The Environmental Restoration of Hanford

Facts

Expedited Cleanup Project

Hexone Burial Ground

Many chemical and radioactive wastes were buried at Hanford in trenches, like the 618-9 Burial Ground. This burial ground is located a few miles north of Richland, Washington. About 5,000 gallons of organic solvent (primarily hexone) potentially contaminated with uranium was buried here in about 100 55-gallon drums. The wastes were produced from research and development activities in the 300 Area.

Because the drums have been in the ground for more than 30 years, they may not be entirely intact, and some or all of the liquid contained within them may have escaped. However, as no hexone has been detected in the groundwater around the burial ground, it is expected that the hexone has not yet leaked or has not yet migrated to the groundwater.

The burial ground can be cleaned up by digging up the drums, sampling and removing any liquids remaining in the drums and treating the soil around the drums if it has become contaminated. These activities will prevent the uranium-contaminated solvents from moving into the groundwater and from there, into the Columbia River. Taking this action now will save substantial costs compared to cleaning up the groundwater if it becomes contaminated.

This project is on a time critical schedule. Because hexone has a low flashpoint, the removal of any liquid remaining in the drums was initiated during February 1991 when outdoor temperatures were mild. Due to the time-critical nature, the excavation of the drums was initiated before formal public comment could occur.

Several activities have been or will be conducted to find out the nature and extent of contamination at the site. These activities will include, but are not limited to: conducting ground penetrating radar studies, soil gas sampling, overburden excavation and drum sampling, and surrounding soil sampling (after excavation). Early studies of the site will attempt to tell us the location of the drums, and soil gas surveys will indicate if organic vapors (from leaking drums) are present. The soil over the drums will be removed so the drums containing liquids can be pumped. This liquid will be stored in drums for later analysis and treatment.

The plan of cleanup alternatives will evaluate the options of vitrifying any contaminated soil around the drums or burning the soil and disposing of it elsewhere. Other alternatives will also be studied. After DOE, EPA and Ecology review the alternatives, incorporate their comments and have the public review them, EPA will select the best cleanup alternative.

Activities to determine the number of drums and their locations were completed in January 1991. Excavation began in February 1991. To date, many drums have been uncovered and some were severely deteriorated with no liquids remaining. Other intact drums containing liquids were pumped. A great deal of construction debris (pipes, metal siding, wood, etc.) was also uncovered. An analysis of the soil around the drums will help determine the best treatment method.

The entire project, including soil cleanup, is expected to last through fiscal year 1992.

For more information about this project, contact one of the following people.

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