

# THE WHEN OF HANFORD CLEANUP

Your guide to Hanford's ever-changing deadlines & the agency agreements that are supposed to keep cleanup on track.

By Hanford Challenge

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*Nothing can suppress the impact of organized citizenry. The preamble of the Constitution starts with we, the people. It doesn't start with we, the corporation. It doesn't start with we, the Congress. It starts with we, the people.*

*--Ralph Nader*

Why should you weigh in on the cleanup of the most contaminated nuclear waste site in the western hemisphere—the Hanford site in southeast Washington State?

This document is designed to provide some context and history about the timeline for cleaning up Hanford so that you can comment on the latest plan (Holistic Agreement) to change the schedule, so you can fight for a safer, more effective cleanup.

The government agencies involved in the cleanup, the U.S. Department of Energy (USDOE), the U.S. Environmental Protection Agency (EPA), and the Washington State Department of Ecology (Ecology), are required by law to collect and respond to public comments about their plans to clean up contamination at Hanford. However, the cleanup is extremely complex—technically, legally, and politically. How can the public influence this massive cleanup?

Public involvement is the key to a Hanford cleanup that is responsive to your values and expectations for protecting the health and safety of the northwest public, environment, and workers. Hanford's history of almost unimaginably daunting challenges has been overcome time and again by public pressure. It is easy for cynicism about Hanford to creep in—government agencies often appear, at best, to ignore the public and, at worst, outwardly disdain seeking and responding to public comment. However, the history of Hanford is clear—the bright spots are, and have always been, a result of the public pressuring government to do the right thing - prioritize safety, accountability, transparency, and environmental protection.

## Invisible Hanford

*If you don't like the news, go out and make some news of your own.*  
*– Scoop Nisker*

The Hanford site was selected in 1942 to produce weapons-grade plutonium for the United States' war effort to build nuclear weapons. The result was the material in the bomb, named Fat Man, that was dropped on Nagasaki near the end of World War II.

After the war, Hanford's production capability continued to expand—nine nuclear reactors and associated processing plants produced approximately two-thirds of the nation's weapons-grade plutonium in the decades following the war (Gerber, 1992).

Despite its importance in the U.S. defense strategy and its global, geo-political importance during the Cold War, Hanford was essentially invisible. Many in the northwest were aware that the 586 square mile site produced weapons material. But very few people knew, or even asked, what “making weapons material” meant—How is plutonium made? Is the process dangerous? Is there dangerous waste produced? And if they would have asked, they would not have received answers; Hanford operated under the Atomic Energy Act which provided a cloak of secrecy for all its activities and prevented external regulation.

During the 1980s, several issues arose that put Hanford in the public eye:

- The Chernobyl accident occurred, causing northwest residents and politicians to ask whether such a disaster could happen at Hanford.
- President Reagan planned to expand the US nuclear arsenal and a key to that was restarting the PUREX plant at Hanford; one of the largest nuclear fuel reprocessing plants in the world (Franklin, 2017).
- Hanford emerged as a favored site for disposing the nation's high-level nuclear waste from commercial power reactors. This became a high-profile, political issue at the center of an electoral race in Washington that ultimately gave Democrats the majority in the U.S. Senate (Camden, 2014).

Increased attention on Hanford and its activities resulted in predictably increased scrutiny from the media and public:

- In 1984, Unitarian minister (and organic chemist) Bill Houff gave a sermon titled “The Silent Holocaust” where he highlighted the,

*...reckless use and misuse of radioactive elements...which may well turn out to be an order of magnitude worse than the World War II Holocaust in terms of the human suffering it ultimately causes and the destructiveness that is incurred to future civilizations...despite massive evidence to the contrary, American officialdom...has uttered almost no words of alarm, but have frequently taken extravagant measures to silence those who do sound a warning (Houff, 1984).*

This sermon led to the creation of the Hanford Education Action League (HEAL), an organization focused on breaking down the walls of secrecy at Hanford to determine if weapons production activities had impacted the health of people or the environment.

