

## Dangerous dirt: An eye on DOE

High levels of hazardous and radioactive wastes have been measured in groundwater or soil at eight Department of Energy (DOE) nuclear defense facilities, according to a General Accounting Office (GAO) report released last week. The cleaning bill for these facilities could top \$1 billion, according to Sen. John Glenn (D-Ohio), who requested that the study be made. DOE "has created a situation that potentially threatens the health of large numbers of Americans," he says. Such facilities produce nuclear materials for weapons and other defense purposes.

In a separate investigation on health effects last week, the Hanford Reservation near Richland, Wash. — one of 18 DOE nuclear defense facilities — was escorted to center stage. At the prompting of Washington, Oregon and Idaho state officials, the Centers for Disease Control (CDC) convened a panel of radiation scientists and others in Richland. Originally, the states had charged the panel to study the potential regional health effects from current and future Hanford activities. But reports of past radiation releases in 19,000 pages of recently released DOE documents led the states to request that the panel also study Hanford activities dating back to the 1940s. The 13-member panel recommends that DOE

and the states involved undertake more health effects studies to better define and quantify the dangers posed by Hanford operations. A DOE spokesperson says the panel's recommendations will be a "blueprint for action," but that it will take some time to decide on just how to act.

The GAO report found Hanford's groundwater levels of strontium-90 to be more than 400 times higher than federal drinking water standards; its levels of radioactive tritium were 25 times higher. Nitrates and radioactive iodine also were above federal standards. Moreover, the report says, "accidental leaks and spills" have contaminated soil under high-level radioactive waste tanks. Robert Alvarez, of the Washington, D.C.-based Environmental Policy Institute and a member of the CDC panel, estimates there are several hundred ground sites on the Hanford reservation where hazardous material has been dumped. Although DOE has taken some steps to alleviate the problems, dumping continues.

To determine the extent of adverse health effects stemming from Hanford, the CDC panel urges that more extensive and detailed epidemiologic studies be done of local communities and of the Hanford facility's present and past em-

ployees. The panel also recommends that DOE "establish a publicly available file of all unusual occurrences which may have resulted in environmental contamination and exposure to the public."

The panel urges DOE to release health research data and analyses in a timely manner so that radiation scientists, independent of DOE programs, can review them or conduct studies of their own. DOE-funded epidemiologic studies of workers have not shown adverse health effects resulting from Hanford activities. But some radiation scientists, among them Alice Stewart of Birmingham University in England, who has studied a portion of the DOE health data on Hanford workers, say these results about how the Hanford workers compare to an average population could be misleading. The healthiest workers tend to get the most strenuous jobs, which tend to involve the most hazardous exposures, Stewart told SCIENCE NEWS. This biases results of studies like DOE's, she says. If this "healthy worker effect" is controlled for in such studies, she adds, it seems that Hanford does pose significant health dangers. To determine with more confidence the extent of this danger, she says she needs more health reports of Hanford workers. Stewart says the recommendations of the CDC health effects panel provide some promise that she will gain access to the reports.

—I. Amato

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