

United States Government



Department of Energy

memorandumCarlsbad Field Office
Carlsbad, New Mexico 88221

NOV 28 2018

DATE: **NOV 28 2018**REPLY TO
ATTN OF: CBFO:OQA:MPN:JM:18-2538:UFC 2300.00SUBJECT: Issuance of Report for Surveillance of Indeterminate Conditions Identified during ANL/CCP
Recertification Audits A-17-08, A-17-25, and A-18-17

to: Kenneth Princen, Assistant Manager, CBFO Office of the National TRU Program

The Carlsbad Field Office (CBFO) conducted Surveillance S-19-12, *Surveillance of Indeterminate Conditions Identified during ANL/CCP Recertification Audits A-17-08, A-17-25, and A-18-17*, on November 19 – 20, 2018. The surveillance report is attached. The surveillance was conducted to evaluate the enhanced acceptable knowledge (AK) and transuranic (TRU) waste certification (WIPP Waste Information System [WWIS]/Waste Data System [WDS]) processes that were identified as indeterminate during recertification audits A-17-08, A-17-25, and A-18-17 of the Argonne National Laboratory Central Characterization Program (ANL/CCP).

The surveillance team concluded that the applicable requirements of DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, and related quality assurance and technical implementing procedures specific to the implementation of enhanced AK and WWIS/WDS processes by the ANL/CCP have been met. There were no concerns identified during the surveillance. The surveillance team concludes that the enhanced AK and TRU waste certification processes that were identified as indeterminate in audits A-17-08, A-17-25, and A-18-17 have been found to be adequately implemented by the ANL/CCP.

If you have any questions concerning the surveillance, please contact me at (575) 234-7483.

Martin P. Navarrete
Senior Quality Assurance Specialist

Attachment

181122



cc: w/attachment

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CBFO SURVEILLANCE REPORT

Surveillance Number: S-19-12 **Date of Surveillance:** November 19 – 20, 2018

Surveillance Title: Surveillance of Indeterminate Conditions Identified During ANL/ CCP Recertification Audits A-17-08, A-17-25, and A-18-17

Organizations: Carlsbad Field Office (CBFO), Nuclear Waste Partnership LLC Central Characterization Program (CCP), Argonne National Laboratory (ANL)

Surveillance Team:

Martin Navarrete	CBFO Quality Assurance Management Representative, CBFO Office of Quality Assurance (OQA)
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Surveillance Scope:

In accordance with DOE/WIPP-07-3372, *Waste Isolation Pilot Plant Documented Safety Analysis* (WIPP DSA), Revision 5b, Section 18.1, an independent assessment was conducted by the CBFO OQA to evaluate the enhanced acceptable knowledge (AK) and transuranic (TRU) waste certification (WIPP Waste Information System [WWIS]/Waste Data System [WDS]) processes that were identified as indeterminate during recertification audits A-17-08, A-17-25, and A-18-17 of the Argonne National Laboratory Central Characterization Program (ANL/CCP).

The New Mexico Environment Department (NMED) approved the final reports for audits A-14-20, A-15-24, A-17-08, and A-17-25 on November 7, 2018. In the audit approvals, the NMED stated that the CBFO will be conducting a surveillance to verify that the enhanced AK processes at the ANL/CCP have been completed before the CBFO provides approval to commence waste shipments to the WIPP. Audit A-18-17 found the WWIS/WDS indeterminate due to inactivity relative to remote-handled (RH) waste characterization by the ANL/CCP. The surveillance included an adequacy review for compliance to the applicable requirements of DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WAC), Revision 9, Appendices H and I.

Surveillance Results:

The surveillance team evaluated a population of RH containers from ANL waste stream AERHDM, Summary Category Group S5000 debris. The surveillance team verified that the ANL/CCP completed each applicable enhanced AK and WWIS/WDS requirement for waste stream AERHDM. The surveillance team did not identify any concerns with enhanced AK or WWIS/WDS TRU waste certification specific to AERHDM. The specific requirements and the activities evaluated are discussed below.

Activities Evaluated:

Enhanced Acceptable Knowledge

Waste stream AERHDM consists of 166 TRU waste containers. The surveillance team reviewed a population of containers that were certified in the WDS prior to implementation of the enhanced AK process (i.e., previously certified), and a population of containers that are considered to be newly generated. Because this is a mixed population of newly generated and previously certified containers, the requirements of the WAC Appendix H – *Enhanced Acceptable Knowledge*, and Appendix I – *Preclusion of Shipments*, must be met.

WAC Appendix H.2 – *Interface Waste Management Documents List (IWMDL)*

The surveillance team determined that several of the 166 TRU waste containers were covered by an ANL/CCP IWMDL. The IWMDL process at the ANL/CCP was evaluated during audit A-17-25 and was determined to be adequate; however, due to the language in Appendix H.2 of the latest revision of the WAC (Rev. 9), the ANL/CCP added the entire population of AERHDM containers to the Acceptable Knowledge Assessment (AKA) as Addendum 1 and included the IWMDL as an attachment. A comparison was made between the procedures listed in the IWMDL and the AKA to verify applicability. The surveillance team did not identify any concerns with the IWMDL.

