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United States Government

Department of Energy

Memorandum

Carlsbad Field Office
Carlsbad, New Mexico 88221

DATE: OCT 30 2014

REPLY TO ATTN OF: CBFO:QAD:MPN:RMS:14-1368:UFC 2300.00

SUBJECT: Interim Audit Report for Recertification Audit A-15-01 of the Advanced Mixed Waste Treatment Project

TO: Benjamine B. Roberts, DOE-ID

The Carlsbad Field Office (CBFO) conducted Recertification Audit A-15-01 of the Advanced Mixed Waste Treatment Project (AMWTP) October 7-9, 2014. The CBFO Interim Audit Report is attached.

The audit team concluded that AMWTP implementing procedures are adequate relative to the flow-down of requirements, and that the AMWTP quality assurance and technical requirements are satisfactorily implemented and effective in all areas evaluated.

The audit team identified eight concerns which were processed as follows: four concerns were classified as corrective action reports; two concerns were corrected during the audit; and two recommendations were offered for AMWTP Management consideration.

If you have any questions concerning the interim report, please contact me at (575) 234-7483.

Martin P. Navarrete
Senior Quality Assurance Specialist

Attachment

cc: w/attachment

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D. Miehls, CBFO	ED
J.R. Stroble, CBFO	ED
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J. Wells, DOE-ID	ED
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G. Tedford, AMWTP	ED
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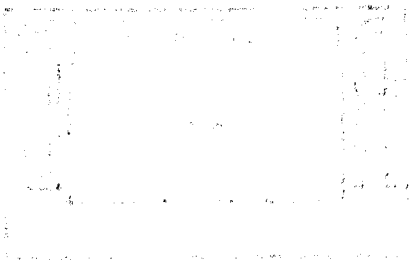

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V. Daub, CTAC	ED
R. Allen, CTAC	ED
P. Martinez, CTAC	ED
B. Pace, CTAC	ED
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D. Harvill, CTAC	ED
G. White, CTAC	ED
Site Documents	ED
WWIS Database Administrators	ED
CBFO QA File	
CBFO M&RC	

* ED denotes electronic distribution

U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

INTERIM AUDIT REPORT

OF THE

ADVANCED MIXED WASTE TREATMENT PROJECT

TRU WASTE CHARACTERIZATION AND CERTIFICATION ACTIVITIES

IDAHO FALLS, IDAHO

AUDIT NUMBER A-15-01

October 7 - 9, 2014

Prepared by: Cindi Castillo **Date:** 10/22/14
Cindi Castillo, CTAC
Audit Team Leader

Approved by: Martin Jaramillo for **Date:** 10/29/14
Michael R. Brown, Director
CBFO Quality Assurance Division

1.0 EXECUTIVE SUMMARY

U.S. Department of Energy (DOE) Carlsbad Field Office (CBFO) Recertification Audit A-15-01 was conducted to evaluate the adequacy, implementation, and effectiveness of Advanced Mixed Waste Treatment Project (AMWTP) transuranic (TRU) waste characterization and certification activities performed at the Idaho National Laboratory (INL) relative to the requirements detailed 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).

The audit was performed at the INL site and the AMWTP Energy Drive Facility (EDF) in Idaho Falls, Idaho, October 7 - 9, 2014. The audit team concluded that, overall, the AMWTP technical and quality assurance (QA) programs, as applicable to the audited activities, were adequate in addressing upper-tier requirements and the defined AMWTP quality assurance (QA) and technical programs for characterizing contact-handled (CH) Summary Category Group (SCG) S3000 homogeneous solids and CH SCG S5000 debris waste were satisfactorily implemented in accordance with the CBFO QAPD, the HWFP *Waste Analysis Plan* (WAP), and the WAC, and were effective in achieving the desired results.

The audit team identified eight concerns during the audit. Four of the eight concerns were classified as conditions adverse to quality and documented on corrective action reports (CARs). Two concerns were identified in the area of Personnel Qualification and Training, both resulting in minor isolated deficiencies that were corrected during the audit (CDA) (see section 6.2). Two Recommendations were offered for AMWTP management consideration, as described in section 6.4. There were no observations identified.

