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Highlights

Highlights of [GAO-06-1018](#), a report to Chairman and Ranking Minority Member, Subcommittee on Energy and Water Development and Related Agencies, Committee on Appropriations, House of Representatives

Why GAO Did This Study

DOE's Hanford site in Washington State is one of the most contaminated nuclear waste sites in North America. The Columbia River flows through about 50 miles of the site. Radioactive and hazardous contamination from decades of producing nuclear materials for the nation's defense have migrated through the soil into the groundwater, which generally flows toward the river.

In November 2005, GAO reported on the potential for the Hanford site to contaminate the Columbia River. To address continuing concerns, GAO reviewed the status of DOE's efforts to (1) understand the risk to the Columbia River from Hanford site contamination and to deploy effective technologies to address contamination near the river and (2) strengthen the management of its river protection program. To assess DOE's efforts, GAO reviewed numerous reports by DOE and others, and discussed the problem with federal and state regulators and DOE officials.

What GAO Recommends

To increase the likelihood that DOE will effectively implement and sustain improvements in its program to protect the Columbia River from contamination, GAO recommends that the Secretary of Energy establish results-oriented performance measures and regular evaluations to gauge the improvements' effectiveness. DOE agreed with our recommendation.

www.gao.gov/cgi-bin/getrpt?GAO-06-1018.

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.

NUCLEAR WASTE

DOE's Efforts to Protect the Columbia River from Contamination Could Be Further Strengthened

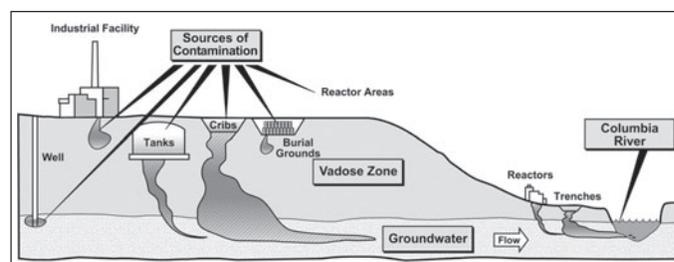
What GAO Found

The Department of Energy (DOE) is actively assessing the risk to the Columbia River from Hanford site contamination and is addressing problems with deployed river protection technologies. While DOE has extensive knowledge of contaminants that are currently in the groundwater and river, DOE knows less about contamination in the soil below the surface, known as the "vadose zone." Before proposing a cleanup approach, DOE has agreed with its regulators to take vadose zone samples in many of the contaminated areas of the site. DOE is also improving its computer simulation model that will predict future risk from the contamination, and deploying alternative technologies it believes will more effectively contain the contamination that may threaten the river.

DOE has also begun to address concerns about its management of Columbia River protection efforts, particularly the lack of integration between groundwater and vadose zone activities. In March 2006, in response to congressional committee direction, DOE proposed a new initiative to better integrate its river protection activities. The initiative included consolidating most groundwater and vadose zone characterization work under a single project; better integrating vadose zone, groundwater, and surface cleanup decisions; and improving the coordination and control over computer models used to predict movement of contamination in future years.

Initiating these management improvements is important, but it is equally important that they be implemented effectively, and past history gives some cause for concern. For example, one attempt by DOE to better integrate these activities was unsuccessful when key elements, such as putting all activities under a single project manager, failed to continue after project and other changes occurred at the site. In past GAO work, we reported that high-performing organizations sustained improvement initiatives when key elements were in place, such as clear goals, results-oriented performance measures, and evaluation strategies. Although DOE is beginning to develop a management plan for its new initiative, DOE has yet to implement some key elements, such as results-oriented performance measures and evaluations to gauge the effectiveness of its improvements, which could also help sustain the benefits of the improvements over time.

Contamination of the Columbia River from DOE's Hanford Site



Source: DOE.