



Future at Stake: Comments Needed on Hanford Cleanup Plan

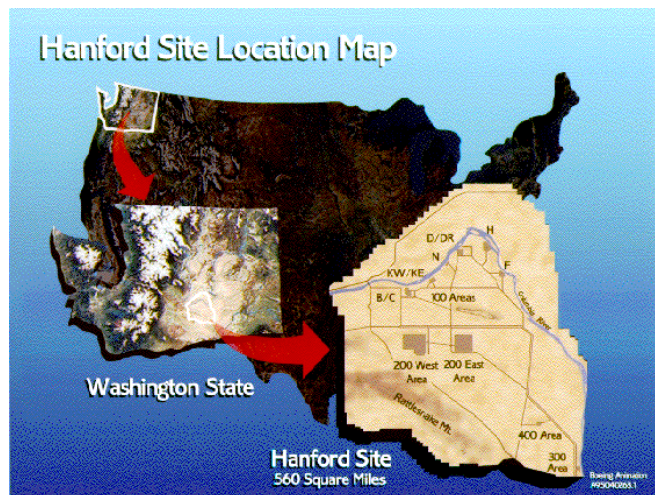
Since 1943, the Hanford Nuclear Site has dominated the landscape of southeastern Washington State, hosting the federal government's program to manufacture plutonium for our nation's nuclear arsenal.

Until 1989, Hanford operated nine separate plutonium production reactors, five reprocessing facilities, experimental reactors and laboratories, and a plethora of support facilities – in the process creating the nation's most contaminated industrial complex.

The federal government has proposed some cleanup plans for Hanford which are out for public comment until March 19, 2010. Of great concern is the plan to abandon a vast amount of radioactive and chemical wastes on site.

The proposals include:

- Disposing of radioactive and chemical wastes from other sites around the nation at Hanford, starting in the year 2022
- Leaving as much as one million gallons or more of high-level nuclear waste in the soil and groundwater beneath Hanford's underground waste storage tanks
- Entombing the Fast Flux Test Facility (FFTF) reactor, which would remove the visible structures but leave behind the radiological and hazardous materials encased in grout.



These alternatives are studied in detail within the 6,000 page monster *draft Tank Closure and Waste Management Environmental Impact Statement (EIS)* which, when finalized, will decide a path forward for cleanup at Hanford.

The US Department of Energy (DOE) is directing this study under a law that requires every major federal action involving a significant environmental impact to produce an assessment of its possible impacts. You couldn't find a better example of "significant environmental impact" than the Hanford Nuclear Site.

Hanford Cleanup is a Big Job

Hanford is our country's most contaminated nuclear facility, storing two-thirds of our nation's radioactive inventory of high-level nuclear waste, most of the low-level waste, and chemical wastes

including carbon tetrachloride, hexavalent chromium, mercury, and a host of others. We need a strong cleanup plan to aggressively contain and treat this waste using advanced technology and expertise.

Because of this, the environmental remediation planned for Hanford is enormous. Addressing Hanford's nuclear legacy will cost a minimum of \$65 billion taxpayer dollars. About \$30 billion has been spent since 1989. Costs could reach the \$120 billion mark. The remediation may take until the year 2090 to complete and because of the long-lived nature of nuclear waste and its dangerous decay process, Hanford may need government control for thousands of years.

Even with this huge investment of time, talent and money, the best we can hope for is that *a portion* of Hanford's massive inventory of radioactive and chemical hazards will be retrieved and treated. Some of the waste will go to an off-site geological repository (deep hole in the ground), and most of the rest will be stored at Hanford (shallow hole in the ground).

The Alternatives

Most of the EIS proposals include mixing the intensely radioactive wastes from the Hanford tank farms into molten glass, sending the high-activity waste to a deep geological repository (yet to be named), and keeping the "low-activity" portion onsite in a large mega-trench.



The tank waste is the biggest issue at Hanford, but there are other problems as well. The EIS looks at how to manage the so-called low-activity waste from the tanks, the low-level radioactive waste in burial grounds and in the soil, and mixed low-level radioactive waste (MLLW) resulting from tank closure and other Hanford activities. The EIS also analyzes what to do with offsite radioactive and chemical wastes that would be imported and disposed of at Hanford in shallow burials.

Your input is needed on the following decisions:

- Should DOE pull out and treat 0 percent, 90 percent, 99 percent, or 99.9 percent of the tank waste?
- Should DOE expand the ability of the Waste Treatment Plant (the vitrification facility or vit plant) to immobilize more waste by building more glass melters, or use some other treatment option (cement storage, or bulk vitrification) to dispose of this waste?
- Should DOE dispose of treated tank waste on-site or off-site?



- Should DOE completely remove the underground waste storage tanks and some of the contaminated soil beneath them or leave them in place?
- Should DOE accept offsite waste and add it to Hanford's waste inventory? Washington voters roundly rebuffed the notion that Hanford should accept offsite waste for burial in a 2004 Initiative – I-297 – at least until the Hanford Site achieves environmental compliance. This aspect of DOE's study is thus highly controversial.

