DATE: August 22, 2013


ATTN OF: Benjamine B. Roberts, DOE-ID

SUBJECT: Notification of Recertification Audit A-14-01 of the AMWTP Transuranic Waste Characterization and Certification Program

TO: Benjamine B. Roberts, DOE-ID

Please be advised that an audit team from the U.S. Department of Energy - Carlsbad Field Office (CBFO) will conduct Recertification Audit A-14-01 of the Advanced Mixed Waste Treatment Project (AMWTP) at the Energy Drive Facility in Idaho Falls, Idaho, and at the Idaho National Laboratory near Idaho Falls on October 1-3, 2013.

The AMWTP characterization activities for contact-handled Summary Category Group (SCG) S3000 homogeneous solids waste and SCG S5000 debris waste will be evaluated during the audit. The audit will be conducted in accordance with the attached audit plan. Representatives from the CBFO and the New Mexico Environment Department (NMED) may be present to observe the audit. In addition, the U.S. Environmental Protection Agency (EPA) may conduct an independent inspection of the AMWTP and/or an inspection of the CBFO audit process.

Your representatives are requested to coordinate with the audit team to develop the necessary documentation for the audit team to gain access to the AMWTP facilities, conduct the audit, and have appropriate access to necessary documentation and records. Please provide meeting rooms for the entrance and exit meetings, and working rooms for the audit team and observers. The audit team will need a full set of documentation applicable to the AMWTP characterization activities for the Waste Isolation Pilot Plant (WIPP), including procedures.

If you have any questions concerning this notification, please contact me at (575) 234-7483.

Martin P. Navarrete
Senior Quality Assurance Specialist

Attachment

cc: w/attachment
O. Vincent, CBFO
J. R. Stroble, CBFO
D. Miehls, CBFO
M. Pinzel, CBFO
N. Castaneda, CBFO
J. Cooper, DOE-ID
J. Wells, DOE-ID
T. Jenkins, DOE-ID
D. Haar, AMWTP
G. Byram, AMWTP
G. Tedford, AMWTP
E. Schweinsberg, AMWTP
A. Morse, AMWTP
T. Peake, EPA
L. Bender, EPA
E. Feltcorn, EPA
R. Joglekar, EPA
S. Ghose, EPA
R. Lee, EPA
J. Kieling, NMED
T. Kiphuis, NMED
S. Holmes, NMED
R. Maestas, NMED
C. Smith, NMED
J. Harvill, CTAC
R. Allen, CTAC
C. Castillo, CTAC
P. Martinez, CTAC
D. Harvill, CTAC
G. White, CTAC
Site Documents
WIPP Operating Record
CBFO QA File
CBFO M&RC
*ED denotes electronic distribution
CARLSBAD FIELD OFFICE AUDIT PLAN

Audit Number: A-14-01

Organization: Advanced Mixed Waste Treatment Project (AMWTP)

Organizations to be Notified:
Bechtel BWXT Idaho, LLC
Idaho Treatment Group
New Mexico Environment Department
U.S. Environmental Protection Agency
Defense Nuclear Facilities Safety Board

Date and Location:
October 1–3, 2013
Idaho National Laboratory (INL), Idaho Falls, Idaho and the AMWTP Energy Drive Facility, Idaho Falls, Idaho

Audit Team:
Martin Navarrete Management Representative, Carlsbad Field Office (CBFO), Office of Quality Assurance
Cindi Castillo Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Randall Allen Auditor, CTAC
Tammy Bowden Auditor, CTAC
Harley Kirschenmann Auditor, CTAC
Greg Knox Auditor, CTAC
Katie Martin Auditor, CTAC
Porf Martinez Auditor, CTAC
Berry Face Auditor, CTAC
Charlie Riggs Auditor, CTAC
Jim Schuetz Auditor, CTAC
Roger Vawter Auditor, CTAC
Dick Blauvelt Technical Specialist, CTAC
Rhett Bradford Technical Specialist, CTAC
Paul Gomez Technical Specialist, CTAC
Priscilla Martinez Technical Specialist, CTAC
Jim Oliver Technical Specialist, CTAC
B.J. Verret Technical Specialist, CTAC

Audit Scope:

