



**ENVIRONMENTAL PROTECTION AGENCY**

**6560-50-P**

**[EPA-HQ-OAR-2017-0650; FRL-9975-04-OAR]**

**Proposed Approval of the Transuranic Waste Characterization Program at Idaho National Laboratory's Advanced Mixed Waste Treatment Project**

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

**ACTION:** Notice of availability; opening of public comment period.

**SUMMARY:** The Environmental Protection Agency ((EPA) or the Agency) is announcing the availability of, and soliciting public comment on, this proposed action. On August 8-10, 2017, the Agency conducted a baseline inspection of the Advanced Mixed Waste Treatment Project (AMWTP)'s transuranic (TRU) waste characterization program at Idaho National Laboratory (INL), in accordance with the Waste Isolation Pilot Plant (WIPP) Compliance Criteria and Condition 3 of the EPA's initial May 13, 1998 WIPP certification, as amended. The inspection evaluated the technical adequacy of this program's characterization of contact-handled TRU debris and solid waste. The EPA is proposing to approve a new AMWTP baseline that includes the significant changes that have been implemented at INL since mid-2016. The TRU waste characterization program changes, particularly to the Acceptable Knowledge process, referred to as "enhanced AK", address deficiencies identified by the Department of Energy (DOE) as among the root causes of the February 2014 radiation release at the WIPP. The EPA's draft baseline inspection report is available for review in the public dockets listed in the **ADDRESSES** section of this document. Until the EPA finalizes its baseline approval decision, the DOE Carlsbad Field Office (CBFO) may not recertify the AMWTP's TRU waste characterization program and the AMWTP may not ship any TRU waste unless it meets the requirements of the June 2017 revisions to the DOE's WIPP Waste Acceptance Criteria to the WIPP for disposal.

**DATES:** Comments must be received on or before **[INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** Submit your comments, identified by Docket ID No. **EPA-HQ-OAR-2017-0650**, to the *Federal eRulemaking Portal*: <https://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 Once submitted, comments cannot be edited or withdrawn.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:

<https://www2.epa.gov/dockets/commenting-epa-dockets>.

**FOR FURTHER INFORMATION, CONTACT:** Rajani Joglekar (202-343-9462) or Edward Feltcorn (202-343-9422), 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 address:

<joglekar.rajani@epa.gov> or <feltcorn.ed@epa.gov>.

## **SUPPLEMENTARY INFORMATION:**

### **I. General Information**

*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](http://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 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 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 WIPP facility near Carlsbad in southeastern New Mexico as a deep geologic repository for disposal of defense-related TRU radioactive waste. TRU waste consists of any radioactive materials generated a part of the defense or non-defense activities having atomic numbers greater than 92 (with half-lives greater than twenty years), in concentrations greater than 100 nanocuries of alpha-emitting TRU isotopes per gram of waste. Much of the existing TRU waste, which may 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 EPA 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 EPA.

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. Between

November 2005 and April 2012, the EPA inspected waste characterization programs of previously approved sites. EPA 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 EPA, referred to as Tier 1 or Tier 2 changes, depending largely on the anticipated affect of the changes on data quality.

A Tier 1 designation requires that the 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. Tier 2 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 EPA, but the site may implement such changes without awaiting EPA approval. After receiving notification of Tier 1 changes, the Agency may

choose to inspect the site to evaluate technical adequacy. The EPA inspections conducted to evaluate Tier 1 or Tier 2 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, docket 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 EPA inspected at the site, as well as their compliance with 40 CFR 194.8 and 194.24 requirements.

In October 2006, the EPA approved the AMWTP's contact-handled TRU waste characterization program. Between 2006 and 2015, the EPA conducted continued compliance inspections to verify that the AMWTP continued to characterize waste using the EPA-approved waste characterization program components. The EPA also approved Tier 1 changes that added new waste streams, equipment, processes and procedures or significantly revised the EPA-approved waste characterization activities. However, after the February 2014 WIPP incident resulting from an exothermic reaction in one of the emplaced waste containers, the DOE implemented changes to the WIPP Waste Acceptance Criteria. These changes required documentation of waste treatment related information which necessitated that the AMWTP make changes to one of the waste characterization program component, namely, Acceptable Knowledge. The EPA determined that these changes to the Waste Acceptance Criteria are significantly different from the processes which the EPA evaluated during previous site-specific

baseline and continued compliance inspections. As a result, in the fall of 2016, the EPA informed the DOE that a new AMWTP baseline inspection and approval would be a necessary step to evaluate the technical adequacy of the newly-implemented Enhanced Acceptable Knowledge process at the AMWTP. At that time, the EPA also informed the DOE that the baseline inspection would occur during the latter part of the 2017 fiscal year. These include improvements in the following two technical areas:

- Collection, evaluation, documentation and verification of Acceptable Knowledge specific to the chemical contents of WIPP-bound TRU waste (especially chemical incompatibility and reactivity);
- Evaluation and confirmation that waste treatment procedures completed to render containerized TRU waste chemically-inert (that is, the waste does not exhibit any of the three hazardous waste characteristics of ignitability, corrosiveness and reactivity defined in 40 CFR part 261, subpart C.

The purpose of EPA's baseline inspection at AMWTP was to:

1) verify that contact-handled TRU waste being characterized remains in compliance with regulatory requirements, including the conditions of the EPA's WIPP compliance certification and 40 CFR 194.8 and 194.24; and

2) understand how the revised DOE WIPP Waste Acceptance Criteria are incorporated within the AMWTP's TRU waste characterization processes.

The scope of the baseline inspection for determining technical adequacy of the waste characterization program elements (i.e., systems of controls) as implemented included:

- The Acceptable Knowledge process, focusing on the enhanced AK process for contact-handled TRU waste identified with the following Summary Category Groups:
  - S5000, heterogeneous debris
  - S4000, soils
  - S3000, homogeneous solids
  
- The four nondestructive assay processes evaluated include:
  - Canberra Integrated Waste Assay Systems (IWAS)
  - Retrieval Box Assay System (RBAS)
  - Waste Assay Gamma Spectrometer (WAGS)
  - Stored Waste Examination Pilot Plant (SWEPP) Gamma-Ray Spectrometer (SGRS)
  
- Visual examination and three real-time radiography units for characterizing the physical waste components of TRU waste containers belonging to all contact-handled waste types listed above.

### **III. Proposed Baseline Compliance Decision**

#### **I.**

The EPA conducted inspections at INL on August 8-10, 2017. The inspection team identified no concerns or findings as a result of this inspection. The EPA is concluding that the AMWTP-implemented waste characterization program meets the EPA regulatory requirements and is compliant with the WIPP waste acceptance criteria for an Enhanced Acceptable Knowledge determination for WIPP-destined TRU waste containers. As discussed in the draft

AMWTP Baseline Inspection Report (contained in EDOCKET No. EPA-HQ-OAR-2017-0650), the EPA determines that the waste characterization program also complies with the Agency's regulatory requirements, including those conditions outlined in the WIPP compliance certification and 40 CFR 194.8 and 194.24. The EPA is proposing to approve the AMWTP waste characterization program in the configuration observed during this inspection, consistent with the limitations described in the draft inspection report. When approved, the AMWTP can continue using the approved program components to characterize contact-handled waste in accordance with the conditions and restrictions discussed in the final inspection report accompanying the EPA approval letter. The Agency is proposing to approve the following components of the AMWTP waste characterization program inspected in August 2017. Specifically, the proposed approval includes:

- The enhanced AK process
- The four nondestructive assay systems (IWAS, RBAS, WAGS and SGRS) listed above
- The visual examination and real time radiography processes to identify waste material parameters and the physical form of the waste.

The EPA is further proposing that, in the event of changes to the waste characterization program arising or occurring after the date of the baseline inspection, the DOE must report those changes and, if applicable, receive the Agency's approval of such changes according to Table 1, below.

All Tier 1 changes must be submitted for approval before their implementation and will be evaluated by the EPA. If the EPA approves changes to the waste characterization program, the Agency will post the results of any evaluations relating to such changes through the EPA website and docket and the WIPP-NEWS e-mail listserv. Also as indicated in Table 1, the AMWTP must report Tier 2 changes to the EPA on a quarterly basis. In addition to evaluations of Tier 1 and

Tier 2 changes, the Agency will conduct periodic inspections to verify that TRU waste characterization activities continue to comply with regulatory requirements, including the conditions of the EPA's WIPP compliance certification and 40 CFR 194.8 and 194.24, and continue to implement the EPA-approved processes, procedures and equipment as required.

