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Department of Energy

memorandum

Carlsbad Field Office
Carlsbad, New Mexico 88221

DATE: JUL 11 2019

REPLY TO ATTN OF: CBFO:ONTP:KEP:RMS:19-1341:UFC 2300.00

SUBJECT: ONTP Notification of Readiness for the Certification 2019 Audit Scope of the Lawrence Livermore National Laboratory- Central Characterization Program

TO: Mr. D. Casey Gadbury, Director, Office of Quality Assurance

This memorandum is to inform your office that the Carlsbad Field Office (CBFO), Office of the National TRU Program (ONTP) Compliance Division, has determined that the Central Characterization Program (CCP) transuranic waste program deployed at the Lawrence Livermore National Laboratory (LLNL) needs to be evaluated for the Contact-Handled (CH) Summary Category Group S4000 debris, and S3000 solids waste characterization activities listed in Table 1 of this memorandum. The waste streams identified are LL-M001-S5400-002 (Heterogeneous debris); LL-W019-S3900-002 (Solidified liquids and sludge); and LL-T004-S3141-002 (Salt waste).

Therefore, we request that you perform an audit to assess the adequacy, implementation, and effectiveness of the LLNL/CCP program in accordance with the CBFO Management Procedure 5.2, *TRU Waste Program Certification/Recertification* and also in accordance with the following:

- *WIPP Hazardous Waste Facility Permit Waste Analysis Plan*;
- *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant, Revision 9*;
- *WIPP Documented Safety Analysis, Chapter 18*; and
- *Quality Assurance Program Document.*

The CBFO ONTP would like for your organization to audit the CH waste characterization processes indicated in Table 1. Gas Generation Testing (GGT) may be available, but is based upon identification of suitable container population. No transportation activities are anticipated at this time.

The LLNL/CCP is currently identifying the documentation to support the audit. All documents will be located on the Safe File Transport Protocol (SFTP) Site. The processes, methods and equipment that apply are listed in Attachment 1. The list of certified procedures/documents to be audited are found in Attachment 2. Preparation of the Acceptable Knowledge Assessments, and the Chemical Compatibility Evaluation (CCE) are currently in process and in draft forms. The CBFO approvals will come at a later date.

In order for the NTP to evaluate the LLNL/CCP characterization activities, these areas must be evaluated for a determination regarding the adequacy, implementation, and effectiveness in meeting both technical and quality assurance requirements. Upon completion of the audit, please provide a report that will allow our office to efficiently put together a certification memorandum.

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If you should have any questions regarding this request, please contact me at (575) 234-7053.

Kenneth E. Princen
Assistant Manager
Office of the National TRU Program

Attachments (3)

cc: w/attachments:

K. Lachman, CBFO	*ED
C. Fesmire, CBFO	ED
A. Walker, CBFO	ED
H. Cruickshank, CBFO	ED
N. Castaneda, CBFO	ED
D. Miehls, CBFO	ED
J. Davis iii, LLNL	ED
B. Verlanic, LLNL	ED
M. Pearcy, NWP	ED
R. Lee, NWP	ED
D. Wade, NWP	ED
D. Moody, NWP	ED
J. Harvill, NWP	ED
K. Haar, NWP	ED
L. Calder, NWP	ED
R. Maestas, NMED	ED
T. Runyon, CTAC	ED
J. Lopez, CTAC	ED
Site Documents	ED
CBFO M&RC	

*ED denotes electronic distribution

Table 1 LLNL CH Waste Characterization Processes To Be Audited				
Characterization Process	CH S3000 Homogeneous Solids		CH S5000 Debris	
	Newly Generated	Retrievably Stored	Newly Generated	Retrievably Stored
Acceptable Knowledge (AK)	TBA	TBA	TBA	TBA
Enhanced Acceptable Knowledge	TBA*	TBA*	TBA*	TBA*
Enhanced Chemical Compatibility Evaluation	TBA*	TBA*	TBA*	TBA*
Basis of Knowledge Evaluating Oxidizing Chemicals in TRU Waste	TBA*	TBA*	TBA*	TBA*
Load Management	N/A	N/A	N/A	N/A
Data Validation & Verification (V&V)	TBA	TBA	TBA	TBA
Visual Examination (VE)	TBA	N/A	TBA	N/A
Nondestructive Assay (NDA)	TBA	TBA	TBA	TBA
Real-Time Radiography (RTR)	N/A	TBA	N/A	TBA
Flammable Gas Analysis (FGA)	TBA	TBA	TBA	TBA
Gas Generation Testing (GGT)	TBA*	TBA*	N/A	N/A
Quality Assurance (QA)	TBA	TBA	TBA	TBA
WIPP Waste Information System/Waste Data System (WWIS/WDS)	TBA*	TBA*	TBA*	TBA*
TBA – To Be Audited				

*These activities will likely require a post-audit assessment.