2.0 SCOPE AND PURPOSE

2.1 Scope

The audit team evaluated the adequacy, implementation, and effectiveness of the AMWTP TRU waste characterization and certification activities for CH SCG S3000 homogeneous solids and CH SCG S5000 debris waste.

The following general areas, as required by Attachment C6, Section C6-3 of the HWFP, were audited:

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

The following CBFO QAPD elements were audited:

- Organization/QA Program Implementation & Graded Approach
- Personnel Qualification and Training
- Quality Improvement (Nonconformance Reporting and Corrective Action)
- Document Control

- Records
- Work Processes
- Procurement
- Inspection and Testing
- Assessments
- Software QA
- Container Management

The following CBFO waste characterization technical elements were audited for CH SCG S3000 homogeneous solids and CH SCG S5000 debris waste:

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

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

- *CBFO Quality Assurance Program Document,* DOE/CBFO-94-1012
- Hazardous Waste Facility Permit, Waste Isolation Pilot Plant, EPA No. NM4890139088-TSDF, the New Mexico Environment Department
- *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant,* DOE/WIPP-02-3122

Programmatic and technical checklists were developed to evaluate activities associated with the current revisions of the following documents:

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

2.2 Purpose

Audit A-15-01 was conducted to assess AMWTP's waste characterization activities related to the certification of CH SCG S3000 homogeneous solids and CH SCG S5000 debris waste for compliance to the HWFP WAP and the WAC requirements. The audit team also evaluated the AMWTP QA program with regard to the requirements of the CBFO QAPD.

3.0 AUDIT TEAM AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Martin Navarrete	Management Representative, CBFO Quality Assurance Division
Dennis Miehls	QA Representative, CBFO
Cindi Castillo	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC)
Tammy Ackman	Auditor, CTAC
Randall Allen	Auditor, CTAC
Harley Kirschenmann	Auditor, CTAC
Greg Knox	Auditor, CTAC
Katie Martin	Auditor, CTAC
Berry Pace	Auditor, CTAC
Charlie Riggs	Auditor, CTAC
Jim Schuetz	Auditor, CTAC
Roger Vawter	Auditor, CTAC
Dick Blauvelt	Technical Specialist, CTAC
Paul Gomez	Technical Specialist, CTAC
Porf Martinez	Technical Specialist, CTAC
Priscilla Martinez	Technical Specialist, CTAC
Jim Oliver	Technical Specialist, CTAC
B.J. Verret	Technical Specialist, CTAC

OBSERVERS

Kenneth Lickliter	CBFO TRU Sites and Transportation Division
Steve Holmes	New Mexico Environment Department (NMED)
Ines Triay	NMED
Adrian Bergman	DOE Idaho (DOE-ID)
Bob Blyth	DOE-ID
Pete Johansen	Idaho Department of Environmental Quality (IDEQ)
Bruce LaRue	IDEQ

4.0 AUDIT PARTICIPANTS

The individuals at the INL and AMWTP EDF who were contacted during the audit are identified in Attachment 1. A pre-audit meeting was held at the Engineering Research Office Building (EROB), Conference Room 159, in Idaho Falls, Idaho, on October 7, 2014. Daily meetings were held with AMWTP management and staff to discuss the previous day's issues and deficiencies. The audit was concluded with a post-audit meeting held at the EDF, Building 259, Room 116, in Idaho Falls, Idaho, on October 9, 2014.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

This audit was performed to assess the ability of AMWTP to characterize CH SCG S3000 homogeneous solids and CH SCG S5000 debris waste to the requirements specified in the

CBFO QAPD, the HWFP WAP, and the WAC. The related characterization methods assessed were AK, RTR, VE, and NDA. Other areas evaluated were project-level data V&V, data quality objective (DQO) reconciliation, preparation of waste stream profile forms (WSPFs), WWIS/WDS data entry, container management, load management, and the AMWTP QA program.

