



Department of Energy
 Carlsbad Field Office
 P. O. Box 3090
 Carlsbad, New Mexico 88221

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

NMED
 Hazardous Waste Bureau

Subject: Transmittal of Audit Plan and Notification of Assigned Auditors for CBFO Audit
 A-15-01 of the Advanced Mixed Waste Treatment Project

Dear Mr. Kieling:

This letter transmits the audit plan for Carlsbad Field Office (CBFO) Recertification Audit A-15-01 of the Advanced Mixed Waste Treatment Project at the Idaho National Laboratory (INL) for transuranic waste characterization activities. The audit will be conducted as required by the Waste Isolation Pilot Plant Hazardous Waste Facility Permit, and will be held at the Energy Drive Facilities in Idaho Falls, Idaho and at the INL site on October 7-9, 2014. 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.

Please contact Mr. Michael R. Brown, the Quality Assurance Director, at (575) 234-7476, should you have any questions concerning this notification.

Sincerely,

Jose R. Franco
 Jose R. Franco, Manager
 Carlsbad Field Office

Enclosure

cc: w/enclosure

D. Bryson, CBFO	*ED	V. Daub, CTAC	ED
M. Brown, CBFO	ED	R. Allen, CTAC	ED
J.R. Stroble, CBFO	ED	P. Martinez, CTAC	ED
G. Basabilvazo, CBFO	ED	B. Pace, CTAC	ED
M. Navarrete, CBFO	ED	C. Castillo, CTAC	ED
D. Miehl, CBFO	ED	D. Harvill, CTAC	ED
M. Pinzel, CBFO	ED	G. White, CTAC	ED
N. Castaneda, CBFO	ED	A. Urquidez, RES	ED
T. Kliphuis, NMED	ED	CBFO QA File	
S. Holmes, NMED	ED	M&RC	
R. Maestas, NMED	ED	*ED denotes electronic distribution	
C. Smith, NMED	ED		



CARLSBAD FIELD OFFICE AUDIT PLAN

Audit Number: A-15-01

Organization: Advanced Mixed Waste Treatment Project (AMWTP)

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

Date and Location: October 7–9, 2014
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) Quality Assurance (QA) Division
Dennis Miehl	CBFO QA Representative
Cindi Castillo	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Tammy Ackman	Auditor, CTAC (VE)
Harley Kirschenmann	Auditor, CTAC (C6 QA, Records, Documents, Audits/Assessments)
Greg Knox	Auditor, CTAC (NDA)
Katie Martin	Auditor, CTAC (C6 QA, Training)
Mike Noland	Auditor, CTAC (Organization/QA Program)
Berry Pace	Auditor, CTAC (RTR)
Charlie Riggs	Auditor, CTAC (AK)
Jim Schuetz	Auditor, CTAC (C6 QA, WWIS/WDS, Software Control, Procurement, Work Processes)
Roger Vawter	Auditor, CTAC (C6 QA, Quality Improvement, Inspection & Testing)
Dick Blauvelt	Technical Specialist, CTAC (AK, Waste Certification, Load Management)
Paul Gomez	Technical Specialist, CTAC (PL V&V)
Porf Martinez	Technical Specialist, CTAC (VE)
Priscilla Martinez	Technical Specialist, CTAC (RTR)
Jim Oliver	Technical Specialist, CTAC (NDA)
B. J. Verret	Technical Specialist, CTAC (Container Management, Shipping Documentation, Retrieval Inspection)

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 items to be audited are listed below.

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)
- Document Control
- 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 (AK), including waste certification (i.e., Waste Stream Profile Forms)
- Project-Level Data Validation and Verification (PL V&V)
- Real-time Radiography (RTR)
- Visual Examination (VE)
- Nondestructive Assay (NDA)
- WIPP Waste Information System/Waste Data System (WWIS/WDS)
- Load Management

For additional details see the attached Processes and Equipment to be Reviewed During Audit A-15-01 of AMWTP.

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 7, 2014, 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 7 and 8, 2014, and at 1:00 p.m. on Thursday, October 9, 2014.

The audit team leader will meet with AMWTP management (if needed) to discuss audit concerns and audit progress at 8:30 a.m., on Wednesday and Thursday, October 8 and 9, 2014.

A post-audit conference is scheduled for 3:00 p.m., Thursday, October 9, 2014.