CENTRAL CHARACTERIZATION PROGRAM at Lawrence Livermore National Laboratory List of Processes/Equipment to be Certified from Table 1 of this Memorandum					
WDS Method ID#	**Site Equipment # or Title**	**Description**	**Components**	**Software**	**NDA Calibrated and TMU**
Non-Destructive Assay					
13MILCC4	MILCC4	Mobile ISOCS Large Container Counter (MILCC) Calibrated for 55-gallon drums, 12" Pipe Overpack Containers, and Standard Waste Boxes Operation, calibration, and data validation procedures are CCP-TP-076, CCP-TP-077, and CCP-TP-048, respectively Procedures and calibration documents describe system in more detail.	• Detector rail and collimator sets (2) • Detector carts (2) • Cryostats (2) • High Purity Germanium (HPGe) Detectors (2) • Cadmium filter • Digital Signal Processors	NDA 2000 Genie 2000	Calibration Document: CI-MILCC4-NDA-1001, *Calibration Confirmation Report For the Mobile ISOCS Large Container Counter (MILCC4) at Lawrence Livermore National Laboratory, Rev. 1* TMU Document: CI-MILCC4-TMU-101, *Lawrence Livermore National Laboratory Mobile ISOCS Large Container Counter 4 (MILCC4) Total Measurement Uncertainty Report, Rev. 1*
13SG1	SGS	Segmented Gamma Scanner (SGS) Calibrated for 55-gallon drums Operation, calibration, and data validation procedures are CCP-TP-202, CCP-TP-203, and CCP-TP-048, respectively Procedures and calibration documents describe system in more detail.	• High Purity Germanium (HPGe) detector • Cryostat • Pulser • Drum rotator • Detector and transmission lifts • Digital Signal Processors	NDA 2000 Genie 2000	Calibration Document: CI-LLNL-NDA-001, *Calibration, Verification, and Confirmation Report for the Lawrence Livermore National Laboratory (LLNL) Room 1013 Segmented Gamma Scanner, Rev. 2* TMU Document: CI-LLNL-NDA-002, *Total Measurement Uncertainty Report for the Lawrence Livermore National Laboratory Segmented Gamma Scanner, Rev. 0*

CENTRAL CHARACTERIZATION PROGRAM at Lawrence Livermore National Laboratory List of Processes/Equipment to be Certified from Table 1 of this Memorandum To Be Audited					
WDS Method ID#	**Site Equipment # or Title**	**Description**	**Components**	**Software**	**NDA Calibrated and TMU**
Non-Destructive Examination					
13RR1	RTR2	Real Time Radiography (RTR) As identified in CCP-TP-053	• Control and Data Acquisition console/station • X-ray producing component with controls • Shielded X-ray enclosure • Waste container handling system with turntable dolly assembly • Drum handling equipment (forklift with container grappler) • X-ray imaging system • Video/Audio recording equipment	• RTR Data Sheet Excel Spreadsheet	N/A
Visual Examination					
13VE1	N/A	CH Visual Examination As identified in CCP-TP-113	N/A	• CCP Visual Examination Loading Form Excel Spreadsheet • CCP Waste Visual Examination Data Form Excel Spreadsheet	N/A

CENTRAL CHARACTERIZATION PROGRAM at Lawrence Livermore National Laboratory List of Processes/Equipment to be Certified from Table 1 of this Memorandum To Be Audited					
WDS Method ID#	**Site Equipment # or Title**	**Description**	**Components**	**Software**	**NDA Calibrated and TMU**
Flammable Gas Analysis					
13HG7	FGA7	Flammable Gas Analysis (FGA) As identified in DOE/WIPP-06-3345	Gas Chromatograph (GC) with two detectors: mass spectrometer (MS) and a thermal conductivity detector (TCD)	• Excel Spreadsheet(s): FGA Attachment, ICAL Spreadsheet, and FGA MDL Spreadsheet • MSD Productivity Chemstation	N/A
Gas Generation Testing					
13GG1	GGT	Gas Generation Testing (GGT) As identified in CCP-TP-083	• Gas Chromatograph Mass Spectrometer (GCMS) using TCD • Computer/Data System • GGT Canister	• GGTP Data Calculation GCMS Excel Spreadsheet(s) • MSD Productivity Chemstation	N/A