**Table 1. Tiering of Contact-Handled Transuranic Waste Characterization Processes  
Implemented by the AMWTP<sup>1</sup>  
(Based on August 8–10, 2017 Baseline Inspection)**

Process Elements	AMWTP Waste Characterization Process – Tier 1 Changes	AMWTP Waste Characterization Process – Tier 2 Changes*
Acceptable Knowledge (AK), including Payload Management	None	<p>Submission of a list of active AMWTP CH AKEs and SPMs who performed work during the previous quarter</p> <p>Notification to the EPA upon completion of or substantive modification** to:</p> <ul style="list-style-type: none"> <li>• RPT-TRUW-05, RPT-TRUW-07 and RPT-TRUW-12</li> <li>• AK accuracy reports (annually, at a minimum)</li> <li>• WSPFs and any associated change notices</li> <li>• AKSRs and generator-site-specific AK documents</li> <li>• Site procedures requiring DOE CBFO approval</li> <li>• The payload management status of approved waste streams</li> <li>• Enhanced AK documents such as IWMDL forms and AKA, CCE and BoK memoranda</li> </ul>
Nondestructive Assay (NDA)	<p>New equipment or substantive physical modifications** to approved equipment</p> <p>Extension of or changes to approved calibration ranges for approved equipment</p>	<p>Submission of a list of AMWTP NDA operators, EAs and ITRs who performed work during the previous quarter</p> <p>Notification to the EPA upon substantive modification** to:</p> <ul style="list-style-type: none"> <li>• Software for approved equipment</li> <li>• Operating ranges upon DOE CBFO approval</li> <li>• Site procedures requiring DOE CBFO approval</li> </ul>
Real-Time Radiography (RTR)	<p>New equipment or substantive physical modifications** to approved equipment</p> <p>Implementation of any new real-time radiography process</p>	<p>Submission of a list of AMWTP RTR operators and ITRs who performed work during the previous quarter</p> <p>Notification to the EPA upon substantive modification** to site procedures requiring DOE CBFO approval</p>
Visual Examination (VE)	Implementation of any new visual examination process	<p>Submission of a list of AMWTP VE operators, VE Experts and ITRs that performed work during the previous quarter</p> <p>Notification to the EPA upon substantive modification** to site procedures requiring DOE CBFO approval</p>

\* The AMWTP will report all T2 changes to the EPA every three months.

\*\* “Substantive modification” refers to a change with the potential to affect the AMWTP’s CH waste characterization processes or documentation of them, excluding changes that are solely related to the

<sup>1</sup> For various acronyms, see the referenced AMWTP baseline inspection report in the EPA’s Air Docket.

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.

The EPA's final approval decision regarding the contact-handled TRU waste characterization program at the AMWTP will be conveyed to the DOE separately by letter following review of public comments. This decision and accompanying report will be posted on the EPA's WIPP website and electronic docket.

#### **IV. Availability of the Baseline Inspection Report for Public Comment**

##### **I.**

The EPA has placed the draft report discussing the results of the inspection of the waste characterization program at the AMWTP 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 these documents and the EPA's proposed decision to accept the waste characterization program. The Agency requests comments particularly concerning the Enhanced Acceptable Knowledge process, a major significant change made by the AMWTP to their existing waste characterization program. The EPA will accept public comment on this notice and supplemental information as described in Section 1 of this document. 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 inspection 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 inspection report. The letter of approval will authorize the DOE to use the approved TRU waste characterization processes to characterize waste at the AMWTP.

Information on the approval decision will be filed in the official public docket opened for

this action on [www.regulations.gov](http://www.regulations.gov), Docket ID No. EPA-HQ-OAR-2017-0650 (as listed in the **ADDRESSES** section of this document).

Dated: February 12, 2018.

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

[FR Doc. 2018-04423 Filed: 3/2/2018 8:45 am; Publication Date: 3/5/2018]