The audit team will evaluate the continued adequacy, implementation, and effectiveness of the AMWTP technical and quality assurance (QA) activities performed for characterizing contact-handled transuranic waste. The QA and technical activities implemented at AMWTP for Summary Category Group (SCG) S3000 homogeneous solids waste and SCG S5000 debris waste will be audited to requirements in the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP), the CBFO Quality Assurance Program Document, and the Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant.
The specific processes to be audited are identified below and on the attached list entitled: *Processes and Equipment to be Reviewed During Audit A-14-01.*

**Activities to be Audited:**

The following general areas from Attachment C6, Section C6-3, of the WIPP HWFP will be audited:

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

The following QA processes will be audited:

- Organization/QA Program Implementation
- Personnel Qualification and Training
- Quality Improvement (nonconformance reporting and corrective action)
- Documents and Records
- Work Processes
- Procurement
- Inspection and Testing (control of measurement and test equipment for data collection)
- Audits/Assessments
- Container Management
- Software Control

The following waste characterization technical elements will be audited:

- Acceptable Knowledge, including waste certification (i.e., Waste Stream Profile Forms)
- Project-Level Data Validation and Verification
- Solids Sampling
- Headspace Gas Sampling and Analysis
- Real-time Radiography
- Visual Examination
- Nondestructive Assay
- WIPP Waste Information System/Waste Data System
- Load Management

**Governing Documents/Requirements:**

Evaluation of adequacy of AMWTP 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

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

• AMWTP Certification Plan for INL Contact-Handled Transuranic Waste, MP-TRUW-8.1
• AMWTP Quality Assurance Project Plan, MP-TRUW-8.2
• Related AMWTP QA and technical implementing procedures

Schedule of Audit Activities:

A pre-audit conference is scheduled for 8:30 a.m., Tuesday, October 1, 2013, at the AMWTP Energy Drive Facility in Idaho Falls, Idaho.

Audit team caucuses will be held at 3:30 p.m., Tuesday and Wednesday, October 1 and 2, 2013, and at 1:00 p.m. on Thursday, October 3, 2013.

The audit team leader will meet with AMWTP management to discuss audit concerns and audit progress at 8:30 a.m., Tuesday through Thursday, October 1–3, 2013.

A post-audit conference is scheduled for 3:00 p.m., Thursday, October 3, 2013.

All meeting locations will be identified in the daily audit schedule.

Approved By: __________________________ Date: 8/15/13
Cindi Castillo, CTAC
Audit Team Leader

Approved By: __________________________ Date: 9-20-13
Director, CBFO Office of Quality Assurance
# Processes and Equipment to be Reviewed During Audit A-14-01

<table>
<thead>
<tr>
<th>WIPP #</th>
<th>Site Equipment #</th>
<th>Equipment Description</th>
<th>Components</th>
<th>Software</th>
<th>NDA Calibrated Range, Operating Range and TMU</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEADSPACE GAS (for data collected prior to the Class 2 PMR dated March 13, 2013)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Method described in procedure INST-OI-43</td>
<td>Component 1</td>
<td>Component 2</td>
<td>Component 3</td>
</tr>
<tr>
<td>NONDESTRUCTIVE ASSAY</td>
<td>Canberra Integrated Waste Assay System (IWAS) for assay and isotopes on 55-gallon and 83/85-gallon drums</td>
<td>Component 1</td>
<td>Component 2</td>
<td>Component 3</td>
<td>Component 4</td>
</tr>
<tr>
<td>9DA1</td>
<td>Z-211-102</td>
<td>Component 1</td>
<td>Component 2</td>
<td>Component 3</td>
<td>Component 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Component 1</td>
<td>Component 2</td>
<td>Component 3</td>
<td>Component 4</td>
</tr>
<tr>
<td>9DA2</td>
<td>Z-211-103</td>
<td>Component 1</td>
<td>Component 2</td>
<td>Component 3</td>
<td>Component 4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Component 1</td>
<td>Component 2</td>
<td>Component 3</td>
<td>Component 4</td>
</tr>
</tbody>
</table>

The calibration of IWAS system was verified and documented in the site acceptance reports CI-IDA-NDA-0051 through CI-IDA-NDA-0054.

The determination of TMU for the IWAS unit is documented in CI-IDA-NDA-0055, Total Measurement Uncertainty for the AMWTP Integrated Waste Assay Systems, Revision 1, July 30, 2003.

