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**ENVIRONMENTAL PROTECTION AGENCY** **6560-50-P**

**[EPA-HQ-OAR-2020-0087; FRL-10006-42-OAR]**

# Proposed Baseline Approval of the Contact-Handled Transuranic Waste Characterization Program Implemented at the Department of Energy's Lawrence Livermore National Laboratory

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice of availability; opening of a 45-day public comment period.

**SUMMARY:** The Environmental Protection Agency (EPA or the Agency) is announcing the availability of, and soliciting public comments on, the proposed "baseline" approval of the contact-handled (CH) transuranic (TRU) debris waste characterization program implemented by the Central Characterization Program (CCP) at the U.S. Department of Energy's (DOE) Lawrence Livermore National Laboratory (LLNL), in Livermore, California. On June 26, 2019, the DOE made a formal request for an EPA baseline inspection for LLNL CH TRU Waste Characterization Operations. The inspection supporting this proposed baseline approval took place on August 5–7, 2019, at LLNL and remotely. The EPA identified no findings or concerns and proposes to approve the LLNL CH TRU debris waste characterization program.

The EPA's report documenting the inspection results and proposed baseline approval is available for review in the public docket listed in the **ADDRESSES** section of this document. Until the Agency finalizes its baseline approval decision, the DOE Carlsbad Field Office may not certify LLNL's waste characterization program and the site may not ship transuranic waste to the Waste Isolation Pilot Plant for disposal.

**DATES:** Comments must be received on or before [insert date 45 days after publication in the Federal Register].

**ADDRESSES:** Submit your comments, identified by Docket ID No. **EPA-HQ-OAR-2020-**

**0087**, to the *Federal eRulemaking Portal:* http://www.regulations.gov. Follow the online instructions for submitting comments. Once submitted, comments cannot be edited or withdrawn. The EPA may publish any comment received to its public docket. Do not electronically submit any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud or other file sharing system). For additional submission methods, the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit: http://www2.epa.gov/dockets/commenting-epa-dockets.

**FOR FURTHER INFORMATION, CONTACT:** Edward Feltcorn (202-343-9422) or Jerry Ellis (202-564-2766), Radiation Protection Division, Center for Waste Management and Regulations, Mail Code 6608T, U.S. Environmental Protection Agency, 1200 Pennsylvania Avenue, Washington, DC, 20460; fax number: 202-343-2305; e-mail addresses: feltcorn.ed@epa.gov or ellis.jerry@epa.gov.

**SUPPLEMENTARY INFORMATION:**

**I. General Information**

A. *What Should I Consider as I Prepare My Comments for EPA?*

1. *Submitting CBI.* Do not submit this information to the EPA through www.regulations.gov or e-mail. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD ROM that you mail to the EPA, mark the outside of

the disk or CD ROM as CBI and then identify electronically within the files on the disk or CD ROM the specific information that is claimed as CBI. In addition to one complete version of the comment that includes information claimed as CBI, a copy of the comment that does not contain the information claimed as CBI must be submitted for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR part 2.

2. *Tips for Preparing Your Comments.* When submitting comments, remember to:

- Identify the rulemaking by docket number **EPA-HQ-OAR-2020-0087** and other identifying information (subject heading, Federal Register date and page number).
- Follow directions: The Agency may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.
- Explain why you agree or disagree; suggest alternatives and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow for it to be reproduced.
- Provide specific examples to illustrate your concerns, and suggest alternatives.
- Explain your views as clearly as possible, avoiding the use of profanity or personal threats.
- Make sure to submit your comments by the comment period deadline identified.

**II. . Background**

The DOE operates the Waste Isolation Pilot Plant (WIPP) facility near Carlsbad in

southeastern New Mexico as a deep geologic repository for disposal of defense-related TRU radioactive waste. TRU waste contains more than 100 nanocuries of alpha-emitting TRU isotopes, with half-lives greater than twenty years, per gram of waste. Much of the existing TRU waste, which may also be contaminated with hazardous chemicals, consists of items contaminated during the production of nuclear weapons, such as debris waste (rags, equipment, tools) and solid waste (sludges, soil).

