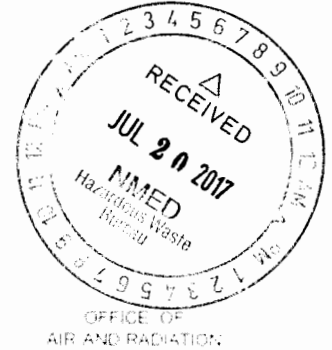


ENTERED



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

JUL 20 2017



Todd Shrader, Manager
Carlsbad Field Office
U.S. Department of Energy
P.O. Box 3090
Carlsbad, New Mexico 88221

Dear Mr. Shrader:

This letter transmits the scope of the U.S. Environmental Protection Agency's waste characterization baseline inspection of the Advanced Mixed Waste Treatment Project (AMWTP) operated by Fluor at the Idaho National Laboratory in Idaho Falls, Idaho (EPA-AMWTP-Fluor Inspection No. 08.17-8). The inspection activities will be conducted August 8-10, 2017.

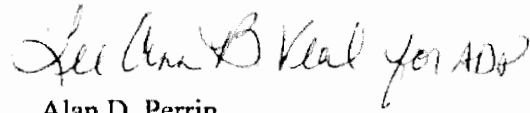
Previously, the EPA performed two baseline inspections at AMWTP and approved the program in October 2006 and January 2013. Recently, there have been changes in the management contractor implementing the waste characterization program at AMWTP and in procedures. Additionally, after the February 2014 incidents at the Waste Isolation Pilot Plant, DOE required significant changes to the Acceptable Knowledge (AK) component of the transuranic waste characterization program. The changes, known as "Enhanced AK," have been implemented at all active transuranic waste generator sites since June 2016. The EPA concluded that these changes warranted a new baseline inspection of the waste characterization program at AMWTP. The EPA's decision to conduct this baseline inspection does not imply a change to the regulatory framework in 40 CFR part 194.

The scope for the EPA baseline inspection includes the evaluation of the implementation and documentation process for Enhanced AK as well as the processes used to characterize and confirm CH waste container contents using the nondestructive assay and nondestructive examination processes. The enclosed scope document identifies the waste characterization components that the EPA intends to evaluate as part of the baseline inspection scheduled for August 8-10, 2017.



If you have any questions, please contact Rajani Joglekar, the AMWTP-Flour CH Baseline Inspection Team Lead, at 202-343-9462.

Sincerely,

A handwritten signature in black ink that reads "Alan D. Perrin" with a stylized flourish at the end.

Alan D. Perrin
Acting Director
Radiation Protection Division

Enclosure

cc (Electronic Distribution):

Steve Schneider, DOE EM
Betsy Forinash, DOE EM
Alton Harris, DOE EM
Jeff Carswell, CBFO
J R Stroble, CBFO
Herb Cruickshank, CBFO
Mike Brown, CBFO QA
John Kieling, NMED
Jonathan Edwards
Ray Lee
Tom Peake

Scope of EPA's Baseline Inspection of the Advanced Mixed Waste Treatment Project for Contact-Handled Transuranic Waste

DOE Site:	Advanced Mixed Waste Treatment Project (AMWTP)	
Organizations Notified:	Department of Energy – Carlsbad Field Office (CBFO) Idaho Department of Environmental Quality New Mexico Environment Department	
Evaluation Dates:	August 8-10, 2017	
Evaluation Schedule:	Tuesday 8:00 am (all times local)	Kick-Off Meeting*
	Tuesday 8:30 am – 4:00 pm	Conduct Inspection
	Wednesday 8:00 am – 4:00 pm	Conduct Inspection
	Thursday 8:00 am – 2:00 pm	Conduct Inspection
	Thursday 3:00 pm	Close-Out Meeting*

* With CBFO National Transuranic (TRU) Program staff and AMWTP technical leads

EPA Evaluation Team:	Ms. Rajani Joglekar, EPA Lead Inspector
	Mr. Ed Felcorn, EPA Inspector
	Mr. Jerry Ellis, EPA Inspector
	Mr. Patrick Kelly, EPA Support Contractor (SC&A)
	Ms. Rose Gogliotti, EPA Support Contractor (SC&A)
	Ms. Kira Darlow, EPA Support Contractor (SC&A)

Evaluation Scope:

Earlier this year, the EPA informed the Department of Energy (DOE) of the Agency's decision to conduct a baseline inspection of the characterization of future transuranic (TRU) waste at AMWTP. A baseline inspection is warranted to evaluate significant changes the DOE made to the TRU waste acceptance criteria for the Waste Isolation Pilot Plant (WIPP).

