



DEPARTMENT OF ENERGY

Notice of Availability of Draft Basis for Section 3116 Determination for Closure of the Calcined Solids Storage Facility at the Idaho National Laboratory Site, Idaho

AGENCY: Department of Energy.

ACTION: Notice of availability.

SUMMARY: The U.S. Department of Energy (DOE) announces the availability of the *Draft Basis for Section 3116 Determination for Closure of the Calcined Solids Storage Facility at the Idaho National Laboratory Site* (Draft CSSF 3116 Basis Document). The Draft CSSF 3116 Basis Document demonstrates that the Calcined Solids Storage Facility (CSSF) at closure after waste retrieval is not high-level radioactive waste (HLW) and may be disposed of in place as low-level radioactive waste (LLW). DOE prepared the Draft CSSF 3116 Basis Document pursuant to Section 3116 of the “Ronald W. Reagan National Defense Authorization Act for Fiscal Year 2005” (hereafter NDAA Section 3116). DOE is consulting with the U.S. Nuclear Regulatory Commission (NRC), and is also making the Draft CSSF 3116 Basis Document available for comments from states, Tribal Nations, stakeholders, and the public. After consultation with the NRC, carefully considering comments received, and performing any necessary revisions of analyses and technical documents, DOE will prepare a final CSSF 3116 Basis Document. Based on the final document, the Secretary of Energy, in consultation with the NRC, may determine in the future whether the stabilized CSSF bins (including integral equipment), transport lines, and any residual waste remaining therein at closure are non-HLW and may be disposed of in place as LLW.

DATES: DOE invites comments on the Draft CSSF 3116 Basis Document during a 45-day comment period beginning the calendar day after publication of this Notice of Availability. A public virtual meeting on the Draft CSSF 3116 Basis Document will be held on a date to be announced, currently anticipated to be November 1, 2023. Before the meeting, DOE will issue

stakeholder and media notifications and publish a notice in the local newspaper providing the date, time, and virtual platform information of the public meeting. Information on the public meeting date and virtual platform information also will be available before the meeting at the website listed in <https://www.id.energy.gov/insideNEID/PublicInvolvement.htm>.

ADDRESSES: The Draft CSSF 3116 Basis Document is available on the Internet at <https://www.id.energy.gov/insideNEID/PublicInvolvement.htm> and will be publicly available for review on the U.S. DOE Idaho Operations Office Public Reading Room web page at <https://inl.gov/about-inl/general-information/doe-public-reading-room>. Written comments should be submitted to: Mr. Greg Balsmeier, INTEC Program Manager for the Calcine Disposition Project, U.S. Department of Energy Idaho Operations Office, 1955 Fremont Ave, Idaho Falls, ID 83401. Alternatively, comments may also be filed electronically by e-mail to: DraftCSSFBasisDocument@icp.doe.gov.

FOR FURTHER INFORMATION CONTACT: For further information about this Draft CSSF 3116 Basis Document, please contact Mr. Greg Balsmeier, INTEC Program Manager for the Calcine Disposition Project, by mail at U.S. Department of Energy Idaho Operations Office, 1955 Fremont Ave, Idaho Falls, ID 38401, by phone at 208-526-5871, or by email at balsmege@id.doe.gov.

SUPPLEMENTARY INFORMATION: The Idaho National Laboratory (INL) Site, near Arco, Idaho, currently stores solid calcined radioactive waste in stainless-steel bins housed in six reinforced concrete vaults that are below or partially below grade at the CSSF. The CSSF is located at the Idaho Nuclear Technology and Engineering Center (INTEC) at the INL Site. The stored calcined HLW was generated by converting liquid HLW and non-reprocessing waste into a granular solid. The liquid HLW was generated by the prior reprocessing of spent nuclear fuel (SNF). DOE's current mission focuses on the cleanup and remediation of those wastes and ultimate closure of the CSSF.

As part of that mission, DOE plans to retrieve waste from the CSSF for treatment, and disposition out of the State of Idaho. Following waste retrieval, DOE plans to stabilize in grout and pursue closure (disposal in place) of the CSSF bins (including integral equipment), transport lines, and any residual waste remaining therein.