CENTRAL CHARACTERIZATION PROGRAM at LAWRENCE LIVERMORE NATIONAL LABORATORY LIST OF CERTIFIED PROCEDURES/DOCUMENTS TO BE AUDITED			
#	Procedure No.	Rev. No.	PROCEDURES/DOCUMENT TITLE
1.	CCP-PO-001	23	CCP Transuranic Waste Characterization Quality Assurance Project Plan
2.	CCP-PO-002	30	CCP Transuranic Waste Certification Plan
3.	CCP-PO-005	30	CCP Conduct of Operations
4.	CCP-PO-043	0	CCP Interface Document Preparation
5.	CCP-PO-045	3	CCP Waste Management Field Observation
6.	CCP-PO-047	3	CCP Training and Qualification Program Document
7.	CCP-PO-048	1	CCP LLNL Interface Document
8.	CCP-QP-001	10	CCP Graded Approach
9.	CCP-QP-002	45	CCP Training and Qualification Plan
10.	CCP-QP-005	26	CCP TRU Nonconforming Item Reporting and Control
11.	CCP-QP-008	26	CCP Records Management
12.	CCP-QP-010	30	CCP Document Preparation, Approval, and Control
13.	CCP-QP-014	8	CCP Records Management
14.	CCP-QP-015	15	CCP Procurement
15.	CCP-QP-016	24	CCP Control of Measuring and Testing Equipment
16.	CCP-QP-017	4	CCP Identification and Control of Items
17.	CCP-QP-018	12	CCP Management Assessment
18.	CCP-QP-019	8	CCP Quality Assurance Reporting to Management
19.	CCP-QP-022	18	CCP Software Quality Assurance Plan
20.	CCP-QP-023	4	CCP Handling, Storage, ad Shipping
21.	CCP-QP-026	16	CCP Inspection Control
22.	CCP-QP-027	6	CCP Test Control
23.	CCP-QP-028	17	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
24.	CCP-QP-037	5	CCP Calculations
25.	CCP-QP-041	3	CCP Job Needs Analysis and Design
26.	CCP-QP-042	1	CCP Project Level Training and Qualification
27.	CCP-QP-043	3	CCP Operations Level Training and Qualification
28.	CCP-TP-001	22	CCP Project Level Data Validation and Verification
29.	CCP-TP-002	29	CCP Reconciliation of DQOs and Reporting Characterization Data
30.	CCP-TP-005	30	CCP Acceptable Knowledge Documentation
31.	CCP-TP-030	38	CCP CH TRU Waste Certification and WWIS/WDS Data Entry
32.	CCP-TP-033	24	CCP Shipping of CH TRU Waste
33.	CCP-TP-048	18	CCP NDA System Data Reviewing, Validating, and Reporting Procedure
34.	CCP-TP-053	16	CCP Standard Real-Time Radiography (RTR) Inspection Procedure
35.	CCP-TP-058	6	CCP NDA Performance Demonstration Program
36.	CCP-TP-068	12	CCP Standardized Container Management
37.	CCP-TP-076	4	CCP Operating the Mobile ISOCS Large Container Counter Using NDA 2000

CENTRAL CHARACTERIZATION PROGRAM at LAWRENCE LIVERMORE NATIONAL LABORATORY LIST OF CERTIFIED PROCEDURES/DOCUMENTS TO BE AUDITED			
#	**Procedure No.**	**Rev. No.**	**PROCEDURES/DOCUMENT TITLE**
38.	CCP-TP-077	4	CCP Calibrating the Mobile ISOCS Large Container Counter Using NDA 2000
39.	CCP-TP-079	0	CCP Real-Time Radiography #2 Operating Procedure
40.	CCP-TP-083	8	CCP Gas Generation Testing
41.	CCP-TP-113	22	CCP Contact-Handled Waste Visual Examination
42.	CCP-TP-200	6	Enhanced Acceptable Knowledge Review
43.	CCP-TP-202	0	CCP Operating the Segmented Gamma Scanner Using NDA 2000
44.	CCP-TP-203	0	CCP Calibrating the Segmented Gamma Scanner Using NDA 2000
45.	DOE/WIPP 06-3345	10	WIPP Flammable Gas Analysis
46.	WP 13-QA.03	28	QA Independent Assessment Program
47.	CCP-AK-LLNL-002	0	CCP Acceptable Knowledge Summary Report for Lawrence Livermore National Laboratory Waste Streams: LL-M001-S5400-002, LL-W019-S3900-002, and LL-T004-S3141-002
NOTE: *Any changes to procedures that affect performance criteria or data quality, testing procedures, quality assurance objectives, calibration requirements, or QC sample acceptance criteria comply with the WIPP HWFP WAP (Attachment C) and shall not be made without prior approval of the CBFO.*			