

# Supplemental technologies contracts awarded

Geoff Tyree, CH2M HILL

CH2M HILL Hanford Group has awarded two contracts for initial work on supplemental technologies for treating selected tank waste. The company is investigating three tank-waste treatment technologies for the Office of River Protection. They are called supplemental technologies because they would be used to supplement Hanford's Waste Treatment Plant, which is currently under construction.

The first contract was awarded to THOR Treatment Technologies, LLC, to provide a conceptual design for treating selected Hanford tank waste. Known as steam reforming, THOR's technology is being used in the commercial sector to treat nuclear waste. Possible application of the technology at Hanford would include treating selected low-activity tank waste that has been through a pretreatment process to remove most of the radioactivity. Steam reforming would allow accelerated cleanup by reducing the amount of waste requiring vitrification.

"We will be evaluating this conceptual design to see if it meets our stringent criteria for treating a portion of Hanford's tank waste," said Dale Allen, senior vice president of Strategic Planning and Mission Analysis for CH2M HILL Hanford Group. "The key to our success in supporting treatment of all of Hanford's tank waste by 2028 is to find existing technologies and evaluate whether they can be cost-effectively tailored to our need."

The second contract was awarded to AMEC Earth & Environmental, Inc., to test a method of turning selected Hanford tank waste into glass in large disposal containers — called bulk vitrification. Bulk vitrification allows for glassification of low-level or low-level mixed tank waste inside a container suitable for land disposal. Bulk vitrification would help accelerate tank-waste cleanup by reducing the mass of sodium requiring vitrification in the Waste Treatment Plant.

Under the new contract, AMEC will conduct lab-scale and large-scale testing of the bulk vitrification technology, using simulated waste, and provide conceptual engineering for a production facility. After that first phase of work, an evaluation of bulk vitrification and other supplemental treatment technologies will enable the Office of River Protection to decide how to best move forward on building and operating facilities to provide supplemental treatment.

The third technology under consideration is containerized grout, which is solidification by using grout-forming additives in a container suitable for land disposal. This would reduce the amount of sodium the Waste Treatment Plant would need to process. A contract award for initial work on evaluating this technology for use with Hanford tank waste is expected in the coming weeks.

"A cornerstone in effective management of our contract with the Department of Energy is to be a good steward of the government's resources," said Allen. "In this case, we are looking at technologies that have proven to be effective in treating similar types of waste, rather than researching and developing new technologies." ■