Dear Mr. Kieling:

This letter transmits the audit plan for Carlsbad Field Office (CBFO) Audit A-19-29 for certification of the Lawrence Livermore National Laboratory (LLNL) Central Characterization Program for performing contact-handled transuranic waste characterization activities. The audit will be conducted as required by the Waste Isolation Pilot Plant Hazardous Waste Facility Permit at the LLNL in Livermore, California, and at the Skeen-Whitlock Building in Carlsbad, New Mexico, August 27-29, 2019. The audit plan identifies the audit team members as required by the Permit.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Should you have any questions concerning this notification, please contact Mr. Dennis Miehls, Senior Quality Assurance Specialist, at (575) 234-7491.

Sincerely,

Kirk D. Lachman, Acting Manager
Carlsbad Field Office

Enclosure
CARLSBAD FIELD OFFICE
AUDIT PLAN

Audit Number: A-19-29

Organization to be Audited: Lawrence Livermore National Laboratory (LLNL), Nuclear Waste Partnership LLC (NWP) Central Characterization Program (CCP)

Organizations to be Notified: LLNL, NWP, New Mexico Environment Department (NMED), U.S. Environmental Protection Agency (EPA)

Date and Location: August 27 – 29, 2019
Livermore, CA, and Carlsbad, NM

Audit Team: Dennis Miehls (Carlsbad Field Office (CBFO) Office of Quality Assurance (QA) Management Representative), Joe Lopez (Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)), Cindi Castillo (Auditor, Co-Team Leader (CTAC)), Katie Gentry (Auditor, CTAC (Program Status, QA Program, and Interface)), Bob Prentiss* (Auditor, CTAC (C6 QA)), Rick Castillo* (Auditor, CTAC (C6 QA)), Charlie Riggs (Auditor, CTAC (AK)), Priscilla Yanez (Auditor, CTAC (RTR)), Porf Martinez (Auditor, CTAC (VE)), Tim Boswell (Auditor, CTAC (NDA)), Randy Fitzgerald (Technical Specialist, CTAC (AK)), Dick Blauvelt* (Technical Specialist, CTAC (AK)), Dustin Stegman (Technical Specialist, CTAC (VE)), Rhett Bradford (Technical Specialist, CTAC (RTR)), Paul Gomez (Technical Specialist, CTAC (PL V&V)), Jim Oliver (Technical Specialist, CTAC (NDA)), B.J. Verret (Technical Specialist, CTAC (FGA, GGT, and Container Management))

* Indicates team members working remotely or at the Skeen-Whitlock Building in Carlsbad, NM.

Audit Scope:
The audit team will evaluate the adequacy, implementation, and effectiveness of the technical and QA activities performed by NWP CCP at LLNL for characterization of contact-handled (CH) transuranic (TRU) Summary Category Groups (SCGs) S3000 solids and S5000 debris wastes. This audit is considered an initial certification audit.

The audit team will also verify that a technical review of the generator site's processes has been performed and that any issues identified during the technical
review have been resolved per DOE/WIPP-16-3564, *Generator Site Technical Review Procedure*.

A list of the equipment and processes to be evaluated is attached to this plan (Attachment 1).

**Governing Documents/Requirements:**

Evaluation of the overall program adequacy, implementation, and effectiveness of LLNL/CCP documents will be based on the current revisions of the following documents:

- **CBFO Quality Assurance Program Document, DOE/CBFO-94-1012**
- **Waste Isolation Pilot Plant Hazardous Waste Facility Permit NM4890139088-TSDF**
- **Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant, DOE/WIPP-02-3122**
- **Waste Isolation Pilot Plant Documented Safety Analysis, DOE/WIPP-07-3372 (Chapter 18)**

Programmatic and technical checklists will be developed from the current revisions of the following documents:

- **CCP Transuranic Waste Characterization Quality Assurance Project Plan, CCP-PO-001**
- **CCP Transuranic Waste Certification Plan, CCP-PO-002**
- **CCP/LLNL Interface Document, CCP-PO-048**
- Related NWP CCP QA and technical implementing procedures

**Activities to be Audited:**

**General**

- Results of Previous Audits – N/A*
- Changes in Programs or Operations – N/A*
- New Programs or Activities Being Implemented – N/A*
- Changes in Key Personnel – N/A*

*N/A is due to this being an initial certification audit.

**C6-1 through C6-4 and general QA program elements, as applicable**

- Nonconformances
- Personnel Qualification and Training
- Measuring and Test Equipment (M&TE)
- Software Version Installation
- Records
Technical Activities

- Project-Level Data Validation and Verification (PL V&V)
- Acceptable Knowledge (AK)
- Real-Time Radiography (RTR)
- Visual Examination (VE)
- Nondestructive Assay (NDA), including Performance Demonstration Program
- Flammable Gas Analysis (FGA)
- Gas Generation Testing (GGT)
- Container Management
- WIPP Waste Information System/Waste Data System (WWIS/WDS)

Schedule of Audit Activities:

*Please note all times listed are Pacific Daylight Time (PDT).*

A pre-audit conference is scheduled for Tuesday, August 27, 2019, at 9:30 a.m. PDT, at the LLNL site in Building 361, Auditorium.

