

Decay-In-Storage (DIS)

NRC has concluded that byproduct LLRW with half-lives of less than or equal to 120 days are appropriate for decay-in-storage (DIS). This means that licensees can properly store the LLRW and allow the radioactive material to decay while in storage. Such waste may then be disposed as ordinary trash (or as medical waste, as appropriate) when radiation surveys (performed in a low background area and without any interposed shielding) of the waste indicate that radiation levels are indistinguishable from background. All radiation labels must be defaced or removed from containers and packages prior to disposal as ordinary trash or medical waste. If the decayed waste is compacted, all labels that are visible in the compacted mass must also be defaced or removed.

When storing LLRW for DIS, storage facilities must be designed with adequate space. Storage space requirements can be minimized if the waste is segregated according to physical half-life. Segregation of waste is accomplished by depositing waste of shorter physical half-lives in containers separately from those containers used to store waste with longer physical half-lives. Waste with shorter half-lives will take less time to decay and thus may be disposed of in shorter periods of time, freeing storage space.

Also, when storing waste on-site, it must be stored in a manner that keeps radiation doses to workers and members of the public below NRC-specified limits. Licensees must further reduce these doses to levels that are as low as reasonably achievable (ALARA). To ensure the integrity of packaging and maintenance of waste form, stored waste containers/packages should be protected from the elements (e.g., wind and precipitation) and from extremes of temperature and humidity. Individual circumstances will determine whether labeling of stored waste containers/packages is required. Precautions must also be taken to secure stored radioactive waste from unauthorized access or removal.

When the radioactive content of wastes has diminished to a level that allows disposal as ordinary trash, licensees must maintain certain records. Such records related to DIS must include the date of the disposal, the survey instrument used, the background radiation level, the radiation level measured at the surface of each waste container, and the name of the individual who performed the survey.

Guidance regarding DIS can be found in the NUREG 1556 series of documents. Please refer to the volume that is associated with your particular license type.

<http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1556/>

Additionally, guidance can be found in NRC Regulatory Issue Summary 2004-17, Revision 1, Revised Decay-In-Storage Provisions for the Storage of Radioactive Waste Containing Byproduct Material, [RIS 04-017r1](#)

Medical use licensees should also refer to the following DIS regulations:

- 10 CFR 35.92, Decay-in-storage of by-product material for medical use <http://www.nrc.gov/reading-rm/doc-collections/cfr/part035/part035-0092.html>
- 10 CFR 35.2092, Records of decay-in-storage of by-product material for medical use <http://www.nrc.gov/reading-rm/doc-collections/cfr/part035/part035-2092.html>

For information related to [extended onsite storage of LLRW](#).