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Department of Energy
Carlsbad Field Office
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Carlsbad, New Mexico 88221
OCT 19 2017



Ms. Mary McDaniel, Manager
Quality and Contractor Assurance
Nuclear Waste Partnership LLC
P.O. Box 2078
Carlsbad, NM 88221-2078

Subject: Issuance of Report for Surveillance S-18-17 of the NWP CCP and AMWTP Loading and Shipping of TRU Mixed Waste to the WIPP and Indeterminate of Real-Time Radiography S4000 Waste at AMWTP

Dear Ms. McDaniel:

The Carlsbad Field Office (CBFO) conducted Surveillance S-18-17, Nuclear Waste Partnership LLC (NWP) Central Characterization Program (CCP) and Advanced Mixed Waste Project (AMWTP) Loading and Shipping of Transuranic (TRU) Mixed Waste to the Waste Isolation Pilot Plant (WIPP), October 2 – 4, 2017. The surveillance report is enclosed. The surveillance was conducted to evaluate the implementation and effectiveness of the AMWTP and CCP activities for loading and shipment of TRU waste from AMWTP to the WIPP. The surveillance further evaluated real-time radiography (RTR) of Summary Category Group (SCG) S4000 soils/gravel that was found to be indeterminate during CBFO Audit A-17-04 conducted on December 12 – 16, 2016.

The surveillance team reviewed the interface agreement between CCP and AMWTP, Flammable Gas Sampling and Analysis, Transportation Operations, Shipping Operations and the RTR of S4000 containers from AMWTP.

The surveillance team found that the AMWTP transportation program currently shipping contact-handled TRU waste to WIPP is implemented and effective and is meeting all of the applicable upper-tier requirements.

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

Sincerely,

Martin P. Navarrete
Senior Quality Assurance Specialist

Enclosure



Ms. Mary McDaniel

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OCT 19 2017

cc: w/enclosure

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CBFO SURVEILLANCE REPORT

Surveillance Number: S-18-17 **Date of Surveillance:** October 2 - 4, 2017

Surveillance Title: Loading and Shipping of Transuranic Mixed Waste to the Waste Isolation Pilot Plant (WIPP) and Indeterminate of RTR S4000 waste at AMWTP.

Organization: Nuclear Waste Partnership LLC (NWP) Central Characterization Program (CCP), Advanced Mixed Waste Treatment Project (AMWTP)

Surveillance Team:

Martin Navarrete	Management Representative, Carlsbad Field Office (CBFO) Office of Quality Assurance (QA)
Jim Vernon	Surveillance Team Leader, CBFO Technical Assistance Contractor (CTAC)
Joe Lopez	Team Member, Quality Assurance, CTAC
Ricardo Chavez	Team Member, Quality Assurance, CTAC
Rhett Bradford	Team Member, Real-Time Radiography (RTR) Technical Specialist, CTAC

Surveillance Scope:

Surveillance S-18-17 evaluated the implementation and effectiveness of the AMWTP and CCP activities for loading and shipment of transuranic (TRU) waste from AMWTP to the WIPP. The surveillance further evaluated RTR of Summary Category Group (SCG) S4000 soils/gravel that was found to be indeterminate during CBFO audit A-17-04 conducted December 12 – 16 2016.

Activities Evaluated:

Interface Document

Shipping of TRU mixed waste to WIPP at AMWTP involves both CCP and AMWTP personnel. CCP samples containers for Flammable Gas Analysis (FGA) and Gas Generation Testing (GGT). CCP will certify in the Waste Data System (WDS) the FGA data for AMWTP containers and AMWTP will certify the payload container in the WDS. CCP also participates in TRU shipping operations with the Mobile Loading Unit (MLU) personnel. AMWTP personnel, working for Management and Operating (M&O) contractor Fluor perform TRU waste shipping operations working to the CCP TRU waste shipping procedures. The interaction between CCP and

Fluor is described in the CCP interface document CCP-PO-024, *CCP/INL Interface Document*.

The surveillance team examined CCP-PO-024 and found it to be implemented and effective in describing the interactions between CCP and Fluor regarding TRU waste transportation activities at AMWTP.

Flammable Gas Analysis

The surveillance team observed FGA sampling by CCP. The surveillance team attended the Pre-job briefing for FGA operations. During the pre-job briefing, CCP and Fluor personnel described FGA operations including the personnel responsible for container sampling, container analysis and radiological controls. CCP personnel verified they were qualified to perform FGA sampling in the pre-job briefing. After the pre-job briefing, FGA sampling operations began. FGA sampling was conducted in accordance with DOE/WIPP-06-3345, *Waste Isolation Pilot Plant Flammable Gas Analysis*. The surveillance team noted that CCP conducted FGA sampling to the latest revision of the stated procedure.

CCP performed container sampling, filter verification, Drum Age Criteria (DAC) determination, the assignment of waste type, FGA analysis and the assembly of the Batch Data Report (BDR) in accordance to procedure. The two BDR's assembled by CCP during the surveillance were IN17FG10105 and IN17FG6035. The surveillance team reviewed the completed BDR's and they were found to be acceptable. The surveillance team also verified that the operators associated with FGA sampling were currently qualified. GGT was not seen during the surveillance as it is not currently in operation.

The surveillance team found FGA sampling operations by CCP to be implemented and effective for transportation activities at AMWTP.

