

National Academies of Sciences (NAS) Review of Report on Supplemental Treatment Options for Low-Activity Waste at Hanford

Comment Deadline: Midnight PST on October 31, 2019

Say What?

A step by-step-guide to creating a comment you can stand by.

1. What are you commenting on?

Background

The Hanford Site has 56 million gallons of high-level nuclear waste stored in 177 underground tanks. The plan is for this waste to be separated into two waste streams (high-level and low-activity) and immobilized in glass, but the Waste Treatment Plant can't handle all of the waste. After decades of treatment, the overall volume of waste will increase through the addition of liquids, resulting in 54 million gallons of low-activity waste still needing treatment¹. There has yet to be a decision about what to do with this waste, so there have been studies looking at different options for immobilizing the waste to see how well they contain the waste over time and how estimated costs for each treatment option compare. This is a process that has been going on for some time.

You are commenting to the National Academies of Sciences (NAS) on their review of a report comparing three options for treating low-activity waste at Hanford. The three options that were reviewed are vitrification (putting the waste in glass), grout (like cement), and steam reforming. The only real contenders in the report are vitrification and grout.

The different waste forms analyzed and compared in the report and review are for the estimated 54 million gallons of low-activity waste that Hanford's Waste Treatment Plant does not have the capacity to treat. This report and review are part of the data that will feed the decision-making process about how to treat these 54 million gallons of low-activity waste and the location for its final disposition.

We are in this process of analysis because Congress tasked the Department of Energy through the 2017 National Defense Authorization Act to contract with a Federally Funded Research and Development Center (FFRDC) "to conduct an analysis of approaches for treating the portion of low-activity waste at the Hanford Nuclear Reservation." Savannah National Labs, a DOE contractor, was assigned the job and has been comparing three different waste forms for Hanford's low-activity waste. The FFRDC report is then reviewed by the National Academies of Sciences (NAS) which provides its draft reviews to WA State, the public and stakeholders, for public comment. It will then provide its final review of the FFRDC

¹ This figure obtained from the [FFRDC report on p. 8 of the Executive Summary](#). The Washington State Department of Ecology Nuclear Waste Program does not concur with this figure.

report to the Department of Energy which give a final report to Congress, including comments from WA State. This is the third review by the NAS.

Hanford Challenge Concerns

Trouble has plagued the path to Hanford's tank waste removal, treatment and disposal since efforts towards vitrification began. Attempts to find a cheaper, faster alternative to immobilizing tank waste in glass have been ongoing throughout this timeline, and have become increasingly desirable as the Waste Treatment Plant technical challenges continue to escalate cost and justify delay.

The trajectory of tank waste treatment at Hanford has come into question more sharply in recent years with various efforts underway to make it easier to reclassify high-level waste as low-activity waste, which would allow for more waste to be left behind in tanks and in the ground. We want to be clear that Hanford Challenge considers Hanford's tank waste to be high-level waste as defined by the Nuclear Waste Policy Act (e.g. it was high-level waste when it was put in the tanks, it is still high-level waste). We are concerned that the desire to demonstrate progress in a cleanup that presents unprecedented technical challenges, chronic mismanagement that has led to predictable cost overruns and delays, and end-dates beyond the lifespan of many who are tackling these challenges tilts decision making towards faster, cheaper solutions at the expense of environmental protectiveness and human health and safety.

Supplemental treatment for the portion of Hanford's tank waste that the Waste Treatment Plant would be unable to immobilize in glass has been the primary focal point of reports, reviews, and significant effort to find alternatives to vitrification, and have all ended with the conclusion that nothing proposed is "as good as glass."

The FFRDC report and NAS review focus on options for the future treatment, storage and disposal of an estimated 54 million gallons of Low-Activity Waste (LAW), including existing waste and waste generated during the operation of the WTP. Unless this waste undergoes additional treatment, it will contain dangerous long-lived radionuclides, notably technetium-99, with a half-life of 211,000 years and iodine-129, with a half-life of 15 million years. The sheer volume of this waste and the presence of these long-lived radionuclides require that the decision about what form this waste will take and where it will be disposed must be made with the best available data and a rigorous and scientifically defensible analysis.

Hanford Challenge is deeply concerned with the conclusion of the FFRDC report that grout is the preferred option for Hanford's SLAW form and that grouted SLAW could be safely disposed at Hanford's Integrated Disposal Facility. Hanford Challenge firmly believes that waste containing long-lived radioactive toxins that will take millions of years to decay should not be buried at Hanford above an aquifer that feeds into the Columbia River, where it poses a threat of irreversible harm over an extraordinarily long timeline.

Hanford Challenge is also concerned about the allure of cost-savings, not environmental protectiveness, driving decision making. Truly protecting the environment and human health and safety needs to be the primary focus of decisions about Hanford's tank waste, not cost.

You can read our comments [here](#) and our sample comment [here](#), which are also included in the resources section below.

2. How will you submit your comments to the National Academies of Sciences? What are the options?

- By mail:** Charles D. Ferguson, Ph.D.
Board Director
Nuclear and Radiation Studies Board
Division on Earth and Life Sciences
The National Academies of Sciences, Engineering, and Medicine
500 Fifth St, NW
Washington, D.C. 20001
- By Email:** Hanford@nas.edu
- Web Form:** <https://www.surveygizmo.com/s3/5153331/Hanford-Report-Comment-Form>
- In Person:** Richland, WA Public Meeting on October 31, 2019

3. Is there a deadline?

Yes, midnight PST on October 31, 2019.

4. Will there be a public meeting?

Thurs, 10/31/19 in RICHLAND, WA | 8:30am-5pm

Courtyard by Marriott Richland Columbia Point

480 Columbia Point Drive

Richland, WA 99352

Info [here](#).

Draft agenda [here](#).

Webcast of meeting here: <http://www.tvworldwide.com/events/nas/191031/>

5. What information is available to learn about the issue?

- **FFRDC Report:** [The Federally Funded Research and Development Center Draft Report on Supplemental Treatment of Hanford's Low-Activity Waste written through Savannah River National Labs](#)
- **NAS Draft Review #3:** [The National Academies of Sciences Review of the FFRDC Report #3](#)
- **NAS Webpage:** [The National Academies of Sciences Reports and Meeting Summaries Webpage on this topic](#)
- **Oregon Presentation:** [Oregon Department of Energy Presentation on the Review and the Report](#)
- [Hanford Challenge Comments](#)
- [Oregon Department of Energy Comments](#)
- [Sample Public Comments prepared by Hanford Challenge](#)

6. Given what you know at this point, are you ready to say something?

- If yes, say it! If no, look to examples for help, see above.

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