



Department of Energy
Carlsbad Field Office
P. O. Box 3090
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NOV 10 2016



RECEIVED

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

**NMED
Hazardous Waste Bureau**

Subject: Transmittal of Audit Plan and Notification of Assigned Auditors for CBFO
Audit A-17-04 of the Advanced Mixed Waste Treatment Project

Dear Mr. Kieling:

This letter transmits the audit plan for Carlsbad Field Office (CBFO) Recertification Audit A-17-04 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 Sawtelle Street Facility, 1580 Sawtelle Street, Idaho Falls, ID 83402, and at the INL Site, December 12 – 16, 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.

Please contact CBFO Office of Quality Assurance Senior Quality Assurance Specialist, Mr. Martin P. Navarrete, at (575) 234-7483 should you have any questions concerning this notification.

Sincerely,

Todd Shrader, Manager
Carlsbad Field Office

Enclosure



Mr. John E. Kieling

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NOV 10 2016

cc: w/enclosure

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S. Dunagan, CBFO	ED
J. Carswell, CBFO	ED
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CARLSBAD FIELD OFFICE AUDIT PLAN

Audit Number: A-17-04

Organization: Advanced Mixed Waste Treatment Project (AMWTP)

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

Date and Location: December 12 – 16, 2016
Idaho National Laboratory (INL), Idaho Falls, Idaho, and the
AMWTP Sawtelle St. Facility, Idaho Falls, Idaho.

Audit Team:

Martin Navarrete	Management Representative, Carlsbad Field Office (CBFO) Office of Quality Assurance (QA)
Dennis Miehl	CBFO QA Representative
Greg Knox	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Jim Vernon	Audit Team Leader-in-training, CTAC (C6 QA, WWIS/WDS, Software Control)
Porf Martinez	Auditor, CTAC (Organization/QA Program)
Harley Kirschenmann	Auditor, CTAC (AK)
Cindi Castillo	Auditor, CTAC (VE)
Charlie Riggs	Auditor, CTAC (RTR)
Jack Walsh	Auditor, CTAC (NDA)
Roger Vawter	Auditor, CTAC (C6 QA, Quality Improvement, Inspection & Testing, Audits/Assessments Procurement, Work Processes)
Kathy Hood	Auditor, CTAC (C6 QA, Records, Documents, Training)
Ricardo Chavez	Auditor-in-training, CTAC
John Fernandez	Auditor-in-training, CTAC
Paul Gomez	Technical Specialist, CTAC (PL V&V)
Dick Blauvelt (telecon.)	Technical Specialist, CTAC (AK, Waste Certification, Load Management)
Randy Fitzgerald	Technical Specialist, CTAC (AK)
Rhett Bradford	Technical Specialist, CTAC (VE)
Prissy Yanez	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 QA activities performed for characterizing contact-handled transuranic waste. The QA and technical activities implemented at AMWTP for contact-handled (CH) Summary Category Group (SCG) S3000 homogeneous solids waste and CH 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-17-04 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*, DOEWIPP-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 (Fluor Idaho PLN-5198)
- *AMWTP Quality Assurance Project Plan*, MP-TRUW-8.2 (Fluor Idaho PLN 5199)
- Related AMWTP QA and technical implementing procedures

Schedule of Audit Activities:

A pre-audit conference is scheduled for 8:30 a.m., Monday, December 12, 2016, in the AMWTP Sawtelle St. Facility, Idaho Falls, Idaho.

Audit team caucuses will be held at 3:30 p.m., Monday, December 12, through Thursday, December 15, 2016, and at 1:00 p.m. on Friday, December 16, 2016.

The audit team leader will meet with AMWTP management (if needed) to discuss audit concerns and audit progress at 8:30 a.m., Tuesday, December 13 through Friday, December 16, 2016, location TBD.

A post-audit conference is scheduled for 3:00 p.m., Friday, December 16, 2016, in the AMWTP Sawtelle St. Facility, Idaho Falls, Idaho.

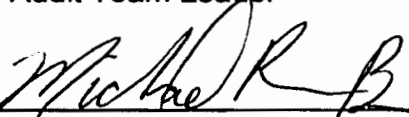
All meeting locations will be identified on the daily audit schedule.

