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

Subject: Transmittal of the Hazardous Waste Facility Permit Attachment C6 Audit Plan for Audit A-12-03 of the AMWTP Transuranic Waste Characterization and Certification Program

Dear Mr. Kieling:

This letter transmits the audit plan for the subject Carlsbad Field Office recertification audit to be conducted at the Idaho National Laboratory November 1-3, 2011 for work performed by the Advanced Mixed Waste Treatment Project (AMWTP), as required by the Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Section C4-3g. The audit plan identifies the audit team members as required by Section C6-3 of the Permit.

If you have any questions concerning this notification, please contact Mr. Randy Unger, Director of Quality Assurance, at (575) 234-7065.

Sincerely,

Edward Ziemianski
Interim Manager

Enclosure

cc: w/enclosure
R. Unger, CBFO
G. Basabivazo, CBFO
J. R. Stroble, CBFO
H. Budweg, CBFO
C. Fesmire, CBFO
N. Castaneda, CBFO
S. McCauslin, CBFO
T. Hall, NMED
S. Holmes, NMED
P. Martinez, CTAC
M. Mager, CTAC
WIPP Operating Record
CBFO QA File
CBFO M&RC
*ED denotes electronic distribution
CARLSBAD FIELD OFFICE CERTIFICATION AUDIT PLAN

Audit Number: A-12-03

Organization: Advanced Mixed Waste Treatment Project (AMWTP)

Organizations to be Notified:
- Bechtel BWXT Idaho, LLC (BBWI)
- Idaho Treatment Group (ITG)
- New Mexico Environment Department
- Environmental Protection Agency
- Defense Nuclear Facilities Safety Board

Date and Location:
- November 1 – 3, 2011
- Idaho Falls, Idaho

Audit Team:
- Courtland Fesmire, CBFO Quality Assurance Representative
- Porf Martinez, Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
- Jack Walsh, Auditor, CTAC
- Katie Martin, Auditor, CTAC
- Cindi Castillo, Auditor, CTAC
- Norm Frank, Auditor, CTAC
- Charlie Riggs, Auditor, CTAC
- Earl Bradford, Auditor, CTAC
- Margie Martinez, Auditor, CTAC
- Priscilla Martinez, Auditor, CTAC
- Paul Gomez, Technical Specialist, CTAC
- Dick Blauvelt, Technical Specialist, CTAC
- BJ Verret, Technical Specialist, CTAC
- Rhett Bradford, Technical Specialist, CTAC
- Jim Oliver, 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 (CH) transuranic (TRU) waste. The QA and technical activities implemented at AMWTP for Summary Category Groups (SCGs) 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 (QAPD), and the Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WAC). In addition, the audit team will evaluate the Visual Examination process for characterizing CH SCG S3000 homogeneous solids waste.

The specific processes to be audited are identified below in the “Activities to be Audited” section and on the attached list, “Processes and Equipment to be Reviewed During Audit A-12-03.”
Activities to be Audited:

The following general areas from Attachment C6, Section C6-3 of the 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 elements 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 measuring and test equipment (M&TE) for data collection)
Audits/Assessments
Container Management
Software Control
Load Management

The following waste characterization technical elements will be audited:

Acceptable Knowledge (AK) including waste certification (i.e., Waste Stream Profile Forms)
Project-Level Data Validation and Verification (V&V)
Solids Sampling and Analysis (SS&A)
Headspace Gas Sampling and Analysis (HSG S&A)
Real-time Radiography (RTR)
Visual Examination (VE)
Nondestructive Assay (NDA)
WIPP Waste Information System/Waste Data System (WWIS/WDS)

Governing Documents/Requirements:

Evaluation of adequacy of AMWTP documents will be based on the current revisions of the following documents:

- *Quality Assurance Program Document (QAPD),* DOE/CBFO-94-1012
- Hazardous Waste Facility Permit, Waste Isolation Pilot Plant EPA No. NM4890139088-TSDF, the New Mexico Environment Department (HWFP)
- *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WAC),* 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 (QAPjP), MP-TRUW-8.2**
- Related AMWTP quality assurance and technical implementing procedures

**Schedule of Audit Activities:**

A pre-audit conference is scheduled for 8:00 a.m., Tuesday, November 1, 2011, at the in-town offices of the AMWTP.

Audit team caucuses will be held at 4:00 p.m., Tuesday through Thursday, November 1 through 3, 2011, at the in-town offices of the AMWTP.

The audit team leader will meet with AMWTP management to discuss audit concerns and audit progress at 8:30 a.m., Wednesday and Thursday, November 2 and 3, 2011, at the in-town offices of the AMWTP.

A post-audit conference is scheduled for 4:00 p.m., Thursday, November 3, 2011, at the in-town offices of the AMWTP.