DOE implemented changes to waste characterization in June 2016 to address DOE-identified deficiencies in TRU waste characterization. A new contractor, Fluor, took over waste characterization at AMWTP in June 2016.

The baseline inspection will focus on the following components of AMWTP-Fluor's transuranic waste characterization for contact-handled (CH) transuranic waste:

- Acceptable Knowledge (AK) process for CH Summary Category Groups (SCG) S3000 homogeneous solids waste, S4000 Soils and S5000 debris waste characterized since June 2016, with an emphasis on Enhanced AK including documentation, AK Expert (AKE) training and sampling of waste containers for traceability.
- Nondestructive Assay (NDA) equipment listed in Table 2 used for characterizing the radionuclide content of all CH waste summary category groups.

- Visual Examination (VE) and Real-Time Radiography (RTR) listed in Table 2 for characterizing the physical waste components of transuranic waste containers belonging to all CH waste summary category groups.
- Waste Data System (WDS) database used for tracking the contents of individual CH transuranic waste containers.

Documentation:

Based on the recently submitted lists of AMWTP WIPP Procedures, the EPA has selected AK, NDA and RTR/VE documents including batch data reports (batch data reports) for transuranic waste containers subject to the NDA and VE waste characterization processes that are part of the scope of this inspection. Based on further review of this information, the EPA may then request additional documents prior to or during the inspection. The attached tables (Table 1 and Table 2) list the waste characterization documents and NDA and Non-Destructive Examination (NDE) equipment currently in use.

1. Acceptable Knowledge, CH, Documentation Requested by July 24, 2017:

Presently, AMWTP-Fluor is characterizing the following CH transuranic waste summary category groups (SCGs):

- S3000 - homogeneous solids;
- S4000 – soils; and
- S5000 – debris.

Please provide the following items (draft versions are acceptable where necessary) for the above-listed CH transuranic waste categories that have been characterized since the implementation of the WIPP Waste Acceptance Criteria (WAC), Revision 8.0.

- WIPP WAC, Revision 8.0 compliant Enhanced AK procedures.
- AK Summary Reports.
- Copies of any AK-related non-conformance reports (NCRs).
- AK Assessments (AKAs), Chemical Compatibility Evaluation Memoranda (CCEMs) and Interface Waste Management Documents Lists (IWMDLs) as appropriate and available.
- Waste stream profile forms with Summation of Aspects and change notices.
- Characterization Information Summaries (CISs).
- Associated nonconformance reports (NCRs) and discrepancy resolution documentation.
- AK accuracy reports produced since June 2016.
- List of fully characterized containers and the AK tracking spreadsheet. Please indicate which containers will be/are covered by an AK Assessment and which were added through the Interface Waste Management Documents List process. Please also indicate which waste streams are likely to have additional containers added in the future.

- All add container memoranda.
- Source documents referenced in the AK Summary Reports, Interface Waste Management Documents Lists and AK Assessments and associated source document summaries.
- Training records/qualification cards for all AMWTP-Fluor CH AK Experts and Site Project Managers, including documentation of familiarity with the revised AK procedures as applicable.

2. Nondestructive Assay (NDA), Documentation Requested by July 24, 2017:

AMWTP-Fluor has in use seven NDA systems listed in Table 2. For these systems, the EPA will need:

- The current revision of the calibration documents for all NDA systems. These include the systems' calibration of record, calibration confirmations, calibration verifications, determination of each system's Lower Limit of Detection (LLD) and Total Measurement Uncertainty (TMU).
- A listing of current revisions of all calibration, operating, calculation, and data validation procedures.
- The number of calibration verifications or other evidence of instrument performance. The EPA will request a sample of these to further evaluate during the inspection.
- Results of AMWTP's most recent participation in the NDA Performance Demonstration Program.
- The population of previously-assayed drums that are available for the EPA replicate analyses and a listing of container numbers.
- A listing of all active NDA personnel (operators, data validators, independent technical reviewers and expert analysts) including the List of Qualified Individuals for all personnel.
- A list of WIPP-bound containers that were characterized by NDA in part or in full. Specifically, we need information to correlate the container ID, waste stream, NDA batch data report numbers, characterization dates, emplacement date, and Item Description Codes, if applicable.