The audit team concluded that the applicable AMWTP TRU waste characterization activities, as described in the associated AMWTP implementing procedures, are adequate in addressing applicable upper-tier requirements, effective in implementation of the requirements, and achieve the desired results. Attachment 2 contains a summary table of audit results. Attachment 3 contains a table of documents evaluated during the audit. Attachment 4 is a list of processes and equipment evaluated during the audit. Details of audit activities are described below.

5.2 General

5.2.1 Results of Previous Audits

The results of CBFO Recertification Audit A-14-01 of the AMWTP were examined. No conditions adverse to quality (CAQs) requiring the issuance of a CBFO CAR were issued as a result of the referenced audit.

5.2.2 Changes in Programs or Operations

There have been no deactivated AMWTP procedures since the previous audit.

5.2.3 New Programs or Activities Being Implemented

No new programs or new activities have been implemented since the previous audit.

5.2.4 Changes in Key Personnel

The following personnel change occurred since the previous audit:

- The designated Site Project Manager (SPM) has changed from Eric Schweinsberg to Gina Tedford

The above identified personnel change did not negatively impact the program.

5.3 Quality Assurance Activities

Each QA element audited is discussed in detail in the following sections. The methods used to select objective evidence are discussed, the objective evidence used to assess compliance with the CBFO QAPD is cited briefly, and the results of the assessment are provided.

5.3.1 Organization/QA Program Implementation & Graded Approach

The audit team reviewed documentation to verify that the AMWTP complies with the requirements of the CBFO QAPD, Section 1.1, Organization and Quality Assurance Program. The audit team reviewed AMWTP procedures MP-TRUW-8.2, Rev. 17, *Quality Assurance Project Plan*; MP-TRUW-8.1, Rev. 24, *Certification Plan for INL Transuranic Waste*; and MP-Q&SI-5.6, Rev. 4, *Graded Approach*, to determine the degree to which the procedures adequately address upper-tier requirements. The results of the review confirmed that the procedures adequately address upper-tier requirements.

The audit team interviewed QA management personnel and reviewed the organizational chart to verify independence of the QA program from TRU waste characterization activities. The audit team evaluated position descriptions, training plans, QA summary reports to management, and lessons learned documents in order to verify compliance to applicable requirements.

The audit team verified procedure MP-Q&SI-5.6, Rev. 4, *Graded Approach*, establishes the methods and processes to define the graded approach for AMWTP. Structures, systems, and components are graded and classified using a Notice to Code Spares Form-1448. These classifications are documented, approved, and maintained in the AMWTP Computerized Maintenance Management System (CMMS). Additionally, procedure MP-PCMT-15.1, Rev. 16, *Acquisition of Material and Services*, defines the graded approach and assigns quality levels for procurement activities based on the CMMS classifications.

No organization/QA program implementation concerns were identified. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for organization/QA program implementation are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.2 Personnel Qualification and Training

The audit team verified that the AMWTP met the requirements of CBFO QAPD Section 1.2, Personnel Qualification and Training. The audit team conducted interviews with responsible personnel in the AMWTP Training Department. The following implementing procedures were reviewed to determine the degree to which the procedures adequately address upper-tier requirements: MP-RTQP-14.4, Rev. 22, *Personnel Qualification and Certification*; MP-RTQP-14.6, Rev. 10, *Job Analysis;* MP-RTQP-14.16, Rev. 8, *Training Program Evaluation*; MP-RTQP-14.19, Rev. 9, *Training Records Administration*; MP-Q&SI-5.8, Rev. 8, *Qualifying Supply Chain Inspectors, Auditors, Lead Auditors, and Technical Specialists*; and LST-RTQP-03-IM, Rev. 1, *WIPP Training Requirements Implementation Matrix*. The results of the review confirmed that the procedures adequately address upper-tier requirements.

Personnel training records associated with VE, RTR, NDA, AK, and site project management were examined to verify implementation of associated requirements and to verify personnel performing characterization activities were appropriately trained and qualified.