The Stakes

Hanford's waste contamination is large in volume, concentrated in toxicity, and long-lived in nature. This creates severe limits in the actual treatment of much of the waste. Radioactivity cannot be neutralized. It must be immobilized, and the radioactivity decays over time. The time frames for the radioactive decay for certain elements are long. For Plutonium-239, it is 250,000 years. For Technetium-99 it is around for 2.1 million years. For Iodine-129, it is 15 million years. **This means that we will not be able to build a container that will outlast the toxicity of these nuclides.**

Another vexing issue is the toxicity of Hanford's radionuclides. Extremely tiny quantities of radiation can cause illness such as cancer. While federal limits are set to not exceed trillionths of a "curie" (a measurement of radioactivity), Hanford has *hundreds of millions* of curies stored onsite. This means that even if a small fraction of the radioactivity enters the biosphere - water systems, plants and animals – it can cause great harm. The current preference is to leave much of Hanford's radioactive and chemical waste onsite.



The Waste Treatment Plant under construction at Hanford.

The Draft EIS acknowledges that the remediation we undertake will determine future dose levels to the public. For instance, current drinking water standards for plutonium at the shoreline of the Columbia River will be *exceeded by 280 times the permissible limit* in about 1000 years even with an ambitious cleanup effort. If the government carries through on its plan

to import and dispose of offsite waste at Hanford, the risk levels will increase significantly.

In other words, the more remediation that is carried out, the more protective the cleanup will be in the future. Keep in mind, however, that the more the waste is handled, the higher the risk will be to workers. Therefore, in addition to protecting the environment and the public, any cleanup must safely manage risks to workers. Without an aggressive cleanup, downstream risks to members of the public who unwittingly use contaminated soil or water resources will multiply.

Call for Action

At Hanford Challenge, we urge the US government to conduct the most thorough and protective environmental remediation possible. The government did not stint when it built nuclear weapons. We as taxpayers shelled out **\$5.5 trillion** for the nuclear weapons program, according to a Brookings Institution study¹. Even if the environmental remediation effort were to cost hundreds of billions of dollars to accomplish effectively, the money should be spent.

It will be up to the public to insist upon a thorough and effective cleanup that will protect current and future generations. Your participation is urgently needed! Making comments is only one step. Stay tuned to Hanford Challenge for updates about upcoming hearings and meetings where you can learn more about the comment period and about other ways to take action.

How to Comment

First, we urge interested members of the public to attend one of the eight public hearings. **Each hearing will take place from 6-10pm.** The format will be an open house from 6-7 pm, agency presentations at 7pm, followed by Q & A and the formal comment period.

¹ Schwartz, *Atomic Audit*, Brookings Institution Press, Washington, D.C., 1998.

The Oregon Proposal

The State of Oregon has offered preliminary responses to the DOE's proposal. It stated in a recent letter to DOE that perhaps only one of the 11 proposed Tank Closure alternatives for cleanup in the EIS meet the criteria for long-term protectiveness of the Columbia River, legal requirements, and protection of human health and the environment.

The State of Oregon has proposed a new Alternative. Oregon advocates that *at least* 99 percent of the tank waste is removed from each tank, and that this waste be vitrified (put into glass) at Hanford's Waste Treatment Plant. Oregon urges that the capacity of that facility be expanded, and urges DOE to reject "supplemental technologies" for tank waste treatment that don't meet legal requirements. The high-level wastes would be stored on-site until a geo-logical repository becomes available, and the low-activity fraction would be vitrified and disposed of on-site.

Oregon also wants the DOE to take a tank-by-tank approach on the decision of whether or not they remove the underground waste tanks and the contaminants beneath them.

The Oregon proposal is the best of all the proposals so far and deserves support. It comes closest to meeting the requirements of the National Environmental Policy Act, which governs EIS approvals. Compared to the draft EIS, Oregon's proposal far more closely meets the legal standards imposed by the Hanford Federal Facility Agreement and Consent Order (also called the Tri-Party Agreement), and the Nuclear Waste Policy Act, which requires the permanent isolation of specific waste streams at the Hanford Site.

Richland, WA: Tuesday, **January 26th, Richland, WA** at the Red Lion Hanford House, 802 George Washington Way

Boise, ID: Tuesday, **February 2nd**, at the Owyhee Plaza Hotel, 1109 Main St.

Hood River, OR: Tuesday, **February 9th**, at the Columbia Gorge Hotel, 4000 Westcliff Drive

Portland, OR: Wednesday, **February 10th**, the Doubletree Hotel - Lloyd Center, 1000 NE Multnomah St.

La Grande, OR: Monday, **February 22nd** - location TBD

Spokane, WA: Tuesday, **February 23rd** - location TBD

Eugene, OR: Monday, **March 1st** - location TBD

Seattle, WA: Monday, **March 8th** - location TBD

You can also submit your comments by email, fax or letter directly to:

Mary Beth Burandt, Document Manager,
U.S. Department of Energy, Office of River Protection,
P.O. Box 450, Mail Stop H6-60,
Richland, WA 99352,
TC&WMEIS@saic.com,
Fax: 509-376-7701 – Phone: 888-829-6347