Following submission of this scope, the EPA will select several representative batch data reports for review and will select specific containers for replicate analyses. The EPA will observe operations of the above listed devices while on site for this inspection.

3. Visual Examination and Real-Time Radiography Documents Requested by July 24, 2017:

AMWTP-Fluor is operating VE and RTR processes listed in Table 1 and equipment listed in Table 2. For those devices, the EPA will need the following information for observing the VE and RTR operations for WIPP-bound transuranic waste and review the documents below prior to the on site evaluation at AMWTP.

- A list of completed VE and RTR batch data reports, the EPA will select several batch data reports from these lists for review. Copies of the selected batch data reports are required for review prior to the onsite visit. The EPA will observe Copies of any NCRs for the selected VE batch data reports.

- The last training and test drum examination for RTR operators identified in the selected batch data reports, including container inventory sheets, evaluation sheets and audio/visual recordings and qualification packages for RTR and VE operators identified in the selected batch data reports.
- Qualification packages for selected VE and RTR operators (to be identified following batch data report review).
- Lists of NCRs generated for VE and RTR since June 2016.
- A list of qualified personnel (operators, expert analysts and subject matter experts) and their qualification packages for RTR and VE (equivalent to the List of Qualified Individuals), including video and records of the last Demonstration of Capability for each operator who performed NDE since June 2016 and all pertinent training.

4. Waste Data System (WDS) – Documents Requested by July 24, 2017:

As part of the LANL Baseline Inspection, EPA will evaluate the Waste Data System (WDS). The EPA Inspection Team will evaluate the Waste Data System to ensure that a system is in place to identify the appropriate categories of waste and ensure that all categories are controlled. Specifically, we expect that the following categories of waste are identified:

- Previously characterized wastes that are stored at WIPP in the Waste Handling Building, if any.
- Previously characterized wastes that are stored at AMWTP and awaiting shipment.
- In-process wastes at AMWTP for which the characterization process is ongoing.

For the purpose of traceability, the EPA requests the following items to support this baseline evaluation:

- AK, NDA & NDE: A list of WIPP-bound containers that were characterized by NDE or NDA in part or in full from June 2016-July 2017. Specifically, we need information to correlate the container ID, waste stream, NDE and NDA batch data report numbers, characterization dates, emplacement date, and Item Description Codes, if applicable.
- NDA: A list of NDA systems that were active between June 2016-July 2017; the number of calibration verifications performed on each active NDA system; results of AMWTP's most recent participation in the NDA Performance Demonstration Program; the population of previously-assayed drums that are available for EPA replicate analyses.
- NDA & NDE: A list of NDA, RTR and VE Batch Data Reports (BDRs) that have been promoted through project level review and the availability to examine written and visual records for all batch data reports. The EPA will select samples of these and request them in advance of the inspection.
- NDA & NDE: A list of qualified personnel (operators, expert analysts and subject matter experts) and their qualification packages for NDA, RTR and VE (equivalent to the List of Qualified Individuals), including video and records of the last Demonstration of Capability for each operator who performed NDE between June 2016-July 2017 and all pertinent training.

- NDE: A list of the items contained in the RTR qualification container.
- NDE: A list of all RTR systems and VE locations that were actively used to characterize transuranic wastes at AMWTP between June 2016-July 2017.

After receiving the documents identified above, the EPA will select specific batch data reports and other records. At that time, the EPA will also request the following:

- NDA & NDE: A list of NCRs related to the EPA selected NDA & NDE batch data reports.
- NDE: RTR audio/visual records for the EPA selected batch data reports.
- NDE: The last training drum examination for RTR operators identified in the EPA selected batch data reports, including container inventory sheets, evaluation sheets and audio/visual recordings and qualification packages for RTR and VE operators identified in the EPA selected batch data reports.
- AK, NDA & NDE: Additional information, as required.

The EPA plans on observing NDA for all operating systems and VE and RTR operations for CH waste from multiple summary category groups, if possible, during the baseline inspection on site at AMWTP.

Pre-Evaluation Conference Call:

A conference call between EPA, CBFO and AMWTP staff will be held on Wednesday, July 26, 2017, at 1:00 PM eastern time, to review the scope of the EPA's inspection and identify additional document needs. The telephone number for the call is 1-866-299-3188, and the participant code is 2023439462#.

Logistics:

- A pre-inspection conference/Kick-Off Meeting will be held Tuesday, August 8, 2017 at 8:30 am mountain time at a location designated by AMWTP.
- A post-evaluation EPA briefing/Close-Out Meeting will be held Thursday, August 10, 2017, at 3:00 pm mountain time for this inspection at a location designated by AMWTP.