Section 8(d)(2) of the WIPP Land Withdrawal Act (LWA) of 1992 provided that the EPA would certify whether the WIPP facility will comply with the Agency's final disposal regulations, later codified at 40 CFR part 191, subparts B and C. On May 13, 1998, the Agency announced its final compliance certification to the Secretary of Energy (published May 18, 1998; 63 FR 27354), certifying that the WIPP will comply with the disposal regulations. The EPA's certification of the WIPP was subject to various conditions, including conditions concerning quality assurance and waste characterization relating to EPA inspections, evaluations and approvals of the site-specific TRU waste characterization programs to ensure compliance with various EPA regulatory requirements, including those at 40 CFR 194.8, 194.22(a)(2)(i), 194.22(c)(4), 194.24(c)(3) and 194.24(c)(5). In addition, under the LWA, the initial WIPP certification was subject to quinquennial (every five years) recertification by the Agency.

The EPA's inspection and approval processes for waste generator sites, including quality assurance and waste characterization programs, are described at 40 CFR 194.8. The Agency has discretion in establishing technical priorities, the ability to accommodate variation in the site's waste characterization capabilities, and flexibility in scheduling site waste characterization inspections.

In accordance with the conditions in the WIPP compliance certification and relevant

regulatory provisions, including 40 CFR 194.8, the EPA conducts "baseline" inspections at waste generator sites, as well as subsequent inspections to confirm continued compliance. As part of a baseline inspection, the EPA evaluates each waste characterization process component (equipment, procedures and personnel training and experience) for adequacy and appropriateness in characterizing TRU waste intended for disposal at the WIPP. During the inspection, the site demonstrates its capabilities to characterize TRU waste(s) and its ability to comply with the regulatory limits and tracking requirements under §194.24. The baseline inspection can result in approval with limitations and conditions or may require follow-up inspection(s) before approval. Within the approval documentation, the EPA specifies what subsequent program changes should be reported to the Agency, referred to as Tier 1 (T1) or Tier 2 (T2) changes, depending largely on the anticipated effect of the changes on data quality.

A T1 designation requires that the DOE Carlsbad Field Office (CBFO) provide to the EPA documentation on proposed changes to the approved components of an individual site-specific waste characterization process (such as radioassay equipment), which the Agency must approve before the change can be implemented. T2 designated changes are minor changes to the approved components of individual waste characterization processes (such as visual examination procedures) which must also be reported to the EPA, but the site may implement such changes without awaiting Agency approval. After receiving notification of T1 changes, the EPA may choose to inspect the site to evaluate technical adequacy. The inspections conducted to evaluate T1 or T2 changes are under the authority of the EPA's WIPP compliance certification conditions and regulations, including 40 CFR 194.8 and 194.24(h). In addition to follow-up inspections, the EPA may opt to conduct continued compliance inspections at TRU waste sites with a baseline approval under the authority of the WIPP compliance certification regulations, including

§194.24(h).

In accordance with 40 CFR 194.8, the EPA issues a Federal Register notice proposing a baseline compliance decision, dockets the inspection report for public review, and seeks public comment on the proposed decision for a minimum period of 45 days. The report describes the waste characterization processes the Agency inspected at the site, as well as their compliance with 40 CFR 194.8 and 194.24 requirements.

**A. Proposed Baseline Decision**

This notice announces the EPA's proposed baseline approval of the CH TRU waste characterization program implemented by the CCP at the DOE's LLNL, in Livermore, California. In accordance with 40 CFR 194.8(b), the EPA conducted Baseline Inspection No. LLNL-CCP-CH-Baseline-2019 on August 5–7, 2019, remotely and at LLNL. Upon EPA's final approval, DOE may emplace LLNL-CCP CH TRU waste in the WIPP.

