

## *Low Level Waste*

---

Disposal of LLW at commercial sites accounted for about 32% of the LLW disposed during 1994. Commercially disposed LLW is generally divided into five categories:

- academic (university hospitals and university medical and nonmedical research facilities)
- government (state and non-DOE federal agencies)
- industrial (R&D companies, manufacturers, nondestructive-testing operations, mining works, fuel fabrication facilities, and radiopharmaceutical manufacturers)
- medical (hospitals and clinics, research facilities, and private medical offices)
- utility (commercial nuclear reactors)

The Department of Energy has issued a quality report - [IDB 1995 report](#) - that summarizes data on high and low level wastes.

Low level wastes would include discarded construction wastes, resins, clothing, tools, and equipment that generally have low radioactivity levels. Such waste could be generated during operation or decommissioning of a facility. The following figures and tables from the referenced DOE report provide insight into the nature of the low level waste storage issue.

1. Figure - [Volume and radioactivity of LLW](#) disposed at commercial and DOE facilities during 1994.
2. Figure - [Total volume of LLW disposed through 1994](#). Comparison of amounts stored at commercial and DOE facilities.
3. Table - [Characteristics for Disposed LLW as of December 31, 1994](#)
4. Table - [Historical and Projected Volume, Radioactivity, and Thermal Power of Commercial LLW Shipped for Disposal](#)
5. Table - [Distribution of Total Volume and Radioactivity, by State, of LLW Shipped to Commercial Disposal Sites](#)
6. Table - [Breakdown of 1994 Low-Level Radioactive Waste by Type, Volume, and Radioactivity Received by Commercial Disposal Sites](#)
7. Table - [Average Concentrations for Representative Radionuclides in LLW at Commercial Disposal Sites](#)
8. Table - [Schedule of Actual and Projected Final Shutdown Dates for Commercial Light-water Reactors](#)

To put low level waste in perspective-if all of the waste from the commercial sites were combined, it would occupy an area ~2300 ft x 2300 ft x 10 foot high. On the basis that a typical city block is 100,000 ft<sup>2</sup>. This corresponds to an area the size of 53 city blocks. For comparison, the State of Minnesota Pollution Control Agency currently has licensed 27 open sanitary landfills and 24 demolition landfills having a total capacity of ~1160 city blocks. The size of the landfill for accommodating all low level radioactive waste to date throughout the country would be about 1.5 times the average small city sanitary landfill size. It is important to note that this area would cover all commercial waste from the 5 sources listed above.

Utilities are the major generators of low level waste. The cost of storing low level waste has become very expensive. As a result, most utilities have initiated programs to limit waste generation. In addition, a lot of waste may be stored on-site at the plants.

Currently waste can be shipped only to Barnwell, South Carolina and Richland, Washington. In 1982, Congress passed a law that required that all states join regional compacts for the purpose of siting low level

radiative waste storage landfills. For more information on status, news, compacts, issues, you may wish to visit the [ACURI](#) site. The ACURI site addresses frequently asked questions and provides details on the use of radioactive materials in [education](#), [medicine](#), [research](#), as well as government and power generation.

---

Copyright © 1996-2008. [The Virtual Nuclear Tourist](#). All rights reserved. Revised: November 3, 2008.