Mr. John E. Kieling, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303


Dear Mr. Kieling:

This letter transmits the audit plan for Carlsbad Field Office (CBFO) Recertification Audit A-17-23 of the Idaho National Laboratory/Central Characterization Program (INL/CCP). The audit will be conducted as required by the Waste Isolation Pilot Plant Hazardous Waste Facility Permit at the INL/CCP facilities near Idaho Falls, ID and at the Skeen-Whitlock Building in Carlsbad, NM June 13 – 15, 2017. 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 fines and imprisonment for knowing violations.

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

Sincerely,

Todd Shrader, Manager
Carlsbad Field Office

Enclosure
cc: w/enclosure
S. Ross, EM-3.113 *ED
J. Carswell, CBFO ED
M. Brown, CBFO ED
J. R. Stroble, CBFO ED
G. Basabilvazo, CBFO ED
M. Navarrete, CBFO ED
D. Miehls, CBFO ED
M. Fineran, CBFO ED
M. Stapleton, CBFO ED
N. Castaneda, CBFO ED
G. Birge, CBFO ED
H. Cruickshank, CBFO ED
R. Maestas, NMED ED
D. Biswell, NMED ED
P. Martinez, CTAC ED
C. Castillo, CTAC ED
M. Leroch, CTAC ED
J. Schuetz, CTAC ED
J. Vernon, CTAC ED
D. Harvill, CTAC ED
G. White, CTAC ED
A. Urquidez, RES ED
CBFO QA File
CBFO M&RC
*ED denotes electronic distribution
CARLSBAD FIELD OFFICE AUDIT PLAN

Audit Number: A-17-23

Organization to be Audited: Idaho National Laboratory (INL) Nuclear Waste Partnership LLC (NWP) Central Characterization Program (CCP)

Organizations to be Notified:
- U.S. Department of Energy – Idaho Falls (DOE-ID)
- New Mexico Environment Department (NMED)
- U.S. Environmental Protection Agency (EPA)
- Nuclear Waste Partnership LLC (NWP)
- Defense Nuclear Facilities Safety Board

Date and Location: June 13 – 15, 2017, Idaho Falls, ID, and Carlsbad, NM

Audit Team:
- Dennis Miehls: Carlsbad Field Office (CBFO) Management Representative
- Jim Schuetz: Audit Team Leader (ATL), CBFO Technical Assistance Contractor (CTAC)
- Jim Vernon: Audit Team Leader-In-Training (AIT), CTAC
- Matt Leroch: Auditor, CTAC (Program Status / Interface and Container Management)
- Bobby Hunt*: Auditor, CTAC (C6 QA – Training and Records)
- Katie Chester*: Auditor, CTAC (C6 QA – WWIS/WDS, NCRs, and MAR)
- Ricardo Chavez: Auditor, CTAC (AK)
- Prissy Yanez*: Auditor (C6 QA – Training and Records)
- Greg Knox: Auditor, CTAC (RTR)
- Roger Vawter: Auditor, CTAC (DTC)
- Brian Tousley: Auditor, CTAC (Program Status / Interface, Container Management, and VE)
- Dick Blauvelt: Technical Specialist, CTAC (AK)
- Randy Fitzgerald: Technical Specialist, CTAC (AK)
- Paul Gomez: Technical Specialist, CTAC (PL V&V)
- Rhett Bradford: Technical Specialist, CTAC (RTR)
- Porf Martinez: Technical Specialist, CTAC (VE)
- Jim Oliver: Technical Specialist, CTAC (DTC)

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

Audit Scope:

The audit team will evaluate the continued adequacy, implementation, and effectiveness of the technical and quality assurance (QA) activities performed by NWP/CCP at INL for characterization of remote-handled (RH) Summary Category Groups (SCGs) S3000 solids and S5000 debris wastes. This will also include verification that a technical review of the generator site's processes has been performed and any issues identified during the technical review have been resolved per DOE/WIPP-16-3564, Generator Site Technical Review Procedure. The Contact-Handled (CH) S3000 (homogeneous solids), S4000 (soils) and S5000
(debris) SCGs will also be audited regarding completion of enhanced Acceptable Knowledge (AK) activities related to containers that have been previously certified.