The Draft CSSF 3116 Basis Document concerns the CSSF bins (including integral equipment), transport lines, and any residual waste remaining therein, after waste retrieval, which is anticipated to remove most of the calcine, (approximately 99% or more of the calcine (by volume) and approximately 99% of the radioactivity attributable to highly radioactive radionuclides). A small amount of calcine, less than approximately 1% by volume, is expected to remain in the CSSF at the time of closure. The final CSSF closure configuration is anticipated to include stabilizing (with grout) the bins and transport line piping void spaces. The grout will serve to provide long term structural stability, limit the amount of water infiltration into the bins and transfer lines to mitigate contaminate migration, and provide a barrier for intrusion by burrowing animals, plant roots, or humans.

NDAA Section 3116(a) provides that HLW does not include radioactive waste resulting from the reprocessing of SNF that the Secretary of Energy, in consultation with the NRC, determines:

“(1) does not require permanent isolation in a deep geologic repository for spent fuel or high-level radioactive waste;

(2) has had highly radioactive radionuclides removed to the maximum extent practical; and

(3) (A) does not exceed concentration limits for Class C low-level waste as set out in Section 61.55 of title 10, Code of Federal Regulations, and will be disposed of—

(i) in compliance with the performance objectives set out in subpart C of part 61 of title 10, Code of Federal Regulations; and

(ii) pursuant to a State-approved closure plan or State-issued permit, authority for the approval or issuance of which is conferred on the State outside of this section; or

(B) exceeds concentration limits for Class C low-level waste as set out in section 61.55 of title 10, Code of Federal Regulations, but will be disposed of—

(i) in compliance with the performance objectives set out in subpart C of part 61 of title 10, Code of Federal Regulations;

(ii) pursuant to a State-approved closure plan or State-issued permit, authority for the approval or issuance of which is conferred on the State outside of this section; and

(iii) pursuant to plans developed by the Secretary in consultation with the Commission.”

The Draft CSSF 3116 Basis Document demonstrates that after waste retrieval activities, the CSSF at closure will meet the above criteria. DOE is predicating this Draft CSSF 3116 Basis Document on extensive analysis and scientific rationale, using a risk-informed approach, including analyses presented in the *Performance Assessment and Composite Analysis for the INTEC Calcined Solids Storage Facility at the INL Site (CSSF PA/CA)*.

Specifically, this Draft CSSF 3116 Basis Document shows that the CSSF bins (including integral equipment), transport lines, and any residual waste at the time of closure does not require permanent isolation in a deep geologic repository for spent fuel or HLW, and that the highly radioactive 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) will have been removed to the maximum extent practical. As also shown in the Draft CSSF 3116 Basis Document, the stabilized (grouted) CSSF stainless-steel bins (including integral equipment), transport lines, and any residual waste at CSSF closure will not exceed

concentration limits for Class C LLW. Based on the analyses in the CSSF PA/CA, this Draft CSSF 3116 Basis Document projects that potential doses to a hypothetical member of the public and hypothetical inadvertent intruder after CSSF closure will be well below the doses specified in the performance objectives for disposal of LLW. Furthermore, the CSSF closure will be performed pursuant to a State-approved closure plan.

DOE is consulting with the NRC on this Draft CSSF 3116 Basis Document and also making the Draft CSSF 3116 Basis Document available for comments from states, Tribal Nations, stakeholders, and the public. After consultation with the NRC, carefully considering comments received, and performing any necessary revisions of analyses and technical documents, DOE plans to issue a Final CSSF 3116 Basis Document. Based on the Final CSSF 3116 Basis Document, the Secretary of Energy, in consultation with the NRC, may determine in the future whether the CSSF bins (including integral equipment), transport lines, and any residual waste therein are non-HLW, and may be disposed in place as LLW.

Signing Authority

This document of the Department of Energy was signed on October 20, 2023, by Kristen Ellis, Acting 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 October 24, 2023.

Treena V. Garrett,
Federal Register Liaison Officer,
U.S. Department of Energy.

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