



This document is scheduled to be published in the Federal Register on 05/26/2020 and available online at federalregister.gov/d/2020-11192, and on govinfo.gov

6450-01-P

DEPARTMENT OF ENERGY

Notice of Availability of Draft Waste Incidental to Reprocessing Evaluation for Vitrified

Low Activity Waste for Onsite Disposal at the Hanford Site, Washington

AGENCY: U.S. Department of Energy.

ACTION: Notice of availability.

SUMMARY: The U.S. Department of Energy (DOE) announces the availability of the *Draft Waste Incidental to Reprocessing Evaluation for Vitrified Low Activity Waste Disposed Onsite at the Hanford Site, Washington* (Draft WIR Evaluation). The Draft WIR Evaluation demonstrates that the vitrified low activity waste (VLAW), from which long-lived insoluble radionuclides and cesium has been or will be removed before vitrification at the Low Activity Waste Vitrification Facility and subsequent disposal onsite at the Integrated Disposal Facility (IDF), is waste that is incidental to reprocessing of spent nuclear fuel, is not high-level radioactive waste (HLW), and may be managed (disposed of onsite) as mixed low-level radioactive waste (MLLW). DOE prepared the Draft WIR Evaluation pursuant to DOE Order 435.1, *Radioactive Waste Management*, and the criteria in DOE Manual 435.1-1, *Radioactive Waste Management Manual*. DOE is consulting with the Nuclear Regulatory Commission (NRC) before finalizing this evaluation. DOE is also making the Draft WIR Evaluation available for comments from States, Tribal Nations, stakeholders and the public. After consultation with NRC, carefully considering comments received, and performing any necessary revisions of analyses and technical documents, DOE will prepare a final WIR evaluation. Based on the final WIR Evaluation, DOE may determine, in a future WIR Determination, whether the VLAW is incidental to reprocessing, is non-HLW, and may be managed (disposed of onsite at the IDF) as MLLW.

DATES: DOE invites comments on the Draft WIR Evaluation during a 120-day comment period beginning May 26, 2020, and ending on September 26, 2020. DOE will consider all comments received by September 26, 2020. DOE will also consider comments received after that date to the extent practical. A public webex meeting on the Draft WIR Evaluation will be held on June 10, 2020. Before the meeting, DOE will issue stakeholder and media notifications and publish an additional notice in the local newspaper providing the date, time, and webex information of the public meeting. Information on the public meeting date and webex information also will be available before the meeting at the website listed in

<https://www.hanford.gov/pageAction.cfm/calendar>.

ADDRESSES: The Draft WIR Evaluation is available on the Internet at *<https://www.hanford.gov/page.cfm/VitrifiedLowActivityWaste>* and will be publicly available for review at the following locations once these facilities re-open following resolution of public health concerns associated with the coronavirus: U.S. DOE Public Reading Room, 1000 Independence Avenue, SW., Washington, DC 20585, phone: (202) 586-5955, or fax: (202) 586-0575; and U.S. DOE Public Reading Room located at 2770 University Drive, Consolidated Information Center (CIC), Room 101L, Richland, WA 99354, phone: (509) 372-7303. Written comments should be submitted to: Ms. Jennifer Colborn, U.S. Department of Energy, Office of River Protection, 2440 Stevens Drive, Richland, WA 99354. Alternatively, comments may also be filed electronically by e-mail to: *VLAWDraftWIR@rl.gov*

FOR FURTHER INFORMATION CONTACT: For further information about this Draft WIR Evaluation, please contact Ms. DaBrisha Smith by mail at U.S. Department of Energy,

Office of River Protection, 2440 Stevens Drive, Richland, WA 99354, by phone at 509-376-4306, or by email at dabrisha_m_smith@orp.doe.gov.

SUPPLEMENTARY INFORMATION: The Hanford site currently stores radioactive waste in underground storage tanks. The waste was generated, in part, by the prior reprocessing of spent nuclear fuel during the Manhattan Project and Cold War eras, for defense-related nuclear research, development and weapons-production activities. Hanford's current mission focuses on the cleanup and remediation of those wastes and ultimate closure of the site. As part of that mission, DOE is retrieving waste from the Hanford tanks, and has decided to separate the tank waste into a low-activity waste stream and a high-level radioactive waste stream.