- In 1986, billboards were displayed in Portland opposing Hanford as a site for the nuclear waste repository: *The billboards contain a black-and-white cartoon face contorted in a scream, surrounded by a green aura and captioned: “Hanford—Scream About It”* (AP, 1986).
- Investigative reporters throughout the northwest were covering Hanford more closely, including Karen Dorn-Steele at the Spokesman-Review. With media and activists working together, The Spokesman-Review, HEAL, and the Environmental Policy Institute in Washington, D.C. filed a Freedom of Information Act request to obtain the environmental monitoring reports from Hanford’s operations. After wrangling in court, USDOE ultimately released over 15,000 pages of historical reports and Hanford’s story began to emerge (AHF, 2019).

The 15,000 pages of environmental reports outlined a decades-long story of a site that operated with impunity, no accountability, and a focus on producing weapons material at the expense of worker, public, and environmental health and safety.

Hanford was now, at the end of the 1980s, very visible.

### **The Birth of the Hanford Cleanup: The Tri-Party Agreement (TPA)**

*A cleanup mission this large, complex, expensive and long had never been done. Therefore those involved in setting these milestones “guesstimated” many, hoping for others, and quite frankly made up some.*

--Bill Dixon (ODOE, 2009)

The questions raised based on Hanford’s now-public history were obvious and pressing: What should be done about the past off-site releases that may have impacted the health of residents in the northwest? How should ongoing activities at the site be managed? How should Native American Tribes that have sovereign, treaty-based relationships with the federal government be involved? How should workers be protected? What should be done about the legacy of waste and contamination present at the site and what role should external regulators play?

For the purposes of this document, we will focus on that last question: What should be done about the legacy of waste and contamination present at the site and what role should external regulators play? The site contained multitudes of waste sites that had never been subject to environmental laws enforced by the State of Washington and the EPA. At the top of the list was the Superfund law (CERCLA, enforced by EPA) and the Resource Conservation and Recovery Act (RCRA, enforced by Ecology). What would be the process for enforcing these laws at Hanford?

Even the USDOE Manager at the time, Mike Lawrence, acknowledged the site was out of compliance and had few options, *“The only way around that was to find an agreement,”* he said (NPS, 2023). USDOE, Ecology, and EPA came up with an answer: The Tri Party Agreement. The entire TPA conceptualization keyed and centered on one word: compliance. If a gas station has leaking underground tanks, it is considered out of compliance with environmental laws, and

a regulator can enforce the law (e.g., fining, closing the business, or even criminally prosecuting the owner). The Hanford site had hundreds of waste sites and facilities that were out of compliance with environmental laws—including 177 huge, leak-prone underground waste tanks containing a mix of high-level radioactive and chemical wastes. (At least 67 of those tanks are assumed to have leaked over a million gallons of high-level waste into the soil and groundwater. Currently there are two actively leaking tanks.)

The Tri-Party Agreement was signed in May of 1989 by the three agencies and it created a legal apparatus for Hanford to be *considered in compliance* with the applicable environmental laws (primarily CERCLA and RCRA). The workhorses of the TPA are known as ‘milestones’—these are specific activities to be completed by USDOE by a specific date. If USDOE cannot or does not meet these milestones, the regulators can take appropriate enforcement actions under the respective laws. Generally, missed milestones are met with the three agencies negotiating changes to the TPA. But the regulators have more harsh enforcement actions available to them, which they have used, including fines and/or lawsuits.

## **Treating and Disposing Hanford Tank Waste**

*It (tank waste treatment) was a complete pipe dream. If the real cost had been known, the department (of Energy) probably wouldn't have let us sign it, but we had a lot more autonomy in those days.*

*-- Bob Rosselli, USDOE (NPS, 2023)*

Over its history, Hanford operations released wastes to the air, soil, and Columbia River. However, some of the most dangerous waste from reprocessing spent nuclear fuel was stored in waste tanks. Between 1943 and 1986, Hanford built 177 large underground waste tanks (most are approximately 75 feet in diameter, 35 feet tall, and can hold approximately one million gallons of waste). 149 of them are “single-shell” meaning they have one layer of carbon steel for containing waste, while 28 have two carbon steel shells and are known as “double-shell” tanks.

