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## Waste Incidental to Reprocessing

The U.S. Department of Energy (DOE) manages [high-level waste](#) (HLW) at sites across the DOE complex. This HLW is the highly radioactive waste material produced as a byproduct of the reactions that occur inside nuclear reactors:

- Much of this HLW is [spent \(depleted\) nuclear fuel](#), which has been accepted for disposal.
- Some HLW consists of other highly radioactive materials that are determined (consistent with existing law) to require permanent isolation.
- The remaining HLW comprises the liquid and solid waste byproducts (containing significant concentrations of [fission products](#)) that remain after spent fuel is reprocessed to extract [isotopes](#) that can be used again as reactor fuel. Although commercial reprocessing is currently not practiced in the United States, the defense reprocessing programs at certain facilities managed by DOE do produce significant quantities of HLW.

From time to time, however, in accordance with [DOE Order 435.1](#) [EXIT](#), DOE has determined that certain waste resulting from reprocessing spent nuclear fuel is actually **waste incidental to reprocessing** (WIR), rather than HLW. For an understanding of the role that the U.S. Nuclear Regulatory Commission (NRC) plays in the waste determination and disposal processes, see the following pages, as well as the [related information](#) provided below:

- [Regulatory Authority and Responsibilities for WIR](#)
- [Section 3116 of the Ronald W. Reagan National Defense Authorization Act \(NDAA\)](#)
- [West Valley Demonstration Project Act \(WVDP\)](#)
- [Criteria for WIR](#)
- [Disposal Process for WIR](#)

### Related Information

- [NRC Staff Guidance Document for Activities Related to U.S. Department of Energy Waste Determinations](#) (NUREG-1854)
- [WIR Documents](#) and related [Data Dictionary](#) (both in Microsoft Excel format)

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