

Budget Issues and Tank Farm Closure

The U.S. Department of Energy, Office of River Protection (ORP) asks for enough money to meet Tri-Party Agreement milestones and other cleanup deadlines. However, the federal budget process seldom produces the full funding request.

Radioactive Liquid Tank Waste Stabilization and Disposition Budget

Fiscal Year 2009	Fiscal Year 2010	Fiscal Year 2011
Request	Request	Request
\$288,442,000	\$408,000,000	\$418,000,000
Actual ^(A)	Actual ^(B)	Actual
\$319,943,000	\$406,600,000	\$396,900,000
Fiscal Year 2012 Request		Fiscal Year 2013 Request
\$518,391,000		\$519,100,000
Actual		Actual
\$445,000,000		In Congress

^(A) The budget for Fiscal Year 2010 was supplemented by funding from the American Recovery & Reinvestment Act, which added \$326,035,000 total to the 2009-2011 budgets.

^(B) From a May 2011 ORP presentation.



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Washington State Department of Ecology's views on Hanford tank closure



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Why It Matters

The 586-square-mile Hanford Site is located in south-central Washington along the Columbia River. Hanford's mission was defense-related nuclear research, development, and weapons production activities from the early 1940s to 1989.

Cleanup began when the Tri-Party Agreement was signed in 1989.

Ecology's Perspective on Tank Farm Closure: Meeting Deadlines and Cleaning Up the Mess

- By Jeff Lyon

I have some burning questions as the Ecology [Tank Systems, Operations, and Closure Project](#) Manager:

- How long should we wait to close the single-shell tank (SST) farms, also called waste management areas (WMAs)?
- What are the risks to humans and environment if we miss the Tri-Party Agreement (TPA) milestones for closure in 2043?
- If we wait for more money (which we may never get) or better cleanup technologies (which we may also never get), what are we going to do about the current contamination?
- What about the tank farms that have a lot of contaminated soil?
- What about all of the uncertainty, and what will it take to help us make confident decisions?

As we move down the path toward tank closure, there are benefits to highlighting some information we will consider. One important piece of information in the Draft Tank Closure and Waste Management Environmental Impact Statement (TC & WM EIS) is that **early soil cleanup** may help reduce negative impacts from soil contamination reaching Hanford's groundwater.

The Final TC & WM EIS (FEIS) will consider this possibility in a sensitivity case study. Under Hanford, around 72 square miles of groundwater are contaminated above drinking water standards.

In this Issue

Ecology's perspective on tank farm closure

Budget issues and tank farm closure

Ecology wants to minimize further groundwater contamination. Information from the FEIS may show that it will take time to see any **benefits to groundwater** from tank farm **soil remediation** efforts, even if we start cleaning it up today. While none of the FEIS remedies (called *alternatives* in the FEIS) would immediately restore groundwater to drinking water standards (the goal), any delay in soil cleanup will likely make it worse.

The TPA prioritizes our work at Hanford, including tank farm closure decisions. The U.S. Department of Energy (USDOE) plans the work. One priority is the TPA milestones to close the SST farms.

Currently, we plan to close all the SST farms by 2043. **WMA-C, the first of seven WMAs, is scheduled to close by 2019.** USDOE plans to close the second WMA in 2027, eight years after the first one. That implies that the remaining five tank farms will be closed within 16 years after the second one. That's one tank farm every three years thereafter.

Aside from the TPA milestones, why do I worry about finishing WMA-C closure in the next seven years? Why not wait and leave the finishing work to the next generation, or until 2043 and just do all of the WMAs at once?

All I need to know I learned in shop class

In high school shop class, my teacher taught me a lesson I'm reminded of periodically ... **"You're not done with your work until you clean up your mess."** I will share a couple Hanford stories that may help explain my concerns about cleaning up the mess in the tank farms.

I came to the tank farms project in 2002, when USDOE was performing interim stabilization of



A broken pump is removed from double-shell tank AN-106, which will receive waste from SST C-107. A new pump will be inserted and used to support waste retrieval.

SSTs. *Interim stabilization* meant pumping out all the liquids to stop potential leaks, and that work is mostly done. However, sludge and solids still remain in the tanks.

As a result of past interim stabilization efforts, hose-in-hose transfer lines were abandoned in many of the tank farms. They were all flushed with fresh water, but they were past their service life, in the way of retrieval work, and had created tripping hazards. A leak finally motivated the agencies to finish the job and clean up the hose-in-hose transfer lines.

During waste retrieval, a gasket on an internal line leaked into to the secondary containment

line, which led to an investigation and enforcement action. After that, the agencies realized that leaving unused lines lying around was not good housekeeping. Since then, hose-in-hose transfer lines must all be removed and disposed of properly.

Around the same time, the double-shell tank (DST) upgrades were moving forward. Workers cleaned and improved old valve boxes to comply with our regulations. Again, hoses had been left from waste transfers performed decades ago. The equipment removal and valve box upgrades were more difficult because of another mess that was left behind. These messes are being cleaned up so that the DST system is completely ready to route waste to the Waste Treatment Plant for processing.

When I look at all of the added time and expense from cleaning up old messes, I don't want to leave any jobs half done, especially important jobs like tank farm closure. **We need to finish cleanup at WMA-C,** and move on.

Maybe we can use the information in the FEIS to help us identify what WMA to close next and minimize future groundwater impacts.

Closing WMA-C by 2019 is what the agencies agreed to in the TPA, and we should finish the job. Retrieval, the first step to closure, is occurring in WMA-C. We are now investigating all WMA-C soil contamination, and we have a TPA milestone for this too.

However, decisions about the disposition of facilities, other structures, and ancillary equipment remain unresolved. Also, our collective efforts to estimate and model the risks associated with each aspect of closure

(called a *performance assessment*) were put on hold by USDOE.

Due to USDOE's budget (see page 4 for more information) and priorities, we have not progressed or finished as much as I would like. I just keep thinking, **"You're not done with your work until you clean up your mess."**

Leaving WMA-C Tank Farm closure halfway done is inconsistent with Ecology's mission of protecting humans and the environment. I cannot imagine it getting easier, better, or cheaper. The *least* we can do is try to reduce groundwater impacts as soon as possible. We need to finish our job in WMA-C, and move on to other areas that need more work.

Our advice to USDOE is, **"Don't wait! Meet the stated deadlines and clean up the mess."** Only then will we be done with our work!

Jeff Lyon has been Ecology's Project Manager for Tank Systems, Operations, and Closure activities since 2002



Staff evaluating a workplan for installing a tank farm pump.