Approved By: ___________________________  Date: 9/14/2011

Porf Martinez, CTAC
Audit Team Leader

Approved By: ___________________________  Date: 26 Sep 11

Randy Unger, CBFO
Director, Office of Quality Assurance
<table>
<thead>
<tr>
<th>WIPP #</th>
<th>Site</th>
<th>Equipment #</th>
<th>Equipment Description</th>
<th>Components</th>
<th>Software</th>
<th>NDA Calibrated Range, Operating Range and TMU</th>
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<td><strong>NEW PROCESSES OR EQUIPMENT</strong></td>
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<td>TBD</td>
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<td>Sludge Visual Examination Closure (VSC) – S3000 to a new container</td>
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<td>Method described in INST-FOI-22</td>
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<tr>
<td><strong>PREVIOUSLY APPROVED PROCESSES OR EQUIPMENT</strong></td>
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<tr>
<td>9HG4</td>
<td>Z-221-001-A</td>
<td>Consonant Technology Inc. (CTI) – Gas Chromatography/Mass Spectrometry (GC/MS) System</td>
<td>PDP ID # CTI-HGAS-A-001</td>
<td>Agilent 5973N Network Mass Selective Detector – Unit 001</td>
<td>HGAS Software, Version 1.23</td>
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<td>Method described in procedure INST-OI-43</td>
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<tr>
<td>9DA1</td>
<td>Z-211-102</td>
<td>Canberra Integrated Waste Assay System (IWAS) for assay and isotopes on 55-gallon and 83/85-gallon drums</td>
<td>PDP ID # CTI-HGAS-A-001</td>
<td>NDA 2000</td>
<td>Canberra's Genie 2000</td>
<td>The calibration of IWAS system was verified and documented in the site acceptance reports CI-IDA-NDA-0051 through CI-IDA-NDA-0054</td>
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<td>DAS –102 - PDP Registration # AM01/AMN1</td>
<td>Broad Energy Germanium (BEGe) gamma detectors</td>
<td>Multi-Group Analysis (MGA)</td>
<td>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>
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<tr>
<td>WIPP #</td>
<td>Site Equipment #</td>
<td>Equipment Description</td>
<td>Components</td>
<td>Software</td>
<td>NDA Calibrated Range, Operating Range and TMU</td>
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</table>
| 9DA2  | Z-211-103        | Canberra Integrated Waste Assay System (IWAS) for assay and isotopes on 55-gallon and 83/85-gallon drums | ➢ Broad Energy Germanium (BEGe) gamma detectors  
➢ 122 helium-3 tubes used in passive neutron coincidence counting modality and the active neutron differential die-away modality  
➢ Cf-252/Cs-137 Add-A-Source (AAS) correction source  
➢ 14 MeV neutron generator  
➢ Fast Neutron Detector Packs (FNDP) | NDA 2000  
Canberra's Genie 2000  
Multi-Group Analysis (MGA)  
Multi-Group Analysis- Uranium (MGA-U) | The calibration of IWAS system was verified and documented in the site acceptance reports CI-IDA-NDA-0051 through CI-IDA-NDA-0054  
|       |                  | DAS-103 - PDP Registration # AM02/AMN2  
Method described in procedure INST-OI-14 | | | |
|       |                  | DAS3 – 55 gallon drums  
DAS-100 – PDP Registration # AM03/AMN3  
Method described in INST-FOI-01 | | | |
| 9DA3  | Z-390-100        | Canberra Integrated Waste Assay System (IWAS) - DAS3 – 55 gallon drums | ➢ Broad Energy Germanium (BEGe) gamma detectors  
➢ 122 helium-3 tubes used in passive neutron coincidence counting modality and the active neutron differential die-away modality  
➢ Cf-252/Cs-137 Add-A-Source (AAS) correction source  
➢ 14 MeV neutron generator  
➢ Fast Neutron Detector Packs (FNDP) | NDA 2000  
Canberra's Genie 2000  
Multi-Group Analysis (MGA)  
Multi-Group Analysis- Uranium (MGA-U) | 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. |
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➢ 122 helium-3 tubes used in passive neutron coincidence counting modality and the active neutron differential die-away modality  
➢ Cf-252/Cs-137 Add-A-Source (AAS) correction source  
➢ 14 MeV neutron generator  
➢ Fast Neutron Detector Packs (FNDP) | NDA 2000  
Canberra’s Genie 2000  
Multi-Group Analysis (MGA)  
Multi-Group Analysis - Uranium (MGA-U) | 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. |
<p>| 9RR1   | Z-213-101        | Real Time Radiography System – 55 gallon drums, 83 gallon drums and SWBs | RTR System              | Waste Tracking System (WTS) | N/A                                           |
| 9RR2   | Z-213-106        | Real Time Radiography System – 55 gallon drums, 83 gallon drums and SWBs | RTR System              | Waste Tracking System (WTS) | N/A                                           |</p>
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<tr>
<td>9DC1</td>
<td>Z-250-802</td>
<td>Drum Coring and Sample Collection Glove Box Method – BN-MDC Method described in procedure INST-OI-16, INST-OI-73, and INST-OI-75</td>
<td>Drum Coring and Sample Collection Glove Box</td>
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<td>9VE2</td>
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<td>9VE5</td>
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<td>Box Line Visual Examination (VEB) – Drum to new drum repackaging Method described in INST-OI-34</td>
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### Processes and Equipment to be Reviewed During Audit A-12-03

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