WAC Appendix H.3 – *Certified Program Enhanced Chemical Compatibility Evaluation*

The surveillance team reviewed the Chemical Compatibility Evaluation Memorandum (CCEM) for the waste stream AERHDM designated as source document CCE001. The CCEM was generated in accordance with CCP-TP-005, *CCP Acceptable Knowledge Documentation*, Revision 29. The review included the CBFO Approval Letter CBFO:ONTP:KEP:PG:18-2331:UFC 5900.00 dated November 16, 2018, which included the signed CBFO management procedure 4.15 Attachment II, and signed CBFO Document Review Records. The surveillance team also reviewed the Site Project Manager Chemical Compatibility Evaluation (CCE) Review Checklist, CCP-TP-200, Revision 4, Attachment 1, for containers to be added to WDS for final container certification. The surveillance team did not identify any concerns with the CCE.

WAC Appendix H.4 – Basis of Knowledge for Evaluating Oxidizing Chemicals in TRU Waste

The surveillance team reviewed the Basis of Knowledge (BoK) exemption memorandum, BOK001, applied to 156 of 166 containers of waste stream AERHDM. The BoK exemption memorandum was generated in accordance with CCP-TP-005, *CCP Acceptable Knowledge Documentation*, Revision 29. The review included an examination of the contents of each container as documented in the AKA Addendum to verify the exemption application. The surveillance team also reviewed the *Concurrence of the Basis of Knowledge (BOK001) Evaluation for Waste Stream AERHDM Containers Not Subject to Basis of Knowledge Criteria*, CBFO memorandum CBFO:ONTP:KEP:PG:18-2335:UFC 5900.00. The surveillance team did not identify any concerns with the BoK exemption.

WAC Appendix H.5 – Certified Program Acceptable Knowledge Assessment

The surveillance team examined *Addendum 1 to Acceptable Knowledge Assessment (AKA) of Argonne RH Waste Stream AERHDM* (Source Document # AKA001 - dated 12/12/2016), dated 11/16/2018. The AKA dated 12/12/2016 was re-reviewed, including a comparison of procedures listed on the AKA with those listed on the IWMDL. The review of the AKA Addendum included:

- Identification and verification of the previously certified containers and those covered by the addendum in the latest AK Tracking Spreadsheet;
- Review of the list of containers covered by the AKA and AKA Addendum;
- Examination of a spreadsheet describing the contents of each container and the status of each container with respect to BoK criteria such as the absence of potential oxidizers (attachment 1);
- Examination of a list of container evaluation memos for the waste stream population documenting the CCP review process conducted when adding containers to this waste stream;
- Review of all IWMDLs for this waste stream with particular emphasis on those IWMDLs that support the management of containers that were not previously certified;
- Review of selected AK source document summaries from the IWMDL to demonstrate compliance with the requirements of CCP-TP-005, *CCP Acceptable Knowledge Documentation*, Revision 29;
- Review of the latest AK Tracking Spreadsheet to verify the appropriate information has been added for certification status, AKA dates, IWMDL dates, and BoK exemption.

The surveillance team did not identify any concerns with the AKA.

WAC Appendix H.6 – *AK Briefings*

When an AK summary report is revised, the CCP is required to prepare a presentation to brief CCP waste characterization personnel of the changes made. In addition, if the waste stream covered by the AK summary report has an IWMDL, the points-of-contact and subject matter expert, along with the generator site management representative, are required to attend the briefing. Since the AK summary report for waste stream AERHDM, CCP-AK-ANLE-500, has not been revised since the implementation of the WAC, Revision 8, an AK briefing is not required.

WAC Appendix I – *Waste Preclusion of Shipments*

- Certified Program will implement an enhanced AK process including an enhanced chemical compatibility evaluation for the waste streams, or waste stream sub-populations, and submit to CBFO for review.

As previously described in the WAC Appendix H.3 of this report, the surveillance team reviewed the CCEM for AERHDM.

- Certified Programs will implement the Basis of Knowledge document in the AK process for evaluating oxidizing chemicals in TRU waste streams to determine acceptability or need for treatment.

As previously described in the WAC Appendix H.4 of this report, the surveillance team reviewed the BoK exemption for AERHDM.

- CBFO will concur with enhanced chemical compatibility evaluation and implementation of the Basis of Knowledge for the evaluated waste stream.

As previously described in the WAC Appendix H.4 of this report, the surveillance team reviewed the approval of the CCE and BoK exemption by the CBFO.

- CBFO will approve waste streams with acceptable enhanced chemical compatibility evaluation documentation provided by the Certified Programs.

As previously described in the WAC Appendix H.3 of this report, the surveillance team reviewed the CBFO approval of the CCEM for waste stream AERHDM.

- WIPP M&O Contractor Payload Engineers will evaluate TRUCON codes to ensure compliance with the enhanced chemical compatibility evaluation.