The Draft WIR Evaluation concerns approximately 23.5 million gallons (Mgal) of separated, pretreated and vitrified low activity waste (V LAW), from some of the underground tanks at the Hanford Site in the State of Washington. For the low-activity tank waste at issue in this Draft WIR Evaluation, DOE plans to use the direct-feed low-activity waste (DFLAW) approach. The DFLAW approach is a two-phased approach that will separate and pretreat supernate (essentially the upper-most layer of tank waste that contains low concentrations of long-lived radionuclides) from the Hanford tanks, to generate a low-activity waste (LAW) stream. For Phase 1, the DFLAW approach will begin with in-tank settling, separation (removal by decanting) of the supernate (including dissolved saltcake and interstitial liquids), filtration, and then cesium removal using ion-exchange columns in a tank-side cesium removal (TSCR) unit. For Phase 2, DOE will treat additional supernate (including dissolved saltcake and interstitial liquids) using the same processes with either an additional TSCR unit or a filtration and cesium removal facility. The DFLAW approach is expected to remove more than 99% of the cesium and remove other key radionuclides.

After pretreatment, the LAW stream will be sent by transfer lines to the Low Activity Waste Vitrification Facility at the Hanford Site, where it will be vitrified (immobilized in borosilicate glass). Approximately 13,500 containers of vitrified waste will be produced using the DFLAW approach. DOE plans to dispose of the pretreated and vitrified LAW in the onsite IDF, a land disposal facility at the Hanford Site for MLLW.

DOE Manual 435.1-1, which accompanies DOE Order 435.1, *Radioactive Waste Management*, provides for a rigorous evaluation process that DOE uses to determine whether or not certain waste from the reprocessing of spent nuclear fuel is incidental to reprocessing, is not HLW and may be managed as LLW. This process, in relevant part, requires demonstrating that:

- (1) The wastes have been processed, or will be processed, to remove key radionuclides to the maximum extent that is technically and economically practical;
- (2) The waste will be managed to meet safety requirements comparable to the performance objectives set out in 10 Code of Federal Regulations (CFR) Part 61, Subpart C, *Performance Objectives*; and
- (3) The waste will be managed, pursuant to DOE authority under the *Atomic Energy Act of 1954*, as amended, and in accordance with the provisions of Chapter IV of DOE Manual 435.1-1, provided the waste will be incorporated in a solid physical form at a concentration that does not exceed the applicable concentration limits for Class C LLW as set out in 10 CFR 61.55, *Waste Classification*.

The Draft WIR Evaluation documents and demonstrates that the disposal of VLAW at IDF will meet the above-referenced criteria in DOE Manual 435.1-1. DOE is predicated this Draft WIR Evaluation on extensive analysis and scientific rationale, using a risk-informed approach,

including analyses presented in the “*Performance Assessment for the Integrated Disposal Facility, Hanford Site, Washington*” (IDF PA). Specifically, this Draft WIR Evaluation shows that key radionuclides (those radionuclides which contribute most significantly to radiological dose to workers, the public, and the environment as well as radionuclides listed in 10 CFR 61.55) have been or will have been removed to the maximum extent technically and economically practical. Based on the analyses in the IDF PA, this Draft WIR Evaluation also projects that potential doses to a hypothetical member of the public and hypothetical inadvertent intruder for 1,000 years (and beyond) after IDF closure will be well below the doses specified in the performance objectives and performance measures for LLW. In addition, the analyses demonstrate that there is reasonable expectation that safety requirements comparable to the NRC performance objectives at 10 CFR part 61, Subpart C will have been met. As also shown in the Draft WIR Evaluation, the VLA will have been incorporated into a solid form that does not exceed concentration limits for Class C LLW.

DOE is consulting with NRC on this Draft WIR Evaluation and also making the Draft WIR Evaluation available for comments from the States, Tribal Nations, stakeholders and the public. After consultation with NRC, carefully considering comments received, and performing any necessary revisions of analyses and technical documents, DOE plans to issue a final WIR Evaluation. Based on the final WIR Evaluation, DOE may determine, in a future WIR Determination, whether the VLA is incidental to reprocessing, is non-HLW, and may be managed (disposed of onsite at IDF) as LLW.

Signing Authority

This document of the Department of Energy was signed on May 15, 2020, by Elizabeth A. Connell, Associate Principal Deputy Assistant Secretary for Regulatory and Policy Affairs,

pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the *Federal Register*.

Signed in Washington, DC, on May 20, 2020.

Treena V. Garrett,

Federal Register Liaison Officer,

U.S. Department of Energy.

[FR Doc. 2020-11192 Filed: 5/22/2020 8:45 am; Publication Date: 5/26/2020]