Focus on Tank Waste Retrieval and Tank Farm Closure

Ecology's View

Ecology supports the U.S. Department of Energy's (USDOE's) preferred alternative, which upholds its obligations in the Tri-Party Agreement (TPA) to retrieve at least 99% of the waste from each tank (or to the limits of technology).

To help mitigate Hanford's overall risk, it is important to:

- Retrieve as much waste as possible.
- Develop soil mitigation measures.
- Consider other options than just capping some cribs and trenches.

What the Draft EIS Says

The draft EIS shows that the more tank wastes are retrieved, the better for the environment. USDOE's preferred alternative upholds its obligations in the TPA to retrieve at least 99% of the waste from each tank or the limit of waste retrieval technology capability, whichever is more.

A single-shell tank farm under construction at Hanford years ago.

WHY IT MATTERS

The Tank Closure & Waste Management Environmental Impact Statement (EIS) will support decisions for the final cleanup of much of the waste at Hanford – the tank farms, the rest of the waste in the tanks, and the Fast Flux Test Facility.

It also analyzes impacts to groundwater from waste disposal activities to determine whether it is safe for Hanford to dispose of more wastes.

Comments accepted through March 19, 2010.

Send comments to:

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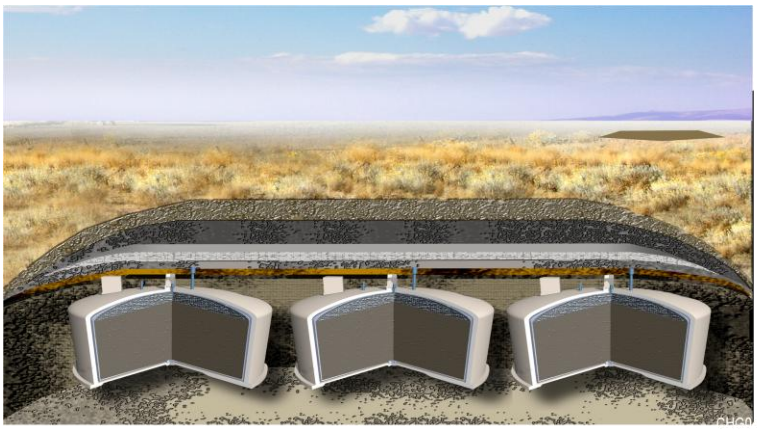
The draft EIS's cumulative impacts show the discharge and disposal of millions of gallons of wastes that were intentionally discharged into the soil and groundwater in disposal sites also contribute to the risk. Although no final decisions have been made, the draft EIS assumed that some of the soil sites will be capped and closed with some waste remaining in the soil.

The Closure Process for Tank Farms and Contaminated Soils

One of the most difficult decisions we face is the closure process for the tank farms and surrounding soils. Should we leave waste in place after tank waste retrieval (landfill closure) or should we "clean close" all or part of the tank system?



Landfill closure, in simple terms, means leaving some waste in place and building a barrier to prevent access by plants or animals. The picture at the right shows a cutaway of a tank farm with a barrier in place.

Clean closure, in simple terms, would mean all waste is removed and the land is restored.

Ecology will make this final decision once the permitting process defines the closure requirements for the tank system.

The proposed milestones require USDOE to submit a complete closure plan for Waste Management Area C by September 30, 2015. Before USDOE can submit a closure plan, they will need to consider all comments on this draft EIS, issue a final EIS, and then issue a Record of Decision. For tank farm closure, USDOE prefers landfill closure, which leaves some waste in place. There are a number of methods for landfill closure. One option would remove contaminants from some of the soil, reducing risk of harm to the environment.

All alternatives for landfill and clean closures will result in impacts to the environment. Measurable impacts are occurring today. Key elements for us to consider for each alternative are:

- Timing of the impacts.
- Significance of the impacts.
- Amount of risk reduction.

Why it's Important

The tank farms have radioactive and chemically dangerous wastes in the tanks, tank system components, and nearby soils surrounding the tanks. Without cleanup action(s) in the tank farms, the risks to human health and the environment are unacceptable. Even with cleanup, risks remain.

No tank farm closure decision eliminates risk. Ecology's priorities are to reduce toxic threats and implement mitigation that reduces remaining risk.

Ecology Analysis

The draft EIS and its assumptions are conservative because of uncertainty. Continued characterization and cleanup will reduce the uncertainty. This will allow us to make better decisions on closure for each of the tank farms.

The proposed TPA milestones reflect our expectations for preliminary closure decisions. Some tank closure alternatives are inconsistent with the schedule. Other alternatives will increase the workforce and spending significantly because they will require larger and more disposal sites.

This draft EIS shows there are greater impacts to environment from deep vadose zone contamination than from the waste remaining in the tanks after retrieval.

Clean Closure and Landfill Closure Pros and Cons

Clean closure would be easier to choose if there were no impacts to workers from excavating the dangerous waste and no impacts from air emissions from excavating the tanks.

For clean closure, USDOE would have to build a substantial disposal site to hold all the contaminated soil and equipment. There is also much uncertainty about clean closure technologies. How would workers safely remove highly contaminated equipment, large contaminated tanks, and huge volumes of contaminated soil?

Landfill closure seems much simpler, but the remaining wastes will continue to threaten the environment. This makes risk mitigation very important. Landfill closure will require evaluation and corrective actions for contamination near the surface and in the deep vadose zone.

TERMS TO KNOW

Tri-Party Agreement - The Hanford Federal Facility Agreement and Consent Order. This landmark 1989 agreement defines roles and sets cleanup schedules that will bring the US Department of Energy's Hanford Site into compliance with key federal environmental laws.

Tri-Party Agencies - The agencies that signed and are bound by the Tri-Party Agreement. They are the U.S. Environmental Protection Agency, Washington state's Department of Ecology, and two branches of USDOE at Hanford – the Office of River Protection for tank waste, and the Richland Operations Office for the rest of Hanford cleanup.

Vadose Zone - The ground between the surface and the water table.

Waste Management Area C - The formal Tri-Party Agreement name for the area containing the group of tanks in 200 East Area called the "C" Tank Farm.

Other Issues

As the TPA agencies make cleanup decisions, we must consider the risk from the millions of gallons of wastes that were intentionally discharged into the soil and groundwater in cribs and trenches. We must have an integrated approach to tank closure that includes the wastes in the soil and their remaining risk.

If we choose complete cleanup or remediation for the deep soil contamination around the tanks and elsewhere in the cribs and trenches, when does it need to happen, and what is the risk of waiting? It is hard to balance the risk of acting now and the risk of waiting for better technologies to emerge.

View the TC&WM EIS online at http://www.gc.energy.gov/nepa or www.hanford.gov