If needed, the audit team leader will conduct a management briefing with appropriate LLNL and NWP CCP management at 8:30 a.m. PDT on Wednesday and Thursday, August 28 and 29, 2019.

A post-audit conference is scheduled for Thursday, August 29, 2019, at 3:00 p.m. PDT, at the LLNL site in Building 361, Auditorium.

All meetings will take place at designated locations at the LLNL site in Livermore, CA, and at the Skeen-Whitlock Building in Carlsbad, NM, as indicated on the daily schedule.

Prepared by: Joe Lopez
CTAC Audit Team Leader

Date: 7-16-19

Concurrence: Donald C. Gadbury, Director
CBFO Office of Quality Assurance

Date: 7-17-19
## Processes and Equipment to be Evaluated During the A-19-29 LLNL/CCP Audit

<table>
<thead>
<tr>
<th>WDS ID# Method &amp; WIPP #</th>
<th>Process/Equipment Description</th>
<th>CH S3000 Homogeneous Solids</th>
<th>CH S5000 Debris</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>Acceptable Knowledge (AK) Procedures: CCP-TP-005, CCP-TP-200</td>
<td>TBA</td>
<td>TBA</td>
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<tr>
<td></td>
<td>❖ Enhanced AK</td>
<td>TBA*</td>
<td>TBA*</td>
</tr>
<tr>
<td></td>
<td>❖ Enhanced Chemical Compatibility Evaluation</td>
<td>TBA*</td>
<td>TBA*</td>
</tr>
<tr>
<td></td>
<td>❖ Basis of Knowledge Evaluating Oxidizing Chemicals in TRU Waste</td>
<td>TBA*</td>
<td>TBA*</td>
</tr>
<tr>
<td>N/A</td>
<td>Load Management</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>N/A</td>
<td>Project Level Data Validation &amp; Verification Procedures: CCP-TP-001, CCP-TP-002, CCP-TP-048</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>13VE1 N/A</td>
<td>Visual Examination Procedure: CCP-TP-113</td>
<td>TBA</td>
<td>N/A</td>
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<tr>
<td>13MILCC4 MILCC4</td>
<td>Nondestructive Assay, including Performance Demonstration Program (PDP) Procedures: CCP-TP-076, CCP-TP-077, CCP-TP-048, CCP-TP-058 Description: Mobile ISOCS Large Container Counter (MILCC) calibrated for 55-gallon drums, 12&quot; Pipe Overpack Containers, and Standard Waste Boxes</td>
<td>TBA</td>
<td>TBA</td>
</tr>
<tr>
<td>13SG1 SGS</td>
<td>Nondestructive Assay, including PDP Procedures: CCP-TP-202, CCP-TP-203, CCP-TP-048, CCP-TP-058 Description: Segmented Gamma Scanner (SGS) Calibrated for 55-gallon drums</td>
<td>TBA</td>
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<tr>
<td>13RR1 RTR2</td>
<td>Real-Time Radiography Procedures: CCP-TP-053, CCP-TP-079</td>
<td>N/A</td>
<td>TBA</td>
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<tr>
<td>13HG7 FGA7</td>
<td>Flammable Gas Analysis as identified in DOE/WIPP-06-3345</td>
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<td>TBA</td>
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<tr>
<td>13GG1 GGT</td>
<td>Gas Generation Testing Procedure: CCP-TP-083</td>
<td>TBA*</td>
<td>TBA*</td>
</tr>
</tbody>
</table>

- TBA: To Be Announced
- N/A: Not Applicable
### Processes and Equipment to be Evaluated During the A-19-29 LLNL/CCP Audit (cont.)

<table>
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<tr>
<th>WDS ID# Method &amp; WIPP #</th>
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<th>CH S3000 Homogeneous Solids</th>
<th>CH S5000 Debris</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>WIPP Waste Information System/Waste Data System (WWIS/WDS)</td>
<td>TBA*</td>
<td>TBA*</td>
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<tr>
<td></td>
<td>Procedure: CCP-TP-030</td>
<td>TBA*</td>
<td>TBA*</td>
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<tr>
<td></td>
<td>Description: CH TRU Waste Characterization and WWIS Data Entry</td>
<td>TBA*</td>
<td>TBA*</td>
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<tr>
<td>N/A</td>
<td>Quality Assurance (QA)</td>
<td>TBA</td>
<td>TBA</td>
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<td>Notes:</td>
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<td></td>
<td>TBA: To Be Audited</td>
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<td>TBA*: The above activities may not be available during the audit, and therefore may require additional assessments.</td>
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<td>This audit is considered an initial certification audit seeking approvals from the NMED and/or the EPA.</td>
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