



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

 **ENTERED**

DEC 13 2016



OFFICE OF
AIR AND RADIATION

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 baseline inspection (EPA-LANL-CCP Inspection No. 02.17-8) of the Central Characterization Program (CCP) at the Los Alamos National Laboratory (LANL) in New Mexico. The inspection is scheduled for February 7-9, 2017.

In 2006, the EPA performed a baseline inspection at LANL-CCP; baseline approval was issued in June 2007. In February 2014, a LANL-treated, repackaged nitrate waste container underwent an energetic exothermic reaction resulting in a "deflagration" and radiation release after emplacement at the WIPP. The subsequent Department of Energy corrective actions to address chemical compatibility resulted in revisions to the acceptable knowledge (AK) generation process. These AK changes, known as "Enhanced AK," are being implemented at all active transuranic (TRU) waste generator sites; the EPA would like to take the opportunity to do a thorough review of this change to the waste characterization process at LANL. The Enhanced AK will be a primary focus of this inspection.

The newly-implemented AK changes and resulting AK documentation are significantly different from what the Agency has previously evaluated and approved at various TRU generator sites, including LANL, under 40 CFR 194.8. As stated in EPA's May 19, 2016 letter to you, the EPA will conduct a baseline inspection to address the waste characterization changes and allow an opportunity for the public to comment on the Agency's evaluation of the changes. The EPA's decision to conduct a baseline inspection at LANL does not imply a change to the regulatory framework in 40 CFR part 194.

The scope of the EPA baseline inspection will consist of the evaluation of the Enhanced AK implementation and documentation process and the processes used to confirm waste container contents using both nondestructive assay and nondestructive examination processes for characterizing contact-handled (CH) TRU waste. The enclosed scope identifies the following key milestones:

- A schedule for the submission of the governing documents and operating procedures and a list of previously analyzed TRU waste drums for EPA Replicate Assay by LANL-CCP; and
- A conference call between EPA, LANL-CCP, and the Carlsbad Field Office to discuss the inspection logistics and scope.



If you have any questions, please contact Ed Felcorn, the LANL-CCP CH Baseline Inspection Team Lead, at 202-343-9422.

Sincerely,

A handwritten signature in black ink, appearing to read "Alan Perrin". The signature is fluid and cursive, with a prominent loop at the end.

Alan Perrin
Acting Director
Radiation Protection Division

Enclosure

cc (Electronic Distribution):
Frank Marcinowski, DOE EM
Mark Senderling, DOE EM
Betsy Forinash, DOE EM
Alton Harris, DOE EM
Sean Dunagan, CBFO
Jeff Carswell, CBFO
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Mike Brown, CBFO QA
Kathryn Roberts, NMED
Jon Edwards, EPA HQ ORIA
Ray Lee, EPA HQ RPD
Susan Spaulding, EPA Region VI

**Scope of EPA's 2017 Baseline Inspection of the Los Alamos National Laboratory
Characterization Program for Contact-Handled Transuranic Waste**

- DOE Site:** Los Alamos National Laboratory (LANL)
- Organizations Notified:** Department of Energy – Carlsbad Field Office
New Mexico Environment Department
U S Environmental Protection Agency, Region VI
- Evaluation Dates:** February 7-9, 2017
- Evaluation Schedule:**
- | | |
|-----------------------------|--------------------|
| Tuesday 8:00 am | 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 TRU Program staff, and LANL-CCP technical leads and management
- EPA Evaluation Team:** Mr. Ed Felcorn, EPA Lead Inspector
Ms. Rajani Joglekar, EPA Inspector
Mr. Patrick Kelly, EPA Support Contractor (SC&A)
Ms. Kira Darlow, EPA Support Contractor (SC&A)

As stated in the May 19, 2016 EPA letter to CBFO, EPA will conduct a baseline inspection of the waste characterization activities performed by the LANL Central Characterization Program (CCP). This baseline inspection will focus on the following components of LANL-CCP's TRU waste characterization for contact-handled (CH) transuranic (TRU) waste:

- Acceptable knowledge (AK) process for S3000, S5000 and OSRP waste streams, with an emphasis on enhanced AK, and documentation
- Nondestructive assay (NDA) for characterizing the radionuclide content in each TRU waste container
- Visual Examination (VE) for characterizing the physical waste components of TRU waste containers
- Waste Data System (WDS) database used for tracking the contents of individual waste containers

EPA will conduct this inspection in accordance with 40 CFR 194.8(b) to evaluate the adequacy, implementation, and effectiveness of the technical LANL-CCP processes for characterizing CH TRU waste for disposal at WIPP. EPA understands that the NDA and VE processes in TA-55 and the VE process at the LANL Chemical and Metallurgical Research (CMR) facility are ready for EPA inspection. The scope of this inspection is based on this understanding and that EPA may revise the scope to include additional processes if LANL-CCP states they are ready and if EPA is informed of their readiness in a timely manner.

The technical areas of the scope and the required documents are detailed below as are the elements that EPA must observe and/or inspect to successfully determine that the LANL-CCP TRU CH waste characterization program complies with EPA regulations.

EPA expects to receive the requested AK before the end of December 2016. EPA and CBFO/LANL-CCP representatives will meet at SC&A's offices in Vienna, VA, January 10–11, 2017, to discuss the enhanced AK data packages that EPA will have received for LANL CH waste streams.

