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

Subject: Transmittal of the Hazardous Waste Facility Permit Attachment C6 Audit Plan and Notification of Assigned Auditors for CBFO Recertification Audit A-16-15 of the Oak Ridge National Laboratory Central Characterization Program

Dear Mr. Kieling:

This letter transmits the audit plan for Carlsbad Field Office (CBFO) Recertification Audit A-16-15 of the Oak Ridge National Laboratory (ORNL) Central Characterization Program for transuranic waste characterization activities. The audit will be conducted as required by the Waste Isolation Pilot Plant Hazardous Waste Facility Permit at the ORNL in Oak Ridge, TN, and at the Skeen-Whitlock Building in Carlsbad, NM, April 19 – 21, 2016. 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. Martin P. Navarrete, Senior Quality Assurance Specialist, at (575) 234-7483.

Sincerely,

Todd Shrader,
Manager
Carlsbad Field Office

Enclosure
cc: w/enclosure
S. Dunagan, CBFO *ED
M. Brown, CBFO ED
J. R. Stroble, CBFO ED
G. Basabilvazo, CBFO ED
M. Navarrete, CBFO ED
D. Miehls, CBFO ED
G. Birge, CBFO ED
N. Castaneda, CBFO ED
T. Carver, CBFO ED
S. Ross, EM-43 ED
R. Maestas, NMED ED
C. Smith, NMED ED
V. Daub, CTAC ED
R. Allen, CTAC ED
P. Martinez, CTAC ED
B. Pace, CTAC ED
R. Castillo, 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-16-15

Organization to be Audited: Oak Ridge National Laboratory (ORNL), Nuclear Waste Partnership LLC (NWP) Central Characterization Program (CCP)

Organizations to be Notified: ORNL
NWP
New Mexico Environment Department (NMED)
Defense Nuclear Facilities Safety Board
U.S. Environmental Protection Agency

Date and Location: April 19 – April 21, 2016
Oak Ridge, TN, and Carlsbad, NM

Audit Team: Martin Navarrete Management Representative, Carlsbad Field Office (CBFO) Office of Quality Assurance
Michael Hernandez Management Representative-in-Training, CBFO Office of Quality Assurance
Rick Castillo Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Berry Pace Auditor, CTAC
Charlie Riggs (AK) Auditor, CTAC
Priscilla Martinez (NDA) Auditor, CTAC
Katie Martin (VE) Auditor, CTAC
Tamara Ackman (RTR) Auditor, CTAC
Jim Schuetz (C6 QA)* Auditor, CTAC
Dick Blauvelt (AK) Technical Specialist, CTAC
Judith Stewart (AK) Technical Specialist, CTAC
Greg Knox (RTR) Technical Specialist, CTAC
Rhett Bradford (VE) Technical Specialist, CTAC
Paul Gomez (PL/V&V) Technical Specialist, CTAC
Jim Oliver (NDA/DTC) Technical Specialist, CTAC
B.J. Verret (FGA/CM) Technical Specialist, CTAC

* 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 ORNL for characterization of contact-handled (CH) Summary Category Groups (SCGs) S3000 solids, S4000 soils/gravel, and S5000 debris wastes, and remote-handled (RH) SCG S5000 debris wastes.

The audit will be performed at the ORNL site in Oak Ridge, TN, 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 and effectiveness of ORNL/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/TRU Waste Processing Center/Oak Ridge National Laboratory Interface Document, CCP-PO-027
- 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**

The following general areas from section C6-1 of the Hazardous Waste Facility Permit:

- Nonconformances
- Personnel Qualification and Training
- Records
Technical Activities

- Project-level Data Validation and Verification (PL/V&V)
- Acceptable Knowledge (AK), including waste certification (i.e., Waste Stream Profile Forms)
- Real-time Radiography (RTR)
- Visual Examination (VE)
- Nondestructive Assay (NDA)
- Dose-to-Curie (DTC)
- Flammable Gas Analysis (FGA)
- WIPP Waste Information System/Waste Data System (WWIS/WDS)

Schedule of Audit Activities:

A pre-audit conference is scheduled for Tuesday, April 19, 2016, at 8:30 a.m.

Audit team caucuses will be held at 4:00 p.m. on Tuesday and Wednesday, April 19 and 20, and at 1:00 p.m. on Thursday, April 21, 2016.

