



Highlights of [GAO-06-94](#), a report to the Subcommittee on Energy and Water Development, Committee on Appropriations, House of Representatives

### Why GAO Did This Study

In 2004, the Department of Energy (DOE) disposed of more than 378,000 cubic meters of low-level radioactive waste (LLRW)—contaminated building rubble, soil, and debris. In 2002, DOE directed its sites to use life-cycle cost analysis to manage LLRW. Life-cycle cost analysis examines the total cost of various options to manage LLRW over its life, including its packaging, treatment, transport, and disposal, to identify the lowest-cost alternative. GAO determined whether (1) DOE sites use life-cycle cost analysis to evaluate LLRW management alternatives and (2) DOE has a strategy for cost-effectively managing LLRW departmentwide, including state actions that may affect this strategy.

### What GAO Recommends

GAO is making recommendations to better ensure that DOE sites properly use life-cycle cost analysis to evaluate LLRW management options and that DOE successfully develop and implement a DOE-wide LLRW strategic plan. In commenting on the draft report, DOE generally agreed with our conclusions and thanked us for the recommendations, but disagreed with or wanted to clarify certain statements in the draft report and provided technical comments which we incorporated as appropriate.

[www.gao.gov/cgi-bin/getrpt?GAO-06-94](http://www.gao.gov/cgi-bin/getrpt?GAO-06-94).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Gene Aloise at (202) 512-3841 or aloisee@gao.gov.

## DEPARTMENT OF ENERGY

# Improved Guidance, Oversight, and Planning Are Needed to Better Identify Cost-Saving Alternatives for Managing Low-Level Radioactive Waste

### What GAO Found

The six DOE sites we visited, representing more than 70 percent of the LLRW disposed of by DOE during 2003 and 2004, did not consistently use life-cycle cost analysis because of weak DOE guidance and a lack of oversight of contractors' implementation of this guidance. As a result, DOE cannot ensure that lowest-cost LLRW management alternatives are identified, so that managers make decisions that fully weigh costs against noncost factors, such as safety and schedule. For example, DOE contractors at two sites did not consistently consider alternative transportation modes or postclosure maintenance and surveillance costs of disposal sites in their analyses for fiscal year 2004 disposal decisions. GAO also could not always determine how contractors used cost analyses in disposal decisions because of incomplete documentation. While DOE's guidance requires each site to develop the mechanisms necessary to ensure use of life-cycle cost analysis, it does not specify, for example, (1) a systematic, consistent method of analyzing all cost elements to determine the lowest cost, or (2) when analyses should be performed. Also, no such guidance was incorporated into site contracts, and DOE site offices had not evaluated contractors' use of life-cycle cost analysis.

DOE has recognized that its current approach—having each site responsible for developing mechanisms necessary to control costs—may result in cost inefficiencies and may limit its ability to meet departmentwide strategic objectives. As a result, DOE plans to begin implementing a national LLRW disposition strategy by March 2006 to better coordinate disposal efforts—specific schedules have not yet been established for when the strategy will be fully in place. However, DOE faces challenges in developing and implementing this strategy. First, it needs to gather complete data on the amount of LLRW needing disposal. Second, the fact that DOE's multiple program and site offices have differing missions and oversee many contractors presents coordination challenges. For example, one program office dismantled and disposed of a supercompactor used to reduce the volume of large LLRW items without a DOE-wide assessment of LLRW compacting needs and without considering other potential cost-effective uses for the supercompactor that might benefit other DOE sites. Third, DOE faces state actions that have restricted access to disposal facilities, making it more difficult to coordinate and integrate disposal departmentwide.

#### Cost Elements of LLRW Management



Source: DOE.