



Oregon

Kate Brown, Governor



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The Honorable Ron Wyden
221 Dirksen Senate Office Building
Washington D.C. 20510

Dear Senator Wyden:

In September, the Energy Communities Alliance (ECA)¹ released a document titled *“Waste Disposition: A New Approach to DOE’s Waste Management Must be Pursued.”* The document focuses on the final disposition of high-level radioactive waste at U.S. Department of Energy (DOE) nuclear weapon production sites and includes recommendations to Congress and DOE.

While some of the ECA recommendations deserve further consideration, the Oregon Department of Energy is concerned that the paper advocates using grout as a treatment form for much of Hanford’s tank waste – a treatment form which has repeatedly been rejected as not able to safely hold some of the more mobile and long-lived radioactive constituents. The ECA paper advocates that at “Hanford alone, a large fraction of the tank waste could be dispositioned in a form other than glass...”

The Oregon Department of Energy is bringing this to your attention because the idea of using grout appears to once again be gaining momentum, and from more than just the ECA. ECA has actively been promoting their paper – testifying before at least one Congressional committee and raising it at two national DOE meetings with state and tribal representatives. A U.S. Government Accountability Office (GAO) report from May 2017 recommends DOE update information on the performance of grout for some of the low-activity fraction of Hanford’s tank waste. And, the National Academy of Sciences conducted a workshop on December 12-13 focusing on alternate waste treatment forms at Hanford, including grout, as part of a study required by the 2017 Defense Authorization Act.

Given your multi-decade leadership on Hanford, you are well aware that previous attempts by DOE and past Administrations to find cheaper and faster ways to deal with Hanford’s tank wastes have only led to additional delays and costs. The Oregon Department of Energy is skeptical of ECA’s claims of \$40 billion or more in savings (if their entire suite of recommendations are enacted) and believes that once again looking for that cheaper and faster treatment option will simply make it more difficult to stay on track towards getting initial vitrification capability on-line in the early 2020s.

Much of the ECA paper focuses on changing or clarifying the definitions of high-level waste so that waste can be dealt with based on risk rather than origin. The Oregon Department of Energy does not object to the concept that high-level waste which has been treated to remove key radioactive constituents can be safely immobilized for disposal at Hanford. That’s been the entire premise behind plans to treat Hanford’s tank waste since the beginning.

¹ The Energy Communities Alliance represents elected and appointed local government officials near U.S. Department of Energy nuclear weapon production sites.

However, since 1993, the plan for immobilizing the low-activity fraction of Hanford's tank waste has been through the use of vitrification, after it was determined that grout was not an acceptable waste form. As DOE's own documentation has demonstrated, disposing of grouted tank waste at Hanford would result in repeated re-contamination of the groundwater beyond regulatory limits, exceeding safe drinking water standards. DOE's analysis through the decade-long Tank Closure and Waste Management Environmental Impact Statement demonstrated that grout would not sufficiently hold certain long-lived mobile radionuclides, such as technetium 99 and iodine 129. The contaminated groundwater would eventually pose a threat to the Columbia River.

The ECA paper touts "significant technology development" in grout technology, but the paper does not elaborate on these developments. The paper refers to the May 2017 GAO report to support this statement, yet the GAO report also does not provide detailed technical validation of this claim. Without additional specific information on grout performance, the Oregon Department of Energy remains unconvinced that grout will be able to hold long-lived and highly mobile radionuclides which are the primary long-term risk drivers at Hanford.

The ECA paper also neglects to mention that the treatment path of vitrification was negotiated in good faith by the State of Washington and DOE. In 1993, Washington agreed to accept delays in tank waste treatment at Hanford so that the Savannah River Site could move forward with its vitrification facility. In return, DOE agreed to vitrify the low-activity waste fraction of Hanford's tank waste, a commitment memorialized in the Hanford Tri-Party Agreement through enforceable milestones.

The State of Washington position is that no other technologies have proven to be sufficiently protective of human health and the environment than vitrification. Washington has held firm that for any tank waste disposed at Hanford, the treated waste form must be "as good as glass" in order to adequately protect the Columbia River and local communities. The Oregon Department of Energy agrees.

The premise of grout instead of glass automatically resulting in significant cost and time savings is also flawed. Cost models and profiles completed over the years by DOE have shown that other technologies are at best 'cost neutral.' Grout holds less waste than glass, so as much as three times more grouted waste would be produced – increasing disposal capacity needs, costs, and requiring new regulatory analysis to cover the increased on-site disposal. The design and construction of the grout facility would add additional costs, plus whatever pre-treatment capabilities are necessary. The assumption that successful use of grout at the Savannah River Site will therefore translate to Hanford should also be questioned, as Hanford's tank wastes are very different and not well defined.

The Oregon Department of Energy encourages you to oppose using grout as a treatment form for Hanford tank waste to be disposed on site unless it can be proven as effective as vitrification. If given the opportunity to hear a presentation on the ECA paper or to discuss the issue with DOE officials, we hope that you will raise the concerns discussed in this letter.

Should you have questions, please contact me at 503-378-4906.

Sincerely,



Ken Niles
Assistant Director for Nuclear Safety