If needed, the audit team leader will conduct a management briefing with appropriate ORNL and CCP management Wednesday, April 20, and Thursday, April 21, 2016, at 8:30 a.m.

A post-audit conference is scheduled for Thursday, April 21, 2016, at 3:00 p.m.

All meetings will take place at the designated locations at the ORNL in Oak Ridge, TN, and Skeen-Whitlock Building in Carlsbad, NM.

Prepared by: 

Rick L. Castillo
CTAC Audit Team Leader

Date: 3/9/16

Concurrence:

Michael R. Brown, Director
CBFO Office of Quality Assurance

Date: 3/9/2016
### CENTRAL CHARACTERIZATION PROGRAM

**LIST OF CH AND RH EQUIPMENT AND PROCESSES REQUIRING EVALUATION AND CERTIFICATION**

**AT OAK RIDGE NATIONAL LABORATORY**

<table>
<thead>
<tr>
<th>WDS Method ID #</th>
<th>Site Equipment # or Title</th>
<th>Description</th>
<th>Components</th>
<th>Software</th>
<th>NDA Calibrated Range, Operating Range and TMU</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td><strong>Nondestructive Assay (NDA)</strong></td>
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| 16IQ1 | IQ3 | Canberra Mobile Qualitative and Quantitative Drum Counter with Isotopics (IQ3) | • High Sensitivity Gamma Waste Assay System  
• 3 HPGe Coaxial Detectors  

| 16MILCC2 | MILCC2 | Mobile ISOCS Large Container Counter (MILCC)  
Approved for 55-gallon drums  
Procedures CCP-TP-076, CCP-TP-077, and CCP-TP-048 | • ISOCS Characterized Broad Energy Gamma Detectors (2)  
• ISOCS rails and collimator sets (2)  
• ISOCS carts (2)  
• Signal cables  
• Canberra LYNX Digital Signal Processors (2) | NDA-2000 Genie 2000 | The calibration of the MILCC is documented in CI-MILCC2-NDA-1001, Revision A, Calibration Report for the MCS Mobile ISOCS Large Container Counter (MILCC) at the Transuranic Waste Processing Center in Oak Ridge, TN.  
The acceptance range is LLD and limited by dead time. Acceptable density range for gamma is approximately 0.001-2.50 g/cc.  
The CI-MILCC2-NDA-1002, Revision B, Oak Ridge Mobile ISOCS Large Container Counter 2 Total Measurement Uncertainty Report, documents the estimate of total measurement uncertainty. |

<table>
<thead>
<tr>
<th><strong>Dose-to-Curie (DTC)</strong></th>
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</thead>
</table>
| 16DTC1 | Dose-to-Curie | Radiological characterization process  
Procedure CCP-TP-504 | As identified in CCP-TP-504 | As identified in CCP-TP-504 | N/A |
## CENTRAL CHARACTERIZATION PROGRAM

**LIST OF CH AND RH EQUIPMENT AND PROCESSES REQUIRING EVALUATION AND CERTIFICATION AT OAK RIDGE NATIONAL LABORATORY**

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</thead>
<tbody>
<tr>
<td>Nondestructive Examination (NDE)</td>
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<tr>
<td>16RR1</td>
<td>MCS RTR #6</td>
<td>Real-time Radiography Mobile Characterization System RTR #6 Procedure CCP-TP-053, CCP-TP-185</td>
<td>• Shielded x-ray enclosure with a hydraulic drum loading door and manually opened personnel door • Conveyor cart including drum manipulation equipment • X-ray imaging system including x-ray tube, image intensifier, and video camera • Video/audio recording equipment • Mobile platform</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Visual Examination (VE)</td>
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</tr>
<tr>
<td>16RHVE1</td>
<td>Visual Examination</td>
<td>Visual Examination Procedure CCP-TP-500</td>
<td>N/A</td>
<td>N/A</td>
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<tr>
<td>16VE1</td>
<td>Visual Examination</td>
<td>Visual Examination Procedure CCP-TP-113</td>
<td>N/A</td>
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### List of Deactivated Equipment

<table>
<thead>
<tr>
<th>WIPP #</th>
<th>Site Equipment #</th>
<th>Site Description</th>
<th>Date Deactivated</th>
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<tbody>
<tr>
<td>16RR2</td>
<td>MCS RTR #7</td>
<td>Real-Time Radiography Mobile Characterization</td>
<td>September 2015</td>
</tr>
</tbody>
</table>