CBFO Quality Assurance staff is invited to send observers to this activity.

Table 1. AMWTP Documents for EPA Inspection

Fluor Document ID	Title
Transuranic Waste Programs	
PLN-5198	Certification Plan for INL Transuranic Waste
TPR-7994	Drum Assay Post-Maintenance Calibration and Verification
TPR-7995	Box Assay Post-Maintenance Calibration and Verification
TPR-7996	Waste Assay Gamma Spectrometer/SWEPP Gamma-Ray Spectrometer Post Maintenance Calibration and Verification
TPR-7997	Visual Examination Activities at RWMC
PLN-5199	Quality Assurance Project Plan
MCP-4004	transuranic Waste Certification
MCP-4005	Level I Data Validation
MCP-4006	Level II Data Validation
MCP-4007	Data Reconciliation
MCP-4010	Collection, Review, and Management of Acceptable Knowledge Documentation
MCP-4013	Preparation of Waste Stream Profile Forms
MCP-4015	Preparation of Chemical Compatibility Evaluation

NDA Vendor Documents	
BII-5112-TMU-001	AMWTP Retrieval Box Assay System Total Measurement Uncertainty Report
CI-IDA-NDA-0035	Calibration Verification & Confirmation Procedure for the Integrated Waste Assay System (IWAS) at AMWTP, Canberra Industries
CI-IDA-NDA-0055	Total Measurement Uncertainty for the AMWTP Integrated Waste Assay Systems, Canberra Industries
PSC-5431-CCR-001	Calibration Confirmation Report
CCP-INL-SGRS-001	SWEPP Gamma-Ray Spectrometer (SGRS) Calibration, Confirmation and Verification Report
CCP-INL-SGRS-002	Total Measurement Uncertainty for the SGRS System
CCP-INL-WAGS-001	Waste Assay Gamma Spectrometer (WAGS) Calibration, Confirmation and Verification Report
CCP-INL-WAGS-002	Total Measurement Uncertainty for the WAGS System
CCP-INL-WAGS-003	Waste Assay Gamma Spectrometer (WAGS) Calibration, Confirmation and Verification Report
AK Reports	
RPT-transuranicW-03	Drum Assay Technical Review Report

RPT-transuranicW-05	Waste Matrix Code Reference Manual
RPT-transuranicW-06	Acceptable Knowledge Document for AMWTP Waste
RPT-transuranicW-07	Determination of Radioisotopic Content in transuranic Waste Based on Acceptable Knowledge
RPT-transuranicW-09	Acceptable Knowledge Summary for First/Second Stage Sludge (BNINW216)
RPT-transuranicW-12	AMWTP Waste Stream Designations
RPT-transuranicW-83	Acceptable Knowledge Summary of Supercompacted Debris Waste
Retrieval and Characterization	
TPR-8089	Real-Time Radiography Examinations (Certification Scans)
TPR-8094	Drum Assay Operations
TPR-8095	Box Assay Operations
TPR-8103	Non-Facility Visual Examination Operations
TPR-8092	Stored Waste Examination Pilot Plant Gamma-Ray Spectrometer Operations
TPR-8093	Waste Assay Gamma Spectrometer Operations
Treatment Facility	
TPR-8025	In-Plant Drum Assay Operations
TPR-8041	Visual Examination Operations

Table 2. AMWTP Equipment in Use for CH transuranic Waste Characterization

Site Equipment #	NDA and RTR Equipment Description
NDA Z-211-102	Canberra Integrated Waste Assay System (IWAS) for assay and isotopics on 55-gallon and 83/85-gallon drums
NDA Z-211-103	Canberra Integrated Waste Assay System (IWAS) for assay and isotopics on 55-gallon and 83/85-gallon drums
NDA Z-390-100	Canberra Integrated Waste Assay System (IWAS) - DAS3 – 55 gallon drums
NDA Z-390-101	Canberra Integrated Waste Assay System (IWAS) - DAS4 – 55 gallon drums
NDA Z-212-105	Retrieval Box Assay System (RBAS)
NDA WAGS-610	Waste Assay Gamma Spectrometer (WAGS)
NDA SGRS-610	SWEPP Gamma-Ray Spectrometer (SGRS)

RTR Z-213-101	Real-Time Radiography System
RTR Z-213-106	Real-Time Radiography System
RTR-RTR-1001	Real-Time Radiography System