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

JUN 25 2019

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 (EPA) planned baseline inspection of the waste characterization activities performed by the Lawrence Livermore National Laboratory Central Characterization Program (LLNL-CCP) in Livermore, California. This baseline inspection is scheduled for August 5-7, 2019. The EPA will focus on the following components of the LLNL-CCP's waste characterization for contact-handled transuranic (TRU) waste:

- Acceptable Knowledge
- Nondestructive assay for characterizing the radionuclide content in each TRU waste container using the In-Situ Object Counting System and segmented gamma scanner systems
- Real-time-radiography for characterizing the physical waste components of TRU waste containers

The EPA will conduct this inspection in accordance with 40 CFR 194.8(b) to evaluate the adequacy, implementation and effectiveness of the technical LLNL-CCP processes for characterizing contact-handled TRU waste for disposal at WIPP. To prepare for this inspection and to ensure that we use our collective time as efficiently as possible, the EPA requests that the DOE provide advance information by July 15, 2019 as described in the enclosed document.

If you have any questions, please contact Jerry Ellis, the LLNL-CCP Contact-Handled Baseline Inspection Team Lead, at 202-564-2766.

Sincerely,

Lee Ann B. Veal

Lee Ann B. Veal, Director
Radiation Protection Division

Enclosure

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Tom Peake, EPA HQ
Jerry Ellis, EPA HQ
Ed Feltcorn, EPA HQ
Ray Lee, EPA HQ
Site Documents

Scope of the EPA's 2019 Baseline Inspection of the Lawrence Livermore National Laboratory-Central Characterization Program for Characterizing Contact-Handled Transuranic Waste

DOE Site:	Lawrence Livermore National Laboratory (LLNL)	
Organizations Notified:	Department of Energy – Carlsbad Field Office New Mexico Environment Department U S Environmental Protection Agency, Region 9	
Evaluation Dates:	August 5–7, 2019	
Evaluation Schedule:	Monday 8:30 am	Kick-Off Meeting*
	Monday 9:00 am–4:00 pm	Conduct Inspection
	Tuesday 8:00 am–4:00 pm	Conduct Inspection
	Wednesday 8:00 am–2:30 pm	Conduct Inspection
	Wednesday 3:30 pm	Close-Out Meeting*
	*With CBFO National TRU Program staff, and LLNL-CCP technical leads and management	
EPA Evaluation Team:	Mr. Jerry Ellis, EPA Lead Inspector Mr. Ed Feltcorn, EPA Inspector Mr. Patrick Kelly, EPA Support Contractor (SC&A) Ms. Kira Darlow, EPA Support Contractor (SC&A)*	
	*The Acceptable Knowledge evaluation will be conducted remotely.	

The EPA will conduct a baseline inspection of the waste characterization activities performed by the LLNL Central Characterization Program (CCP). This baseline inspection will focus on the following components of LLNL-CCP's waste characterization for contact-handled (CH) transuranic (TRU) waste:

- Acceptable knowledge (AK) process
- Nondestructive assay (NDA) for characterizing the radionuclide content in each TRU waste container using the In-Situ Object Counting System (ISOCS) and segmented gamma scanner (SGS) systems
- Real-time-radiography (RTR) for characterizing the physical waste components of TRU waste containers

The EPA will conduct this inspection in accordance with 40 CFR 194.8(b) to evaluate the adequacy, implementation, and effectiveness of the technical LLNL-CCP processes for characterizing CH TRU waste for disposal at WIPP.

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

The EPA expects to receive the necessary documents by July 15, 2019, including batch data reports (BDRs) for TRU waste containers subject to NDA and RTR 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.

Acceptable Knowledge Documentation Requested by July 15, 2019:

Please provide each of the items listed below for every active waste stream.

- Current AK summary report (AKSR).
- All completed CCP-TP-005 attachments, including associated memoranda and characterization checklists.
- Enhanced AK documentation as appropriate and available. If documents are not available, please indicate the status.
- Source documents referenced in the AKSRs and enhanced AK documentation and associated CCP-TP-005, Attachment 3, source document summaries.
- Procedures documenting AK waste characterization.
- Procedures documenting waste certification processes.
- Associated nonconformance reports (NCRs) and discrepancy resolutions
- List of fully characterized containers and AK tracking spreadsheet. Please indicate which waste streams are likely have additional containers added in the future.
- All add container memoranda, if not already provided with the CCP-TP-005 attachments or AKSR source documents.
- All AK-related NCRs.
- Any DRs not already provided with the Source Documents.
- Training records/qualification cards for all LLNL-CCP CH AK Experts and Site Project Managers (SPM), including documentation of familiarity with current versions of waste characterization and waste certification procedures as applicable.
- Will any waste streams be payload managed?

Nondestructive Assay Documentation Requested by July 15, 2019:

Please provide each of the items listed below for every NDA system proposed for approval for assaying CH TRU waste at LLNL:

- Description of NDA system, including detector number, pertinent technical details, software operating system for data acquisition and reduction, characteristics, mode(s) of operation and type(s) of radiation detected.
- Operating history of each NDA system, i.e., initial use for assaying CH TRU waste or prior use at another TRU generator site.

- Formal, approved documents that support the technical basis, execution and derivation of the calibration, determination of the lower limit of detection (LLD) and total measurement uncertainty (TMU) for each system, and the validation and approval process of NDA data from each system that will be used for certifying CH TRU wastes.
- List of all NDA operators, Expert Analysts (EAs) or the equivalent, Independent Technical Reviewers (ITRs), SPMs or Vendor Project Managers (VPMs) who will review and ultimately approve NDA BDRs, including the List of Qualified Individuals (LOQI).
- List of all procedures used for the calibration, operation and maintenance of all NDA system.
- Formal, controlled copy distribution of all procedures documenting the calibration, operation and maintenance of all NDA system.
- Specific limitations of each NDA system if not expressly stated in calibration report(s).
- Completed BDRs for each NDA system. Directly following submission of this scope, EPA will select several NDA BDRs from each system for review and will select specific containers for replicate analyses. The EPA will observe both NDA systems in operation while on site for this inspection.

Real-Time Radiography Documents Requested by July 15, 2019:

Provide each of the items listed below for the RTR system proposed for approval for examining CH TRU waste at LLNL:

- Description of RTR system(s), including system identifier(s), pertinent technical details, software operating system, characteristics and mode(s) of operation.
- List of all RTR operators, ITRs, SPMs or VPMs who will review and ultimately approve RTR BDRs, including the LOQI.
- Training records for of all RTR operators, ITRs, SPMs or VPMs.
- Audio/Visual (AV) recordings of capability demonstrations for all qualified RTR personnel.
- List of all formal procedures used for the calibration, operation and maintenance of the RTR system.
- Formal, controlled copy distribution of all procedures documenting the operation and maintenance of the RTR system.
- Identification and inventory of all RTR Test Containers.
- Number of completed BDRs for the RTR system.
- List of NCRs generated to date for the RTR system.

Pre-Evaluation Conference Call:

A conference call between EPA, CBFO and LLNL staff will be held on July 24, 2019, at 1:00 pm eastern time, to review the scope of the EPA's baseline inspection. During this call the 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 1-202-991-0477, and the participant code is 7841090#.

Logistics:

- A pre-evaluation conference/Kick-Off Meeting will be held Monday, August 5, 2019, at 8:30 am at a location designated by LLNL.
- A post-evaluation EPA briefing/Close-Out Meeting will be held Wednesday, August 7, 2019, at 3:30 pm for this evaluation at a location designated by LLNL.

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