LLNL consists of two sites: Livermore Main Site, approximately 40 miles east of San Francisco, California, adjacent to the city of Livermore, and Site 300, a remote, high explosives testing facility, approximately 15 miles southeast of the Main Site. All references to LLNL in this notice refer to the Livermore Main Site. Historically, LLNL generated TRU waste primarily during nuclear weapons research and development and support operations in numerous buildings at the laboratory Main Site. LLNL was established in 1952 with its primary mission to conduct research and development on nuclear weapons fabrication and materials research and development. Since then, other major research programs have been added and the current mission of LLNL is to function as a multi-program laboratory conducting research testing and development, focusing on national defense and security, energy, the environment, and biomedicine. Current major programs at LLNL include defense weapons activities and related

programs in laser fusion and inertial confinement fusion, laser isotope separation, magnetic fusion energy, biomedical and environmental research, energy and resources, environmental restoration, and waste management. LLNL also conducts a variety of projects for other federal agencies, including weapons research and tracer studies for the Department of Defense.

The EPA has not previously approved a waste characterization program at LLNL under the current baseline inspection process. Historically, the EPA approved a CH TRU waste characterization program at LLNL in August 2004 that operated for a short time until the implementation of the baseline inspection process in October 2004 (Docket No. A-98-49, Item A4-45). After October 2004, LLNL shipped CH TRU waste to Idaho National Laboratory for characterization by an EPA-approved waste characterization program as Idaho National Laboratory or Advanced Mixed Waste Treatment Project waste streams, which were characterized and emplaced at the WIPP.

On June 26, 2019, the DOE requested that the Agency take steps to approve the LLNL-CCP CH TRU waste characterization program to support direct shipment of waste from LLNL to the WIPP. The EPA conducted this baseline inspection in August 2019, evaluating LLNL-CCP's CH TRU waste characterization program for technical adequacy. Once approved, LLNL-CCP will be allowed to use the program components to characterize CH waste in accordance with the conditions and restrictions discussed in the inspection report. The EPA is proposing to approve the LLNL-CCP waste characterization program implemented to characterize CH TRU waste as documented in the inspection report. Specifically, the proposed approval includes:

(1) The Acceptable Knowledge process for characterizing LLNL CH TRU waste.

(2) The nondestructive assay systems for measuring the radioactivity in LLNL CH TRU waste.

(3) The Visual Examination nondestructive examination process to identify waste material parameters (WMPs) and the physical form of LLNL CH TRU waste.

(4) The Real-Time Radiography (RTR) nondestructive examination process to identify WMPs and the physical form of LLNL CH TRU waste using the RTR2 unit.

Any changes to the waste characterization activities after the date of the baseline inspection must be reported to and, if applicable, approved by the EPA according to Table 1 below. All T1 changes must be submitted for approval before their implementation and will be evaluated by the EPA. Upon approval, the Agency will post the results of the evaluations in the EPA's general WIPP docket at regulations.gov (Docket No. EPA-HQ-OAR-2001-0012). LLNL-CCP must submit T2 changes at the end of the fiscal year quarter in which they were implemented.

The EPA's final approval decision regarding the LLNL-CCP CH waste characterization program will be conveyed to the DOE separately by letter following the EPA's review of public comments received in response to this notice and proposed approval discussed in the inspection report. This information will be provided through the EPA's WIPP docket provided for this action at regulations.gov (Docket No. EPA-HQ-OAR-2020-0087), in accordance with 40 CFR 194.8(b)(3). A summary table of all WIPP-related EPA inspection statuses can also be found on the EPA website at https://www.epa.gov/radiation/waste-isolation-pilot-plant-wipp-inspections, and any interested party can get these and other WIPP updates via the Agency's WIPP-NEWS website (https://www.epa.gov/radiation/wipp-news). Individuals may also subscribe to the WIPP-NEWS e-mail listserv using the instructions on the website.