The audit will be performed at the INL site near Idaho Falls, ID and at the Skeen-Whitlock Building in Carlsbad, NM. 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 INU/CCP documents will be based on the current revisions of the following documents:

- **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
- **Remote-Handled TRU Waste Characterization Program Implementation Plan**, DOE/WIPP-02-3214

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/INL RH TRU Waste Interface Document**, CCP-PO-501
- **CCP Interface Document Preparation**, CCP-PO-043
- Related CCP QA and technical implementing procedures

**Activities to be Audited:**

**General**

- Results of Previous Audits
- Changes in Programs or Operations
- New Programs or Activities Being Implemented
- Changes in Key Personnel

**Quality Assurance Activities in Carlsbad, NM**

The following quality assurance (QA) elements will be evaluated for compliance with the Permit, utilizing checklists C6-1 and C6-2.

- Quality Improvement/Nonconformances
- Personnel Qualification and Training
- Records
- Measuring and Test Equipment (M&TE)
The following technical elements will be evaluated for compliance with the Permit, utilizing checklists C6-1 through C6-4 and/or procedural checklists, as applicable:

- Project-level Data Validation and Verification (PL/D&V)
- Enhanced Acceptable Knowledge (AK), including waste certification (i.e., Waste Stream Profile Forms)
  - Also including, but not limited to, Enhanced Chemical Compatibility Evaluation Memorandum (CCEM), Basis of Knowledge (BOK), AK Assessments, AK Briefings, Interface Waste Management Documents List (IMWDL)
- Real-time Radiography (RTR)
- Visual Examination (VE)
- Dose-to-Curie (DTC)
- Container Management
- Transportation
- WIPP Waste Information System/Waste Data System (WWIS/WDS)
  - Including, but not limited to, Statistical Approach to Material at Risk (MAR)

For additional details, see the attached Processes and Equipment to be Reviewed During Audit A-17-23 of INL/CCP.

Schedule of Audit Activities:

A pre-audit conference will be held Tuesday, June 13, 2017, at 8:30 a.m.
Audit team caucus meetings will be held Tuesday and Wednesday, June 13 and 14, 2017, at 3:00 p.m.
A final audit team caucus meeting will be held Thursday, June 15, 2017, at 1:30 p.m.
Daily management briefings will be held, if needed, Wednesday and Thursday, June 14 and 15, 2017, at 8:30 a.m.
A post-audit conference is scheduled for Thursday, June 15, 2017, at 3:00 p.m.
All meetings will take place in room(s) TBD at the designated INTEC / INL and Carlsbad locations, as noted on the Daily Audit Schedule.

Prepared by: ______________________ Date: 5-3-17
Jim Schuetz, CTAC
Audit Team Leader

Concurrence: ______________________ Date: 5/04/2017
Michael R. Brown, Director
CBFO Office of Quality Assurance
# Processes and Equipment to be Reviewed During Audit A-17-23 of the INL/CCP

