radioactive waste. NRC staff expects to finalize the guidance in late 1995. Until the revised guidance is finalized licensees should refer to the guidance discussed in Appendix A. NRC staff expects to include the revised LLW storage guidance in the final joint guidance on mixed waste storage].

If licensees store mixed waste containing special nuclear material, they must address the special properties of the fissile radioisotopes in this waste. Their mixedwaste storage program must address the spatial distribution, geometry, volume, and the concentration of this waste at the storage facility. Strict controls are to be implemented and documented that assure the safe storage of mixed waste containing special nuclear material. Appropriate security measures are

to be taken, and documented, to ensure the physical security of special nuclear material at the storage facility. The licensee must comply with all requirements stipulated in their license and with the requirements in 10 CFR Part 70, "Domestic Licensing of Special Nuclear Material.'

## **RCRA Permits**

Licensees who require a RCRA permit for storage must submit an EPA permit application. The application, which is described in 40 CFR Part 270, consists of two parts (Parts A and B). Part A consists of pages 1 and 3 of the Consolidated Permit Applications Form. There is no form for a Part B application. Rather, the Part B application is submitted in narrative form and should contain the information set forth in the applicable sections of 40 CFR 270.14 through 270.29. For new facilities, Parts A and B of the permit must be submitted at least 180 days before physical construction of any new facility is expected to commence.

For existing facilities (i.e., existing on the date that RCRA applicability is established), timely submission of the Notification of Hazardous Materials Activity and a Part A application qualifies the facility for interim status under RCRA section 3005(e). Facilities with interim status are treated as having been issued a RCRA permit until EPA, or a State, makes a final determination on the permit application.

Facilities with interim status still must comply with the interim status regulations set forth in 40 CFR Part 265 or with their State's regulations if it is an EPA authorized State. For such existing facilities the EPA Regional Administrator shall set a date, giving the facility at least six months notice, for submission of the Part B application.

## III. Specific Storage Issues

Most mixed waste at operating facilities will be stored in containers or, less frequently, in tanks. EPA requirements for waste stored in tanks and containers are outlined in RCRA Subparts J and I, respectively. In addition, 40 CFR 268.50 addresses the storage of hazardous wastes restricted from land disposal under Subpart C of RCRA. Unlike EPA regulations, NRC's requirements for waste storage are not specific with respect to the type of storage unit (i.e., container, tank, waste pile, etc.), except for tanks at nuclear power reactors, but are based on the type of waste (i.e, wet or dry) and are outlined in 10 CFR Parts 20, 30, 40, 50, 70, and 73. Licensees will be required to comply with container and tank requirements of both EPA and NRC.

Licensees have identified a variety of issues associated with the storage of mixed waste that have caused them concern. Licensees have indicated to both NRC and EPA that they believe strict adherence to the regulations of both agencies may not be possible because of perceived inconsistencies between the two sets of regulatory requirements.11 Where radioactive wastes (or wastes suspected of being radioactive) are

involved in storage, it has been suggested that the NRC's storage requirements may run counter to the aims of RCRA. Neither EPA nor NRC is aware of any specific instances where RCRA compliance has been inconsistent with the AEA. However, both agencies acknowledge that an inconsistency may occur. A licensee or applicant who suspects that an inconsistency may exist should contact both NRC, EPA, or any other AEA and RCRA regulatory agencies. These regulatory agencies should deliberate and consult on whether there is an unresolvable inconsistency and, if one exists, they should attempt to fashion the necessary relief from the particular RCRA provision that gives rise to the inconsistency. However, all other RCRA regulatory requirements would apply. That is, a finding by the regulatory agencies that an inconsistency exists does not relieve a hazardous waste facility owner/operator of the responsibility to ensure that the mixed waste is managed in accordance with all other applicable RCRA regulatory requirements. Owners/operators of mixed waste facilities are encouraged to address and document this potential situation and its resolution in the RCRA facility waste analysis plan which must be submitted with the Part B permit application, or addressed in a permit modification.

Licensees have identified four issues where compliance with both agencies' regulations has caused concern or confusion. These issues are:

- (1) Decay-in-storage of mixed waste;
- (2) Inspection/surveillance requirements for mixed waste in storage;
- (3) Allowable storage practices for stored mixed waste: and
- (4) Waste compatibility, segregation and spacing requirements.

## Decay-in-Storage of Mixed Waste

A large portion of the radioactive waste (and mixed waste) generated by medical and biomedical research institutions contains radionuclides with relatively short half-lives. These short lived radionuclides are especially prevalent in the combustible dry waste, aqueous wastes, and animal carcass wastes generated by medical and academic institutions. NRC generally allows medical facilities to store waste containing radionuclides with half-lives of less than 65 days until 10 half-lives have elapsed and the radiation emitted from the unshielded surface of the waste, as measured with an appropriate survey instrument, is indistinguishable from background levels. The waste may then be disposed of as nonradioactive waste after ensuring that all radioactive material labels are rendered unrecognizable (see 10 CFR 35.92). Radioactive waste may also be stored for decay under certain circumstances in accordance with 10 CFR 20.2001. For mixed waste, storage for decay is particularly advantageous, since the waste may be managed solely as a hazardous waste after the radionuclides decay to background levels. Thus, the management and regulation of these mixed wastes are greatly simplified by the availability of storage for decay.

Before disposing of the waste after decay, the licensee must survey the waste using an appropriate survey instrument, and

<sup>11</sup> The Agencies consider an inconsistency to occur when compliance with one statute or set of implementing regulations would necessarily cause non-compliance with the other.