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

Approved By: Cindi Castillo
Cindi Castillo, CTAC
Audit Team Leader

Date: 8/5/14

Approved By: Michael R. Brown
Michael R. Brown, Director
CBFO Quality Assurance Division

Date: 8/14/14

Processes and Equipment to be Reviewed During Audit A-15-01

WIPP #	Site Equipment #	Equipment Description	Components	Software	NDA Calibrated Range, Operating Range and TMU
NON-DESTRUCTIVE ASSAY					
9DA1	Z-211-102	<p>Canberra Integrated Waste Assay System (IWAS) for assay and isotopics on 55-gallon and 83/85-gallon drums</p> <p>DAS -102 – PDP Registration # AM01/AMN1 Method described in procedure INST-OI-14</p>	<ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • NDA 2000 • Canberra's Genie 2000 • Multi-Group Analysis (MGA) • Multi-Group Analysis-Uranium (MGA-U) 	<p>The calibration of IWAS system was verified and documented in the site acceptance reports CI-IDA-NDA-0051 through CI-IDA-NDA-0054.</p> <p>The determination of total measurement uncertainty (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>
9DA2	Z-211-103	<p>Canberra Integrated Waste Assay System (IWAS) for assay and isotopics on 55-gallon and 83/85-gallon drums</p> <p>DAS-103 - PDP Registration # AM02/AMN2 Method described in procedure INST-OI-14</p>	<ul style="list-style-type: none"> • 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) 	<ul style="list-style-type: none"> • NDA 2000 • Canberra's Genie 2000 • Multi-Group Analysis (MGA) • Multi-Group Analysis-Uranium (MGA-U) 	<p>The calibration of IWAS system was verified and documented in the site acceptance reports CI-IDA-NDA-0051 through CI-IDA-NDA-0054.</p> <p>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>
9DA3	Z-390-100	<p>Canberra Integrated Waste Assay System (IWAS) - DAS3 – 55-gallon drums</p> <p>DAS-100 – PDP Registration # AM03/AMN3 Method described in INST-FOI-01</p>	<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • NDA 2000 • Canberra's Genie 2000 • Multi-Group Analysis (MGA) • Multi-Group Analysis-Uranium (MGA-U) 	<p>The calibration of IWAS system was verified and documented in the site acceptance reports CI-IDA-NDA-0051 through CI-IDA-NDA-0054.</p> <p>The determination of TMU for the IWAS unit is documented in CI-IDA-NDA-0055, Total Measurement Uncertainty for the AMWTP</p>

Processes and Equipment to be Reviewed During Audit A-15-01

WIPP #	Site Equipment #	Equipment Description	Components	Software	NDA Calibrated Range, Operating Range and TMU
			<ul style="list-style-type: none"> Fast Neutron Detector Packs (FNDP) 		Integrated Waste Assay Systems, Revision 1, July 30, 2003.
9DA4	Z-390-101	Canberra Integrated Waste Assay System (IWAS) - DAS4 – 55 gallon drums DAS-101 – PDP Registration # AM04/AMN4 Method described in INST-FOI-01	<ul style="list-style-type: none"> 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) 	<ul style="list-style-type: none"> 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.
NON-DESTRUCTIVE EXAMINATION					
9RR1	Z-213-101	Real-Time Radiography System Method described in INST-OI-12	RTR System	Waste Tracking System (WTS)	N/A
9RR2	Z-213-106	Real-Time Radiography System Method described in procedure INST-OI-12	RTR System	Waste Tracking System (WTS)	N/A
9RR3	RTR-RTR-1001	Real-Time Radiography System Method described in procedure INST-OI-12	RTR System	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

Processes and Equipment to be Reviewed During Audit A-15-01

WIPP #	Site Equipment #	Equipment Description	Components	Software	NDA Calibrated Range, Operating Range and TMU
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
9VE10	N/A	Box Line Visual Examination (VEB) – Drum to new drum repackaging Method described in INST-OI-34	N/A	Waste Tracking System (WTS)	N/A

AMWTP DEACTIVATED EQUIPMENT AND PROCESS LIST

WIPP #	Site Equipment #	Equipment Description	Date Deactivated
HEADSPACE GAS			
9HG1	Z-220-001A	Nuclear Filter Technology Drum Vent System – Mass Spectrometer, Unit A	8/6/06
9HG2	Z-220-001B	Nuclear Filter Technology Drum Vent System – Mass Spectrometer, Unit B	8/6/06
9HG3	Z-220-001C	Nuclear Filter Technology Drum Vent System – Mass Spectrometer, Unit C	8/6/06
9HG7	Z-221-001D	Consonant Technology Inc. (CTI) –Gas Chromatography/Mass Spectrometry (GC/MS) System	Used for spare parts
9HG6	Z-221-001C	Consonant Technology Inc. (CTI) –Gas Chromatography/Mass Spectrometry (GC/MS) System	4/08
9HG5	Z-221-001B	Consonant Technology Inc. (CTI) –Gas Chromatography/Mass Spectrometry (GC/MS) System	4/08
9HG4	Z-221-001-A	Consonant Technology Inc. (CTI) –Gas Chromatography/Mass Spectrometry (GC/MS) System	3/13
SOLIDS SAMPLING			
9DC1	Z-250-802	Drum Coring and Sample Collection Glove Box	3/13
VISUAL EXAMINATION			
9VE9	N/A	Box Line Visual Examination (VEB) – Box to Drum Repackaging	Expired in WDS February 23, 2011
9VE11	N/A	Sludge Visual Examination Closure (VSC) – S3000 to a new container Method described in INST-FOI-22	2/12