

HANFORD ADVISORY BOARD

A Site Specific Advisory Board, Chartered under the Federal Advisory Committee Act

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US Environmental
Protection Agency
Washington State Dept
of Ecology

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Roy Schepens, Manager
U.S. Department of Energy, Office of River Protection
P.O. Box 450 (H6-60)
Richland, WA 99352

Jay Manning, Director
Washington State Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

Re: Tank Waste Program Path Forward

Dear Msrs. Schepens and Manning,

Tank waste treatment and immobilization at Hanford have long been the Hanford Advisory Board's (Board) number one cleanup priority. The tanks contain high level nuclear waste as well as hazardous waste. The delays and cost increases for Hanford's Waste Treatment Plant (WTP) are of great concern to the Board. There is a need for a credible plan for retrieving, treating and disposing of all of Hanford's tank waste in a timely manner. This plan is necessary to maintain public and congressional confidence in the Department of Energy's (DOE) ability to complete the job. The Board can provide a forum to bring the region together for a plan that will restore confidence.

A clear, credible, integrated path forward is necessary:

- 1) to provide a basis for preventing a potential disaster from tank leaks and contaminant spread;**
- 2) to address the interconnectedness of the entire system and the far-reaching impacts of further delays to any single component; and,**
- 3) to garner the broad regional support needed to ensure continued funding and successful execution of retrieval, treatment and disposal of all Hanford's tank waste over the long term.**

Costs to construct Hanford's WTP complex to vitrify much of the waste have escalated from \$4.3 billion to more than \$12 billion, and the schedule for beginning operation has slipped from 2011 to 2019. The WTP is only designed to treat 50% to 60% of the waste. In addition, new technologies such as bulk vitrification have yet to be proven as suitable for immobilizing the remainder of Hanford's low-activity tank waste.

Further delays in retrieval from single shell tanks pose unacceptable risks of additional leakage and other system failures. Current tank waste retrieval schedules are predicated on waste being vitrified beginning no later than 2011 to open up additional double shell tank space. Delays in operating the WTP should not be allowed to cause additional delays in retrieving sludge and other waste from Hanford's aging single shell tanks. Waste will also remain in double shell tanks much longer than planned, which may result in additional leaks. These circumstances may require the construction of additional double shell tanks which will compete for funding with construction of vitrification capacity.

Advice and principles for an Integrated Assessment, building upon HAB Advice #189

- DOE should conduct a new, integrated assessment of the tank waste treatment program, prior to adopting a new baseline, to ensure the baseline covers all wastes and that reasonable alternative paths have been considered. This approach should provide realistic estimates of when each critical task can be completed and describe the impacts on all elements of the program when key components are delayed. The assessment should be completed to examine reasonably foreseeable difficulties, failures and contingencies; to consider ways to deal with these potential problems; and to clearly identify major underlying assumptions.
- Detailed assessment of major or critical program elements, such as bulk vitrification or a second low-activity waste (LAW) facility, should be completed to ensure operational availability when needed, and that additional delays and impacts do not occur. An enforceable schedule for treatment capacity is a necessary element of the assessment.
- To mitigate the impacts from the delay in retrieval and start up of the High-Level and Pretreatment Plants, the new assessment should consider all reasonable alternatives such as building additional tanks and/or early start up of the LAW facility, commercially available technologies, and simpler vitrification processes.
- The Washington State Department of Ecology (Ecology) should work closely with DOE to thoroughly review this new assessment and ensure it is comprehensive and meets applicable standards.
- DOE and Ecology should solicit input from the Board, other stakeholders and the public before any significant programmatic changes are pursued.

- The new assessment should have a timely, reliable external review.

Schedules identified in the new integrated assessment should be adopted as enforceable milestones and include interim milestones to ensure full treatment capacity is designed, constructed and operated on schedule.

The assessment should lead to a new integrated plan to retrieve, treat and dispose of all tank wastes. The plan should meet the following principles to win broad support and be viewed as credible:

- All high-level wastes will be retrieved from tanks to the extent practicable.
- All waste will be treated and disposed.
- Treatment capacity should be provided for 100% of the wastes, all of which should meet long-term performance standards for vitrified glass.
- Contamination from tank leaks should be characterized and cleaned up to the extent practicable.
- Retrieval from single shell tanks should be on an enforceable schedule.
- Retrieval from single shell tanks should not be linked to construction of vitrification plant capacity.
- All secondary waste streams generated from retrieval and treatment need to be analyzed and integrated.
- Key recommendations from independent expert reviewers, including the Government Accountability Office (GAO) and Army Corps of Engineers, should be addressed openly.
- Opportunities to control and reduce life-cycle costs should be identified and incorporated.
- Transparent and open disclosure of all cost estimates, management reviews and plans, and a commitment to have independent validation of costs for each major portion of the system's facilities should be in place.
- A credible, independent mechanism should be in place to resolve safety and quality assurance issues in a transparent manner to provide public confidence in the system's safety.
- The timeline and the organization responsible for advance training and qualifying facility operators should be identified.

Retrieval, treatment, and disposal of tank waste should be completed as close to the 2028 deadline in the Tri-Party Agreement as feasible. The risks from delay should be understood, publicly disclosed, and mitigated.

Sincerely,



Todd Martin, Chair
Hanford Advisory Board

This advice represents HAB consensus for this specific topic. It should not be taken out of context to extrapolate Board agreement on other subject matters.

cc: Keith Klein, Manager, U.S. Department of Energy Richland Operations Office
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