<table>
<thead>
<tr>
<th>WIPP #</th>
<th>Process/Equipment Description</th>
<th>Applicable to the Following Waste Streams/Groups of Waste Streams</th>
<th>Currently Approved by NMED</th>
<th>Currently Approved by EPA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>NEW PROCESSES OR EQUIPMENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>None</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td><strong>PREVIOUSLY APPROVED PROCESSES OR EQUIPMENT</strong></td>
<td></td>
<td></td>
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<tr>
<td>14601C2</td>
<td>Radiological characterization analysis using ORIGEN2.2</td>
<td>Debris (S5000)</td>
<td>N/A</td>
<td>YES</td>
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<tr>
<td></td>
<td>As identified in CCP-RC-INL-601</td>
<td></td>
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<tr>
<td>14631C3</td>
<td>Radiological characterization neutron dose-to-curie (DTC) method by confirmation</td>
<td>Debris (S5000)</td>
<td>N/A</td>
<td>YES</td>
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<tr>
<td></td>
<td>As identified in CCP-RC-INL-631</td>
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<td></td>
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<tr>
<td>14VE1*</td>
<td>Visual Examination (VE) Procedure - CCP-TP-006</td>
<td>Solids (S3000)</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td></td>
<td>Description - Visual Examination Technique (VET)</td>
<td>Soils (S4000)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Debris (S5000)</td>
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<tr>
<td>14RHVE1</td>
<td>Visual Examination Procedure - CCP-TP-500</td>
<td>Solids (S3000)</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td></td>
<td>Description - The VE of audio/video media process used for a total of 70 retrievably stored</td>
<td>Soils (S4000)</td>
<td></td>
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<tr>
<td></td>
<td>remote-handled (RH) debris waste drums</td>
<td>Debris (S5000)</td>
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<td></td>
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<tr>
<td>14RRH1</td>
<td>Nondestructive Examination Procedure - CCP-TP-508</td>
<td>Solids (S3000)</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td></td>
<td>Equipment - RTR-RTR-0659</td>
<td>Debris (S5000)</td>
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<tr>
<td></td>
<td>Description - VJ Technologies, Real-time Radiography Characterization (RTR-RTR-0659) System</td>
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<tr>
<td>N/A</td>
<td>Acceptable Knowledge</td>
<td>Solids (S3000)</td>
<td>YES</td>
<td>YES</td>
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<tr>
<td></td>
<td></td>
<td>Soils (S4000)</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Debris (S5000)</td>
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<tr>
<td>N/A</td>
<td>Enhanced Acceptable Knowledge</td>
<td>Solids (S3000)</td>
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<td>TBD</td>
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<tr>
<td></td>
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<td>Soils (S4000)</td>
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<tr>
<td></td>
<td></td>
<td>Debris (S5000)</td>
<td></td>
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<tr>
<td>N/A</td>
<td>Certified Program Enhanced Chemical Compatibility Evaluation</td>
<td>Solids (S3000)</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Soils (S4000)</td>
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<tr>
<td></td>
<td></td>
<td>Debris (S5000)</td>
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<tbody>
<tr>
<td>N/A</td>
<td>Basis of Knowledge Evaluating Oxidizing Chemicals in TRU Waste</td>
<td>Solids (S3000) Soils (S4000) Debris (S5000)</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>N/A</td>
<td>Certified Program Acceptable Knowledge Assessments</td>
<td>Solids (S3000) Soils (S4000) Debris (S5000)</td>
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<td>TBD</td>
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<tr>
<td>N/A</td>
<td>Data Validation and Verification</td>
<td>Solids (S3000) Soils (S4000) Debris (S5000)</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>N/A</td>
<td>WIPP Waste Information System (WWIS)/Waste Data System (WDS)</td>
<td>Solids (S3000) Soils (S4000) Debris (S5000)</td>
<td>YES</td>
<td>YES</td>
</tr>
<tr>
<td>14SGRS1*</td>
<td>Nondestructive Assay Procedure – CCP-TP-115 Description – Stored Waste Examination Pilot Plant (SWEPP) Gamma Ray Spectrometer (SGRS)</td>
<td>Solids (S3000) Soils (S4000) Debris (S5000)</td>
<td>N/A</td>
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<tr>
<td>14WAGS1*</td>
<td>Nondestructive Assay Procedure – CCP-TP-019 Description – Waste Assay Gamma Spectrometer</td>
<td>Solids (S3000) Soils (S4000) Debris (S5000)</td>
<td>N/A</td>
<td>YES</td>
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<tr>
<td>14DTC1</td>
<td>Radiological characterization process using dose-to-curie (DTC) and modeling-derived scaling factors for assigning radionuclide values to RH waste stream Dose-rate fractional contribution of Cs-137 and Co-60 using OSPREY LaBr(Ce) gamma detector Procedure CCP-TP-504</td>
<td>Solids (S3000) Debris (S5000)</td>
<td>N/A</td>
<td>YES</td>
</tr>
</tbody>
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<tr>
<td>N/A</td>
<td>Load Management</td>
<td>Solids (S3000) Soils (S4000) Debris (S5000)</td>
<td>N/A</td>
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<tr>
<td>N/A</td>
<td>Quality Assurance Program</td>
<td>Solids (S3000) Soils (S4000) Debris (S5000)</td>
<td>N/A</td>
<td>YES</td>
</tr>
<tr>
<td>N/A</td>
<td>TRUCON code evaluation to ensure compliance with the enhanced chemical compatibility evaluation</td>
<td>Solids (S3000) Soils (S4000) Debris (S5000)</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>N/A</td>
<td>Implementation of additional checks in the WDS</td>
<td>Solids (S3000) Soils (S4000) Debris (S5000)</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>N/A</td>
<td>Obtain written approval from CBFO prior to release of waste streams for shipment</td>
<td>Solids (S3000) Soils (S4000) Debris (S5000)</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>N/A</td>
<td>Verification that each container requested is part of a CBFO-approved waste stream and authorizes shipment in WDS.</td>
<td>Solids (S3000) Soils (S4000) Debris (S5000)</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

* Indicates equipment currently deactivated that was used to generate BDRs prior to October 1, 2015. These line items cover CH waste characterization activities that are no longer being implemented by CCP. CH containers that were previously characterized using these processes are currently the subject of enhanced AK evaluations to revise AK as necessary and to prepare to request release of containers for shipping.