CH2M HILL's work at the massive nuclear waste storage site in Washington is steadily progressing, with an accelerated cleanup strategy to end its environmental management mission by 2032.

Charged with managing 60 percent of the United States' high-level nuclear waste, CH2M HILL Hanford Group recently reached a significant milestone by removing 98 percent of the pumpable liquids from the underground single-shell storage tanks at the Department of Energy facility.

Next on Hanford Group's to-do list is closure of the single-shell tanks and construction of an integrated disposal facility (IDF). It will contain approximately 1.17 million cubic yards—equivalent to a container the size of a football field and half the height of the Eiffel Tower—of low-level waste and mixed low-level waste.

"Construction of the IDF directly supports the DOE's desire to accelerate tank waste treatment by 20 years and to accelerate waste disposal," said David Comstock, project engineer for CH2M HILL Hanford Group.

The facility will not only help accelerate cleanup, but it is on an accelerated design and construction schedule of its own. "We will complete the detailed design by the end of this calendar year," Comstock said. "While we await permitting, which we plan to have by September 2004, we will begin construction of roads and necessary utilities so the basic infrastructure is in place when the permit comes through."

Targeted for completion in 2006, the IDF will consist of a single landfill with two separate, expandable cells. One cell is permitted as a Resource Conservation and Recovery Act Subtitle C compliant landfill system, and the other is not. The RCRA-compliant cell will house mixed low-level waste, which includes hazardous and radioactive materials. The other cell will only hold low-level waste. Both landfill cells will include a double liner, a leachate collection and removal system, and a leak detection system. The landfill will be approximately 1,500 feet wide, 1,800 feet long, and as much as 45 feet deep and will contain four layers of waste containers, separated vertically by three feet of soil.

"The other prime contractor working for DOE's Office of River Protection is Bechtel National," Comstock said. "They're working on a waste treatment and immobilization plant, which will encapsulate high- and low-level wastes into vitrified glass logs for long-term storage. The immobilized low-level logs will then be disposed at the IDF. The glass will minimize the waste released into the environment."

While completion of the vitrification plant is not expected for several years, the IDF will be completed and in use much sooner.

In short, the IDF will provide for the safe, economical, environmentally-sound receipt and disposal of low- and mixed-low-level waste packages in a near-surface landfill that meets the requirements and is approved by DOE and the Washington State Department of Ecology, achieving yet another significant milestone at the Hanford site.