**Table 1. Tiering of Contact-Handled Transuranic Waste Characterization Processes Implemented by LLNL-CCP (Based on August 5–7, 2019, Baseline Inspection LLNL-CCP-CH-Baseline-2019)**

| Process Elements | LLNL-CCP CH Waste Characterization Process – T1 Changes | LLNL-CCP CH Waste Characterization Process – T2 Changes* |
|---|---|---|
| Acceptable Knowledge (AK) | Implementation of payload management | Submission of a list of active LLNL-CCP CH AK Experts and Site Project Managers<br>Notification to the EPA upon availability of or substantive modification** to:<br>• AK summary reports (e.g., CCP-AK-LLNL-002)<br>• AK accuracy reports (annually, at a minimum)<br>• Waste stream profile forms and any associated change notices<br>• Add container memoranda<br>• Site AK procedures requiring CBFO approval***<br>• Enhanced AK documents such as CCP-TP-005, Attachment 9, forms and AK Assessment, chemical compatibility evaluation and basis of knowledge memoranda (including addition of new figures or attachments) |
| Nondestructive Assay (NDA) | New equipment or substantive physical modifications** to approved equipment<br>Extension of or changes to approved calibration ranges for approved equipment<br>Segmented gamma scanner: Relocation of system | Submission of a list of LLNL-CCP NDA operators, expert analysts and independent technical reviewers that performed work during the previous quarter<br>Notification to the EPA upon substantive modification** to:<br>• Software for approved equipment<br>• Operating ranges upon CBFO approval<br>• Site NDA procedures requiring CBFO approval*** |
| Visual Examination (VE) | VE for non-debris waste<br>VE by any process other than LLNL-CCP VE operators observing LLNL waste handlers package the waste in a glovebox, as demonstrated during the August 2019 baseline inspection | Submission of a list of LLNL-CCP VE operators, VE experts and independent technical reviewers that performed work during the previous quarter<br>Notification to the EPA upon substantive modification** to site VE procedures requiring CBFO approval*** |
| Real-time Radiography (RTR) | RTR by any process other than CCP-TP-053 | New RTR equipment operated in accordance with procedure CCP-TP-053<br>Submission of a list of LLNL-CCP RTR operators and independent technical reviewers that performed work during the previous quarter<br>Notification to the EPA upon substantive modification** to site RTR procedures requiring CBFO approval*** |

New T1s, T2s and significant modifications to existing T1s or T2s are in bold text; T1s or T2s that were only revised for style are not shown in bold.

* LLNL-CCP will report all unmarked T2 changes to the EPA every three months.

** "Substantive modification" refers to a change with the potential to affect LLNL-CCP's CH waste characterization processes or documentation of them, excluding changes that are solely related to the environment, safety and health; nuclear safety; or the Resource Conservation and Recovery Act; or that are editorial in nature or are required to address administrative concerns. The EPA may request copies of new references that the DOE adds during a document revision.

*** Site procedures include any procedures used by LLNL-CCP personnel that require Carlsbad Field Office (CBFO) approval. This includes LLNL-CCP-specific procedures as well as applicable CCP-wide procedures.

## III. Availability of the Baseline Inspection Report and Proposed Approval for Public Comment

The EPA has placed the report discussing the results of the inspection of the CH TRU waste characterization program at LLNL in the public docket as described in the **ADDRESSES** section of this document. In accordance with 40 CFR 194.8, the Agency is providing the public 45 days to comment on this and other documents and the EPA's proposed decision to approve the LLNL CH TRU waste characterization program. The Agency will accept public comment on this notice and supplemental information as described in **Section I** above. At the end of the public comment period, the EPA will evaluate all relevant public comments and, as the Agency may deem appropriate and necessary, revise the report and proposed decision or take other appropriate action. If the EPA concludes that there are no unresolved issues after the public comment period, the Agency will issue an approval letter and the final report. The letter of approval will authorize the DOE to use the approved waste characterization processes to characterize CH TRU waste at LLNL.

Information on the approval decision will be filed in the official public docket opened for this action on www.regulations.gov, Docket ID No. EPA-HQ-OAR-2020-0087 (as listed in the **ADDRESSES** section of this document).

Dated: March 3, 2020.

Jonathan D. Edwards,
Director, Office of Radiation and Indoor Air.
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