The calibration of IWAS system was verified and documented in the site acceptance reports CI-IDA-NDA-0051 through CI-IDA-NDA-0054.

The determination of TMU for the IWAS unit is documented in CI-IDA-NDA-0055, Total Measurement Uncertainty for the AMWTP Integrated Waste Assay Systems, Revision 1, July 30, 2003.
<table>
<thead>
<tr>
<th>Equipment Description</th>
<th>Components</th>
<th>Software</th>
<th>NDA Calibrated Range, Operating Range and TMU</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>9DA3</strong>&lt;br&gt;Canberra Integrated Waste Assay System (IWAS) - DAS3 - 55-gallon drums</td>
<td>Broad Energy Germanium (BEGe) gamma detectors&lt;br&gt;122 helium-3 tubes used in&lt;br&gt;passive neutron coincidence&lt;br&gt;counting modality and the&lt;br&gt;active neutron differential&lt;br&gt;away modality&lt;br&gt;CF-252/ Cs-137 Add-A-Source&lt;br&gt;(AAS) correction source&lt;br&gt;14 MeV neutron generator&lt;br&gt;Fast Neutron Detector Packs (FNDP)</td>
<td>NDA 2000&lt;br&gt;Canberra's Genie 2000&lt;br&gt;Multi-Group Analysis (MGA)&lt;br&gt;Multi-Group Analysis-Uranium (MGA-U)</td>
<td>The calibration of IWAS system was verified and documented in the site acceptance reports&lt;br&gt;CI-IDA-NDA-0051 through&lt;br&gt;CI-IDA-NDA-0054&lt;br&gt;The determination of TMU for the IWAS unit is documented in CI-IDA-NDA-0055, Total Measurement Uncertainty for the AMWTP Integrated Waste Assay Systems, Revision 1, July 30, 2003.</td>
</tr>
<tr>
<td><strong>9DA4</strong>&lt;br&gt;Canberra Integrated Waste Assay System (IWAS) - DAS4 - 55-gallon drums</td>
<td>Broad Energy Germanium (BEGe) gamma detectors&lt;br&gt;122 helium-3 tubes used in&lt;br&gt;passive neutron coincidence&lt;br&gt;counting modality and the&lt;br&gt;active neutron differential&lt;br&gt;away modality&lt;br&gt;CF-252/ Cs-137 Add-A-Source&lt;br&gt;(AAS) correction source&lt;br&gt;14 MeV neutron generator&lt;br&gt;Fast Neutron Detector Packs (FNDP)</td>
<td>NDA 2000&lt;br&gt;Canberra's Genie 2000&lt;br&gt;Multi-Group Analysis (MGA)&lt;br&gt;Multi-Group Analysis-Uranium (MGA-U)</td>
<td>The calibration of IWAS system was verified and documented in the site acceptance reports&lt;br&gt;CI-IDA-NDA-0051 through&lt;br&gt;CI-IDA-NDA-0054&lt;br&gt;The determination of TMU for the IWAS unit is documented in CI-IDA-NDA-0055, Total Measurement Uncertainty for the AMWTP Integrated Waste Assay Systems, Revision 1, July 30, 2003.</td>
</tr>
<tr>
<td><strong>9RR1</strong>&lt;br&gt;Real Time Radiography (RTR) System</td>
<td>RTR System</td>
<td>Waste Tracking System (WTS)</td>
<td>N/A</td>
</tr>
</tbody>
</table>
## Processes and Equipment to be Reviewed During Audit A-14-01