Transportation Operations

The surveillance team observed transportation activities at AMWTP. The surveillance team observed loading of ten-drum overpack (TDOP) BN10627927, loading and leak testing of shipments IN170049 and IN170050, the Commercial Vehicle Safety Alliance (CVSA) level VI inspection of the loaded shipments IN170049 and IN170050, the actions for final departure of shipments IN170049 and IN170050, and the shipping paperwork associated with IN170049 and IN170050. Payload assembly is conducted in accordance with DOE/WIPP-02-3184, *CH Packaging Operations Manual*. The operators were observed using the most up to date revision of the procedure and the operators assembled the TDOP in accordance with the above noted procedure. The surveillance team observed that all Material and Test Equipment (M&TE) used for TDOP loading was properly calibrated and the calibration was current. The surveillance team also verified that the operators associated with the TDOP loading were currently qualified.

Transportation related operations were observed by the surveillance team. The payloads associated with shipments IN170049 and IN170050 were loaded into the correct Transuranic Package Transporter Model II (TRUPACT-II) shipping containers in accordance with DOE/WIPP-02-3184, *CH Packaging Operations Manual*. After shipment loading, the Inner Containment Vessel (ICV) lids were installed by AMWTP personnel. Loading was completed according to procedure. After the ICV lids were installed, each TRUPACT-II shipping container was helium leak tested. The helium leak test was conducted in accordance with the procedure, all M&TE used for the helium leak test was properly calibrated, and the calibration was current. The surveillance team also verified that the operators associated with the shipments were currently qualified. The surveillance team examined the spare parts used for TRU waste transportation. The spare parts were found to have proper labeling, storage and correct access control. The qualities of spare parts appeared to be adequate and inventories are monitored.

The surveillance team found that all transportation operations by AMWTP to be implemented and effective for transportation activities at AMWTP.

Shipping Operations

Shipments IN170049 and IN170050 were inspected by the Idaho State Police (ISP) and the ISP performed a CVSA level VI inspection of both shipments. After the CVSA inspections were completed, AMWTP personnel completed the Uniform Hazardous Waste Shipping Manifest. The surveillance team observed that the Hazardous Waste Numbers and radioactive levels recorded on the Uniform Hazardous Waste Shipping Manifest matched the associated labeling on the TRUPACT-II shipping containers. The Acceptable Knowledge (AK) required data, (e.g., Waste Stream Profile Form number, Waste Stream description, TRU Content Codes, EPA Hazardous Waste codes, etc.) which accompanies every shipment was evaluated and found to be correct.

Finally, the surveillance team interviewed the AMWTP Transportation Certification Officials (TCOs), the MLU TCO and discussed the activities involved with shipping TRU waste shipments to WIPP. The AMWTP and MLU TCO's assemble shipments in WDS in accordance to CCP-TP-033, *CCP Shipping of CH TRU Waste*. The TCO's described the steps required to build a shipment in WDS and all steps were found to be acceptable. If the TCO's encounter a high Material At Risk (MAR) payload during shipping activities in WDS, the AMWTP and MLU TCO's will call the CCP Waste Certification Official (WCO) for a Nuclear Safety Evaluation in accordance to procedure. The TCO's used the current version of the procedure and the surveillance team verified that the TCO's were trained and qualified to perform their job function.

The surveillance team found that all final shipping operations by AMWTP including the CVSA inspections, manifesting and shipment completion in WDS to be implemented and effective for transportation activities at AMWTP.

Transportation Conclusions

In addition to conducting interviews and observing activities, the surveillance team also reviewed management assessments that were conducted by both CCP and AMWTP regarding transportation activities. The surveillance team reviewed training and qualification documentation for the personnel conducting transportation activities for AMWTP and CCP. The team reviewed the completed shipping documentation associated with both shipments observed during the surveillance and also the supporting documentation associated with the transportation activities.

The surveillance team found that the AMWTP transportation program currently shipping CH TRU waste to WIPP is implemented and effective and is meeting all of the applicable upper-tier requirements.

RTR Indeterminate

The previous CBFO audit A-17-04 issued an indeterminate for RTR of SCG S4000 soil/gravel waste due to the fact that AMWTP did not have an RTR training drum containing soil/gravel in the drum inventory. During the surveillance, AMWTP presented two BDR's with a total of five S4000 containers. The team observed the certification scans of the following containers: 10509585, 10119255, 10550426 and 10563471. All containers had associated Nonconformance Reports, as they were found by the RTR operators as being impenetrable. The surveillance team reviewed the training drum inventory and the AK waste stream training of the RTR operators given on February 1 and 2, 2017 for the S4000 SCG. The surveillance team observed the training drum scans of the two RTR operators who performed the certification scans of the reviewed S4000 containers. The team reviewed procedure TPR-8089, *Real-Time Radiography Examination (Certification Scans)* to verify effective implementation of the RTR training requirements including the training drums.

The surveillance team found that the upper-tier requirements were determined to be satisfactorily adequate, effective and implemented for RTR of S4000 waste and no longer deemed indeterminate.

Corrective Actions:

Corrective Action Reports/Deficiencies Corrected During the Surveillance


No Corrective Action Reports/Deficiencies were produced as a result of this surveillance.

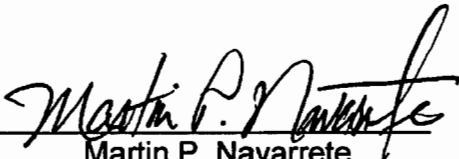
Observations

No Observations were produced as a result of this surveillance.

Recommendations

No Recommendations were produced as a result of this surveillance.

Surveillance Team Leader:  _____ Date: 10-19-17
Jim Vernon, CTAC

CBFO OQA Director
(or Designee) Approval:  _____ Date: 10-19-17
Martin P. Navarrete