In 1989, the TPA laid out a plan for treating and disposing of waste in Hanford’s tanks. The plan was to:

- Retrieve waste from tanks and pretreat it to separate low-activity waste from high-activity waste.
- Mix the low-activity waste with cementitious materials for disposal in underground grout vaults at Hanford.
- Mix the high-activity portion with glass-making materials and melt it into a glass waste form (a process called vitrification) for disposal in a national repository.

The TPA milestones associated with this plan required USDOE to:

- Mix a portion of tank waste and dispose it in 14 grout vaults by September 1994.
- Begin pretreating tank waste by October 1993.
- Begin operating the Hanford Waste Vitrification Plant to melt tank waste into glass by December 1999, (TPA, 1989).

USDOE was unable to meet these milestones. In short, technical and management difficulties were encountered in trying to pretreat, grout, and vitrify tank waste. The TPA agencies negotiated several delays in the schedule and developed research and development approaches to overcome the programmatic problems. But none were successful—only two grout vaults were filled with test waste, not actual tank waste, and the facility to pretreat and vitrify waste was never even constructed.

By 1994, many were questioning the viability of the entire tank waste treatment and disposal program, as well as USDOE's ability to manage it to success (GAO-RCED-93-99). As a result, the TPA agencies convened the Tank Waste Task Force (TWTF) to provide input on the direction of the tank waste treatment and disposal program. The TWTF included a breadth and depth of public interest groups, local and regional governments, and Tribal interests (TWTF, 1993).

As a result, and to much fanfare, the TPA was revised with a new approach. The grout program was cancelled and USDOE committed to vitrifying all of Hanford's tank waste. Moreover, the technical performance expectations of pretreating waste were made more realistic; instead of a very difficult unproven pretreatment process, the program would rely on simple pretreatment technologies that already existed at the Hanford site. Specifically, the 1994 amended TPA required USDOE to:

- Begin operating a low-activity waste pretreatment facility by December 2004 and a high-activity pretreatment facility by June 2008.
- Begin operation of a low-activity vitrification facility by June 2005 and a high-activity vitrification facility by December 2009.
- Complete pretreatment and vitrification of all tank waste by December 2028 (TPA, 1994).

So, at the beginning of 1994, the program was starting over, with widespread regional approval and support for the plan. However, the hope faded quickly as USDOE fundamentally altered its contracting approach and continued to suffer failures in overcoming technical issues associated with tank waste treatment. (Thank you, whistleblowers for making these issues public so we could face reality and try to get a treatment plant that works!)

As the delays continued to accumulate, TPA milestones were altered and they began to reflect less requirements for on-the-ground progress and more plans and investigations to determine if, how, and when the program would begin to experience some level of success by actually treating tank waste.

In the face of continued delays, negotiations, and renegotiations of milestones, Ecology began to exert its regulatory authority, filing a lawsuit in 2008. The settlement of that lawsuit in 2010, created the [Consent Decree](#). (The Consent Decree settlement agreement gives the court ultimate jurisdiction for some of the tank waste cleanup deadlines and has been changed multiple times since 2010.) The discussions that resulted in the 2010 Consent Decree also triggered changes to

the Tri-Party Agreement milestone for completing tank waste vitrification, pushing the deadline from December 2028 to December 2047 (TPA, 2011).

Just one year later, USDOE notified Ecology that milestones were again at risk and technical issues would continue to delay the pretreatment and vitrification facilities. Subsequent negotiations were unsuccessful, leaving the setting of new milestones in the hands of the judge that oversaw the previous lawsuit. In 2016 the judge set the new milestones and now USDOE was required to:

- Begin operations of the low-activity vitrification facility by 2023.
- Begin operations of the pretreatment and high-activity facilities by 2033.