EPA expects to receive the remaining necessary documents no later than three weeks before this inspection (by January 16, 2017), including batch data reports (BDRs) for TRU 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, EPA may then request additional documents prior to or during the inspection.

Acceptable Knowledge, CH, Documentation Requested by December 31, 2016:

CBFO and LANL-CCP have indicated that enhanced AK for the five waste streams listed below will be completed by the end of December 2016. EPA considers these waste streams to constitute a representative sample of the LANL-CCP CH AK process.

1. LA-MHD01.001
2. LA-CIN01.001
3. LA-MHD04.001
4. LA-MHD09.001
5. LA-MIN03-NC.001

EPA may also look at S4000 wastes and the LANL Offsite Source Recovery Program (OSRP), with the understanding that the enhanced AK process will not be completed for these materials by the time of EPA's inspection. Please provide the following current AK summary reports (AKSR): CCP-AK-LANL-004, CCP-AK-LANL-006, CCP-AK-LANL-008, CCP-AK-LANL-010. In addition, each of the items listed below is requested for each of the five waste streams identified above.

- All completed CCP-TP-005 attachments, including associated memoranda and characterization checklists generated since August 26, 2015.
- AK Assessments (AKAs), Chemical Compatibility Evaluation Memoranda (CCEMs) and Interface Waste Management Documents Lists (IWMDLs) as appropriate and available. Draft versions are acceptable where necessary.
- Waste stream profile form with Summation of Aspects and change notices. Draft version is acceptable where necessary.
- Characterization Information Summaries (CISs) generated since August 26, 2015. Draft version is acceptable where necessary.
- Associated nonconformance reports (NCRs) and discrepancy resolutions generated since August 26, 2015.

- Last two AK accuracy reports. Draft version is acceptable where necessary.
- List of fully characterized containers and AK tracking spreadsheet. Please indicate somehow which containers will/are covered by an AKA and which were added through the IWMDL process. Please also indicate which waste streams are likely have additional containers added in the future.
- All add container memoranda generated since August 26, 2015, if not already provided with the CCP-TP-005 attachments.
- Source documents referenced in the AKSRs, IWMDLs and AKAs and associated CCP-TP-005, Attachment 3, source document summaries.
- Training records/qualification cards for all LANL-CCP CH AK Experts and Site Project Managers, including documentation of familiarity with current versions of CCP-QP-002, CCP-QP-005, CCP-TP-002, CCP-TP-005 and CCP-TP-200 as applicable.

Nondestructive Assay, Documentation Requested by January 16, 2017:

For the High Efficiency Neutron Counter Number 3 (HENC3), EPA will need:

- The current revision of the calibration documents for the HENC3 NDA systems approved by EPA, including scale(s). These including the system's 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 for the HENC3 system since August 2015. EPA will request a sample of these to further evaluate during the inspection.
- A listing of container numbers that are available for EPA replicate analyses.
- A listing of all active NDA personnel (operators, data validators, independent technical reviewers and expert analysts) including the list of Qualified Individuals (LOQI) for all personnel.

Directly following submission of this scope, EPA will select several HENC3 BDRs for review and will select specific containers for replicate analyses. EPA will observe the HENC3 in operation while on site for this inspection.

Visual Examination Documents Requested by January 16, 2017:

To successfully determine LANL's continued compliance for VE processes used in TA-55 and at the CMR, EPA must observe these VE processes for WIPP-bound TRU waste, i.e., VE procedures, personnel, equipment and controls. We understand that the VE (and NDA) operations at TA-55 require security clearances for entry and will require advanced planning to set up access for our visit. The EPA (Contractor) Inspector covering VE (Patrick Kelly) has an

active Q clearance and the EPA employees have a Top Secret clearance. EPA will also inspect the VE operations at the Chemical and Metallurgical (CMR) Building.

Upon receiving the list of completed VE BDRs, EPA will select several BDRs from these lists for review. Copies of the selected, BDRs are required for review prior to the onsite visit. EPA will observe the VE operations for WIPP-bound TRU waste and review the documents below prior to the on site evaluation at LANL.

- LOQIs for the dates encompassed by the selected VE BDRs.
- Copies of any NCRs for the selected VE BDRs.
- Qualification packages for selected VE operators (to be identified following BDR review).
- Lists of NCRs generated for VE in the last year.

Waste Data System – Documents Requested by January 16, 2017:

As part of the LANL Baseline Inspection, EPA will evaluate the WIPP Data System (WDS). The EPA Inspection Team will evaluate the WDS 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
- Previously characterized wastes that are stored at Waste Control Specialists (WCS)
- Previously characterized wastes that are stored at LANL, awaiting shipment
- In-process wastes at LANL for which the characterization process is ongoing.

Pre-Evaluation Conference Call:

A conference call between EPA, CBFO and LANL staff will be held on January 25, 2017, at 1:00 PM eastern time, to review the scope of EPA's baseline inspection. During this call EPA will identify additional document needs, clarify any remaining issues and ensure that all logistical aspects have been addressed and are understood by all parties especially security and site entry requirements. The telephone number for the call is 1-866-299-3188, and the participant code is 2023439462#.

Logistics:

- A pre-evaluation conference/Kick-Off Meeting will be held Tuesday, February 7, 2017 at 9:00 am at a location designated by LANL.
- A post-evaluation EPA briefing/Close-Out Meeting will be held Thursday, February 9, 2017, at 3:00 pm for this evaluation at a location designated by LANL.

CBFO QA staff is invited to send observers to this activity.