

Experts list 28 problems to fix at Hanford waste plant – Study by 30 experts cost \$4 million

The biggest problem – DOE Management – will not have been identified. It encompasses all 28 other problems.

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A waste treatment plant under construction at the Hanford Nuclear Reservation faces 28 technical issues that could prevent it from reliably treating radioactive waste, a team of experts concludes in a new report.

However, the experts also concluded that the problems are fixable and that the plant is essential for cleaning up the highly contaminated south-central Washington site.

The so-called vitrification plant is being built to treat highly radioactive waste left from decades of plutonium production for the nation's nuclear weapons arsenal. The waste is now being stored in 177 underground tanks, with plans to eventually run it through pipes to the plant.

Since late 2004, technical and management problems have pushed the cost estimate for the plant from \$5.8 billion to more than \$10 billion. The start date also has been pushed from 2011 to 2017, though the U.S. Energy Department expects to issue a final cost estimate and startup schedule sometime this summer.

The Energy Department, which manages Hanford cleanup, commissioned the latest \$4 million independent study to help restore credibility in the project amid those skyrocketing costs and delays. The panel of 30 scientists and engineers, representing chemical and nuclear industries as well as universities, spent nearly five months answering the question, "Will this plant operate?"

The slurry of solid and liquid waste that would be piped through the plant for treatment will clog lines and keep it from operating consistently if changes are not made, John Lowe, one of the team leaders, said this week. That was the only problem the experts identified that would keep the plant from operating.

The report also noted that the radioactive and hazardous chemical waste waiting to be treated has already caused plugging problems in the tank farms.

The experts identified 16 other problems that would prevent the plant from running efficiently. But none of these issues requires the development of new technologies, Lowe said. The remaining 11 issues were described as possibly causing operating inefficiencies.

Lowe estimated that fixing all of the problems might add 1 percent to 3 percent to the cost of building the plant.

John Eschenberg, project manager for the Energy Department, said those costs are included in contingencies for the plant under the latest cost estimate.

The report concluded that the plant will operate, but made a number of recommendations that might make it operate more efficiently, Eschenberg said.

"We're taking steps to deal with all of them. For some of it, we're doing a technical evaluation, and some of it we're actually making design changes," he said. "But all of the recommendations coming out of this team are being evaluated."

Eschenberg said it was too soon to say if any design changes would impact parts of the building that have already been built.

Design of the plant is about 70 percent complete, while about 30 percent of it has been built.

The one-of-a-kind plant will use a process called vitrification to convert waste into glasslike logs for permanent disposal in a nuclear waste repository. Once completed, it will stand 12 stories tall and be the size of four football fields.

Cleanup of the entire 586-square-mile Hanford site is expected to total \$50 billion to \$60 billion, with completion by 2035.