<table>
<thead>
<tr>
<th>WIPP #</th>
<th>Site Equipment #</th>
<th>Equipment Description</th>
<th>Components</th>
<th>Software</th>
<th>NDA Calibrated Range, Operating Range and TMU</th>
</tr>
</thead>
</table>
| 9RR2   | Z-213-106        | Real Time Radiography (RTR) System  
             Method described in procedure INST-OI-12 | RTR System | Waste Tracking System (WTS) | N/A |
|        |                  |                       |            |          |                                               |
|        |                  |                       |            |          |                                               |
| SOLIDS (for data collected prior to the Class 2 PMR dated March 13, 2013) | | | | |
| 9DC1   | Z-250-802        | Drum Coring and Sample Collection Glove Box  
             Method – BN-MDC  
             Method described in procedure INST-OI-16, INST-OI-73, and INST-OI-75 | Drum Coring and Sample Collection Glove Box | Waste Tracking System (WTS) | N/A |
|        |                  |                       |            |          |                                               |
|        |                  |                       |            |          |                                               |
| VISUAL EXAMINATION | | | | |
| 9VE2   | N/A              | Visual Examination (in lieu of RTR) (VEC)  
             Method described in INST-OI-34 | N/A | Waste Tracking System (WTS) | N/A |
| 9VE3   | N/A              | Newly Generated Waste Visual Examination Closure (VNC)  
             Method described in INST-OI-34 | N/A | Waste Tracking System (WTS) | N/A |
| 9VE5   | N/A              | Visual Examination (in lieu of RTR) (VEC)  
             Method described in INST-FOI-17 | N/A | Waste Tracking System (WTS) | N/A |
| 9VE6   | N/A              | Newly Generated Waste Visual Examination Closure (VNC)  
             Method described in INST-FOI-17 | N/A | Waste Tracking System (WTS) | N/A |
| 9VE7   | N/A              | Box Line Visual Examination (VEB) – Box to drum repackaging  
             Method described in INST-FOI-17 | N/A | Waste Tracking System (WTS) | N/A |
| 9VE8   | N/A              | Box Line Visual Examination (VEB) – Drum to new drum repackaging  
             Method described in INST-FOI-17 | N/A | Waste Tracking System (WTS) | N/A |

Page 3 of 4
# Processes and Equipment to be Reviewed During Audit A-14-01

<table>
<thead>
<tr>
<th>WIPP #</th>
<th>Site Equipment #</th>
<th>Equipment Description</th>
<th>Components</th>
<th>Software</th>
<th>NDA Calibrated Range, Operating Range and TMU</th>
</tr>
</thead>
<tbody>
<tr>
<td>9VE10</td>
<td>N/A</td>
<td>Box Line Visual Examination (VEB) – Drum to new drum repackaging</td>
<td>N/A</td>
<td>Waste Tracking System (WTS)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

## AMWTP DEACTIVATED EQUIPMENT LIST

<table>
<thead>
<tr>
<th>WIPP #</th>
<th>Site Equipment #</th>
<th>Equipment Description</th>
<th>Date Deactivated</th>
</tr>
</thead>
<tbody>
<tr>
<td>HEADSPACE GAS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9HG1</td>
<td>Z-220-001A</td>
<td>Nuclear Filter Technology Drum Vent System – Mass Spectrometer, Unit A</td>
<td>8/6/05</td>
</tr>
<tr>
<td>9HG2</td>
<td>Z-220-001B</td>
<td>Nuclear Filter Technology Drum Vent System – Mass Spectrometer, Unit B</td>
<td>8/6/06</td>
</tr>
<tr>
<td>9HG3</td>
<td>Z-220-001C</td>
<td>Nuclear Filter Technology Drum Vent System – Mass Spectrometer, Unit C</td>
<td>8/6/06</td>
</tr>
<tr>
<td>9HG7</td>
<td>Z-221-001D</td>
<td>Consonant Technology Inc. (CTI) – Gas Chromatography/Mass Spectrometry (GC/MS) System</td>
<td>8/6/06 Used for spare parts</td>
</tr>
<tr>
<td>9HG5</td>
<td>Z-221-001C</td>
<td>Consonant Technology Inc. (CTI) – Gas Chromatography/Mass Spectrometry (GC/MS) System</td>
<td>4/14/08</td>
</tr>
<tr>
<td>9HG5</td>
<td>Z-221-001B</td>
<td>Consonant Technology Inc. (CTI) – Gas Chromatography/Mass Spectrometry (GC/MS) System</td>
<td>4/14/08</td>
</tr>
<tr>
<td>VISUAL EXAMINATION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9VE9</td>
<td>N/A</td>
<td>Box Line Visual Examination (VEB) – Box to Drum Repackaging</td>
<td>Expired in WDS February 23, 2011</td>
</tr>
<tr>
<td>9VE11</td>
<td>N/A</td>
<td>Sludge Visual Examination Closure (VSC) – S3000 to a new container</td>
<td>2/6/12 Method described in INST-FOI-22</td>
</tr>
</tbody>
</table>