The surveillance team examined memorandum CP:18:01281, Request for New Packaging Configuration for Content Code AE 125/225 and Review of CH-TRUCON Code Chemical Lists for Waste Stream AERHDM which served as the request for the management and operating (M&O) contractor payload engineers to evaluate the AERHDM TRUCON codes. The CBFO

OQA has previously examined evaluations of TRUCON codes in surveillances S-18-28 and S-18-21. The revised CBFO document DOE/WIPP-01-3194, CH-TRU Waste Content Codes (CH-TRUCON) that includes reference to the new AERHDM TRUCON codes is awaiting CBFO approval.

- The WIPP M&O Contractor will implement additional checks in the WDS for each container before those containers can be used to populate payloads in WDS.

The CBFO OQA has previously evaluated the additional checks in the WDS associated with the enhanced AK process in surveillances S-17-07 and S-17-32, and found the additional checks in the WDS to be complete and compliant with upper-tier requirements.

- The WIPP M&O Contractor will obtain written approval from CBFO prior to release of waste streams for shipment.

At the time of the surveillance, the CBFO written approval to ship waste stream AERHDM had not been received pending the results of this surveillance. Positive results of this surveillance will enable the CBFO to grant written approval to ship waste stream AERHDM.

- The WIPP M&O Contractor will verify each container requested is part of a CBFO-approved waste stream and authorizes shipment in WDS.

The surveillance team verified through reviews of WDS documentation that waste stream AERHDM was approved May 22, 2008, in WWIS/WDS.

Overall, the surveillance team did not identify any concerns with the enhanced AK process for the ANL/CCP. The surveillance team concluded that the process identified as indeterminate during audits A-17-08 and A-17-25 has been found to be adequately implemented by the ANL/CCP in regards to enhanced AK. Enhanced AK requirements were not applicable to Audits A-14-20 and A-15-24.

WWIS/WDS

The surveillance team evaluated ANL waste stream AERHDM in regards to the WWIS/WDS indeterminate condition identified during audit A-18-17. The surveillance team also evaluated AERHDM with respect to the implementation of the enhanced AK process to specific requirements of the WAC Appendix I regarding WWIS/WDS waste certification.

The surveillance team interviewed the ANL/CCP WCO to determine the WWIS/WDS activities that have been completed since the completion of audit A-18-17. The surveillance team was presented with the Waste Container Data Reports from the WWIS/WDS for the following containers:

- AE1289SC
- AE1355SC

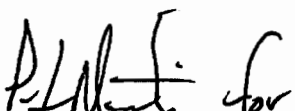
Both AE1289SC and AE1355SC are contact-handled (CH) shielded containers. AE1289SC was certified in the WWIS/WDS instance prd06.wipp.carlsbad.nm.us on September 27, 2018. AE1355SC was certified in the WWIS/WDS instance prd06.wipp.carlsbad.nm.us on October 16, 2018. WWIS/WDS instance prd06.wipp.carlsbad.nm.us is the test instance of WWIS/WDS. The production instance of WWIS/WDS is currently prd05.wipp.carlsbad.nm.us. The two shielded containers successfully passed all the edit/limit checks in the test instance of WWIS/WDS. The test instance of WWIS/WDS is the instance where the WWIS/WDS Data Administrators conduct testing and build future revisions of WWIS/WDS. The surveillance team verified through reviews of WDS documentation that the edit/limits checks specific to shielded containers have been implemented in the test instance of WWIS/WDS.

Both AE1289SC and AE1355SC are CH shielded containers that contain an inner RH 30-gallon drum. The inner 30-gallon drum in AE1289SC is 1289CK, and the inner 30-gallon drum in AE1355SC is 1355T. In discussions with the ANL/CCP WCO, traceability of the shielded containers to the inner 30-gallon drum is captured on the ANL/CCP AK Tracking Spreadsheet. The surveillance team verified based on review of WDS documentation that the characterization data associated with the CH shielded container is based on the RH 30-gallon drum in WWIS/WDS. The surveillance team verified that the RH dose-to-curie and RH visual examination characterization data were used to certify the CH shielded containers. The surveillance team did not identify any concerns with the WWIS/WDS TRU waste certification process for the ANL/CCP. The surveillance team concluded that the WWIS/WDS process identified as indeterminate during audit A-18-17 has been found to be adequately implemented by the ANL/CCP.

Surveillance Team Conclusions:

The surveillance team concluded that the applicable requirements of the WAC and related quality assurance and technical implementing procedures specific to the implementation of enhanced AK and the WWIS/WDS by the ANL/CCP have been met. There were no concerns identified during the surveillance. The surveillance team concludes that the enhanced AK and TRU waste certification processes that were identified as indeterminate in audits A-17-08, A-17-25, and A-18-17 have been found to be adequately implemented by the ANL/CCP.

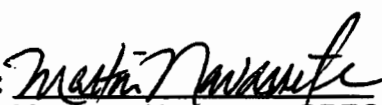
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Date:

11/28/18

CBFO OQA Designee Approval:


Martin P. Navarrete, CBFO

Date:

11-28-18