By 2019, Ecology was doubtful USDOE could meet upcoming tank waste milestones and the Director of Ecology, Maia Bellon, sent a letter to USDOE saying:

*I am writing to open a frank discussion with you and your Hanford team about the repeated challenges the U.S. Department of Energy has had, and continues to have, to meet milestones for tank waste retrievals and treatment as set forth in the amended consent decree... (Bellon, 2019).*

Ecology detailed its concerns:

- The low-activity waste vitrification facility was experiencing cost growth and potential schedule delays.
- USDOE had unilaterally ceased design and construction activities associated with the high-activity pretreatment and vitrification facilities.
- Funding levels and programmatic activities were not sufficient to complete tank retrievals by 2040 and vitrification by 2047.
- Double-shell tank storage space was insufficient to support the treatment activities.

And proposed the holistic negotiations:

*We are willing, in good faith, to work with you to collectively identify a holistic and realistic path forward for Hanford's tank waste, one that addresses all aspects of the tank waste mission and, ideally, does not need to be revisited every few years...the State proposes entering into a period of finite negotiations that will last no later than 6-9 months and put us on a holistic path forward that addresses all of Hanford's tank waste through to completion of treatment (Bellon, 2019).*

The letter was sent, to the month, 30 years after the signing of the TPA. Three decades of tank waste treatment efforts had yielded little more than delays and not-yet-completed treatment plants. Treating tank waste remained a pipedream.

USDOE agreed to Ecology's proposal and the discussions became known as the "holistic negotiations." They were conducted with very little transparency and with an interested public left to guess at the proceedings. Four years into the 6–9-month negotiations, an

agreement was announced on April 29, 2024, which is the subject of the current comment period that runs until September 1, 2024. To read the Holistic Settlement Agreement [click here](#).

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## References

AHF, 2019, *Karen Dorn Steele interview*, Voices of the Manhattan Project, Atomic Heritage Foundation, January 2019.

AP, 1986, *Anti-Hanford Billboards spring up in Portland*, Associated Press, November 12<sup>th</sup> 1986.

Bellon, 2019, *Tank Waste Retrieval and Treatment Pathway at Hanford*, Maia Bellon letter to Ann White, Department of Ecology, May 2019.

Camden, 2014, *Hanford 'bomb factory' talk of Reagan's 1986 Spokane visit*, Jim Camden, Spokesman Review, July 2014.

Franklin, 2017, *Interview with Michael Lawrence*, Robert Franklin, Hanford Oral History Project, Washington State University Tri-Cities, February 2017.

GAO-RCED-93-99, *Nuclear Waste: Hanford Tank Waste Program Needs Cost, Schedule, and Management Changes*, U.S. General Accounting Office, 1993.

Gerber, 1992, *Legend and Legacy: Fifty Years of Defense Production at the Hanford Site*, M.S. Gerber, Westinghouse Hanford Richland, Washington, 1992.

HAB, 1995, *Environmental Restoration Refocusing and 200-AP-1 Interim Action Advice*, Hanford Advisory Board Advice 9, January 1995.

Houff, 1984, *Silent Holocaust*, Houff, W. H. Sermon, Unitarian Church, Spokane, Washington, May 1984.

NPS, 2023, *From Production to Cleanup: The Tri-Party Agreement*, Manhattan Project National Historical Park, National Park Service, 2023.

ODOE, 2009, *Hanford Cleanup: The First 20 Years*, Oregon Department of Energy, July 2009.

TPA, 1989, *Hanford Federal Facility Agreement and Consent Order*, 89-10, Washington State Department of Ecology, United States Environmental Protection Agency, United States Department of Energy, May 1989.

TPA, 1994, *Hanford Federal Facility Agreement and Consent Order*, 89-10, Fourth Amendment, Washington State Department of Ecology, United States Environmental Protection Agency, United States Department of Energy, January 1994.

TPA, 2011, *Hanford Federal Facility Agreement and Consent Order*, 89-10, Washington State Department of Ecology, United States Environmental Protection Agency, United States Department of Energy, as amended through July 18, 2011.)

TWTF, 1993, *Hanford Tank Waste Task Force Final Report*, September 1993.