Approved By: _____


Greg Knox, CTAC
Audit Team Leader

Date: 9 Nov 2016

Approved By: _____


Michael R. Brown, Director
CBFO Office of Quality Assurance

Date: 11/9/2016

Processes and Equipment to be Reviewed During Audit A-17-04 of AMWTP

WIPP #	Site Equipment #	Process/Equipment Description	Components	Software	NDA Calibrated Range, Operating Range and TMU
AMWTP New Processes or Equipment					
9WAGSI	WAGS-610	Waste Assay Gamma Spectrometer (WAGS) WAGS- PDP Registration #AM07/AMG2 Method described in INST-01-123 (TPR-8093)	<ul style="list-style-type: none"> • Broad Energy Germanium (BEGe) gamma detectors • Barium Transmission Source 	<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 the WAGS was verified and documented in CCP-INL-WAGS-001 and CCP-INL-WAGS-003, Waste Assay Gamma Spectrometer (WAGS) Calibration, Confirmation, and Verification Reports, The determination of TMU for the WAGS is documented CCP-INL-WAGS -002, Total Measurement Uncertainty for the WAGS System
9SGRS1	SGRS-610	SWEPP Gamma-Ray Spectrometer (SRGS) SGRS- PDP Registration # AM06/AMG1 Method described in INST-01-122 (TPR-8092)	<ul style="list-style-type: none"> • Broad Energy Germanium (BEGe) gamma detectors 	<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 the WAGS was verified and documented in CCP-INL- SGRS-001 SWEPP Gamma-Ray Spectrometer (SGRS) Calibration , Confirmation, and Verification Report, The determination of TMU for the SGRS is documented CCP-INL- SGRS-002, Total Measurement Uncertainty for the SGRS System
9VEI2	N/A	Visual Examination: ARP Packaging Stations (VEA and VEP) Method described in INST-TRUW-8.13.4 (TPR-7997)	N/A	Waste Tracking System (WTS)	N/A

WIPP #	Site Equipment #	Process/Equipment Description	Components	Software	NDA Calibrated Range, Operating Range and TMU
AMWTP Previously Certified Processes or Equipment					
NONDESTRUCTIVE 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 (TPR-8094)</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 calibration of the IWAS was verified and documented in CI-IDA-NDA-0035. Calibration Verification and Confirmation Procedure for the IWAS at AMWTP</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>
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 (TPR-8094)</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 calibration of the IWAS was verified and documented in CI-IDA-NDA-0035. Calibration Verification and Confirmation Procedure for the IWAS at AMWTP</p> <p>The determination of TMU for the IWAS unit is</p>

WIPP #	Site Equipment #	Process/Equipment Description	Components	Software	NDA Calibrated Range, Operating Range and TMU
					documented in CI-IDA-NDA-0055, "Total Measurement Uncertainty for the AMWTP Integrated Waste Assay Systems", Revision 1, July 30, 2003.

NONDESTRUCTIVE ASSAY (continued)					
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 (TPR-8025)</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 calibration of the IWAS was verified and documented in CI-IDA-NDA-0035. Calibration Verification and Confirmation Procedure for the IWAS at AMWTP</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>

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 (TPR-8025)	<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 calibration of the IWAS was verified and documented in CI-IDA-NDA-0035. Calibration Verification and Confirmation Procedure for the IWAS at AMWTP 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>
9RBAS1	Z-212-105	Retrieval Box Assay System (RBAS) BAS-105- PDP Registration #AM05/AMN5 Method described in INST-OI-15 (TPR -8095)	<ul style="list-style-type: none"> Broad Energy Germanium (BEGe) gamma detectors 84 six foot helium-3 tubes used in passive neutron coincidence counting modality and the active neutron differential die-away modality Eu-152 Source Gamma check source 14 MeV neutron generator 4 Flux monitor assemblies 	<ul style="list-style-type: none"> PSC RBAS.exe PSC RWARS software package 	<p>The calibration of the RBAS was verified and documented in PSC-5431-CCR-001, Calibration Confirmation Report. The determination of TMU for the RBAS unit is documented BII-5112-TMU-001, AMWTP Retrieval Box Assay System Total Measurement Uncertainty Report.</p>
NON-DESTRUCTIVE EXAMINATION					
9RR1	Z-213-101	Real-Time Radiography System Method described in INST-OI-12 (TPR-8089)	RTR System	Waste Tracking System (WTS)	N/A
9RR2	Z-213-106	Real-Time Radiography System Method described in procedure INST-OI-12 (TPR-8089)	RTR System	Waste Tracking System (WTS)	N/A
9RR3	RTR-RTR-1001	Real-Time Radiography System Method described in procedure INST-OI-12 (TPR-8089)	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 (TPR-8103)	N/A	Waste Tracking System (WTS)	N/A
9VE3	N/A	Newly Generated Waste Visual Examination Closure (VNC) Method described in INST-OI-34 (TPR-8103)	N/A	Waste Tracking System (WTS)	N/A
9VE5	N/A	Visual Examination (in lieu of RTR) (VEC) Method described in INST-FOI-17 (TPR-8041)	N/A	Waste Tracking System (WTS)	N/A
9VE6	N/A	Newly Generated Waste Visual Examination Closure (VNC) Method described in INST-FOI-17 (TPR-8041)	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 (TPR-8041)	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 (TPR-8041)	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 (TPR-8103)	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