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# Highlights

Highlights of [GAO-03-826T](#), a testimony before the Subcommittee on Energy and Water Development, Committee on Appropriations, U.S. Senate

## Why GAO Did This Study

A quality assurance program is required by the Nuclear Regulatory Commission (NRC) to ensure that the Department of Energy (DOE) can safely construct and operate a high-level radioactive waste repository. DOE is currently preparing an application to NRC for authorization to construct the repository. The quality assurance program includes procedures to assure NRC that the information DOE provides is verifiable and well documented. DOE will use the results of a computer simulation to demonstrate that the repository can be safely operated over the 10,000-year period required by the Environmental Protection Agency's health and safety standards. Some of the key elements of this simulation are shown in the illustration.

This testimony is based on ongoing and published GAO work. The testimony provides the history of DOE's actions to correct quality assurance problems, the status of DOE's efforts to improve the quality assurance program, and preliminary observations on the effect of quality assurance problems on DOE's ability to successfully meet its 2004 milestone for submitting an application to NRC requesting authorization to construct the repository.

[www.gao.gov/cgi-bin/getrpt?GAO-03-826T](http://www.gao.gov/cgi-bin/getrpt?GAO-03-826T).

To view the product, click on the link above. For more information, contact Robin Nazzaro at (202) 512-3841 or [nazzaror@gao.gov](mailto:nazzaror@gao.gov).

## NUCLEAR WASTE

# Preliminary Observations on the Quality Assurance Program at the Yucca Mountain Repository

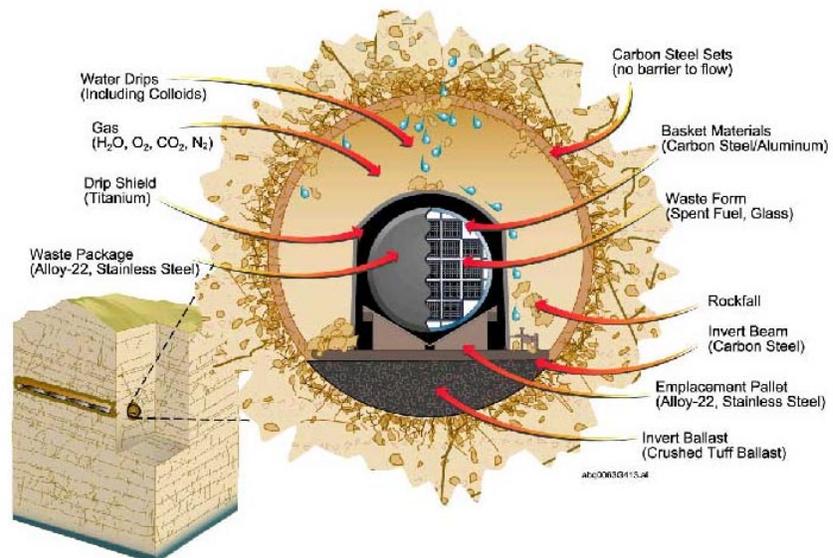
## What GAO Found

DOE's track record of correcting problems with its quality assurance program is less than favorable. Recurring problems have persisted in the program despite DOE's numerous attempts to correct them. DOE evaluations and NRC oversight activities have concluded that the program still falls short of expectations.

DOE's 2002 quality assurance improvement plan represents the department's most recent attempt to correct quality assurance problems, including those involving the scientific models and software codes in the computer simulation that DOE will use to demonstrate the safety of the repository. Because DOE is still in the process of implementing this plan, it is too early to determine whether changes included in the plan will be effective. However, notwithstanding these changes, DOE has recently identified further quality assurance problems, including recurring problems with the data that will be used to support the NRC's decision on whether to authorize DOE to construct the repository.

Based on previously identified weaknesses and recent indications of new problems, we are concerned that DOE's current efforts to improve its quality assurance program may not yield the results it hopes for. Our observation is further supported by NRC's recent comment that DOE's quality assurance program has yet to produce outcomes necessary to ensure that this program meets NRC requirements.

## Illustration of Yucca Mountain Repository Waste Package Emplacement



Source: DOE.