The records review provided evidence of AMWTP training program implementation. The audit team evaluated AMWTP qualification/requalification packages (qualification cards) and

related individual training files for the various AMWTP positions through job analysis documentation and employee training history documentation from the training database (TRAIN system). The audit team reviewed qualification packages for RTR, VE, and NDA operators, VE experts (VEEs), AK experts (AKEs), and SPMs. Documentation of waste stream training required for RTR and VE operators was evaluated, along with RTR operator test drum (capability demonstration) documentation; eye examination forms; and management assessment reports of the AMWTP training program.

Three personnel qualification and training concerns were identified. The first regards the revision/modification section of the RTR qualification card (QPOT3A, Rev. 13) where the change history date was lacking/incomplete. The audit team was provided with objective evidence reflecting the qualification card, and previously issued cards, were revised to include a change history date. This concern was corrected during the audit. See CDA 1 in section 6.2.

The second concern regards an error in the 24-Hour HAZWOPER Checklist (0AWT2510) instructions which stated: "Complete all 7 courses from Section 1"; however, there are 9 courses (not 7) required as listed on the checklist for completion. A Document Change Request (DCR) reflecting the correct number of courses was issued and provided to the audit team. This concern was corrected during the audit. See CDA 2 in section 6.2.

The third concern regards training records administration/management. Numerous instances were noted regarding methods used for correcting record entries contrary to the requirements for correcting records as specified in MP-DOCS-18.2, *Records Management.* Additionally, numerous instances were noted regarding incomplete records. These instances were observed in records of various program disciplines, including RTR, independent technical review (ITR), SPM, NDA, AK, etc. See CAR 15-005 in section 6.1.

With the exception of the three concerns noted, the procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for personnel qualification and training are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.3 Quality Improvement (Nonconformance Reporting and Corrective Action)

The audit team verified that the AMWTP complies with the requirements of CBFO QAPD Section 1.3, Quality Improvement. The audit team conducted interviews with personnel of the AMWTP QA program. The following implementing procedures were reviewed to determine the degree to which the procedures adequately address upper-tier requirements: MP-Q&SI-5.1, Rev. 9, *Investigation and Root Cause Analysis*; MP-Q&SI-5.3, Rev. 13, *Corrective Action*; and MP-Q&SI-5.4, Rev. 21, *Identification of Nonconforming Conditions.* The results of the review confirmed that the procedures adequately address upper-tier requirements.

The audit team evaluated nonconformance reports (NCRs), CARs, root cause analysis reports, and the TrackWise® computer management system to ensure that CAQs were appropriately identified, documented, dispositioned, and investigated, and that root cause analysis was performed where required, then resolved and tracked through closure.

NCRs and CARs were also reviewed to ensure that AMWTP documents and reports WAP-related nonconformances (identified at the project management level) to CBFO, as required. During previous CBFO Audit A-14-01, AMWTP had self-identified three occurrences where WAP-related NCRs had not been reported within the required seven days. This involved NCRs 74039, 74582, and 75766. The condition was documented and reported using AMWTP CAR 80832. During the audit, the audit team verified sustained corrective actions associated with AMWTP CAR 80832 and determined that they are effective. Six WAP-related NCRs were identified for the past year, and all were reported within the required time frame.

The number of open NCRs was reviewed. Currently, there are 868 open Type 1 (QA Program) NCRs and 8958 open Type 3 (Characterization) NCRs. All of the Type 3 NCRs are associated with a container(s) and the majority (estimated at 95%) of Type 1 NCRs are also associated with a container(s). In order to assure these NCRs are resolved prior to shipping a container, AMWTP utilizes two linked software systems. TrackWise® is used to manage NCRs and all NCRs are automatically transferred into the Waste Tracking System (WTS) for the container. The audit team randomly selected NCRs to review in order to verify they were entered into WTS, as required.

No quality improvement concerns were identified. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for quality improvement are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.4 Document Control

The audit team verified that the AMWTP complies with the requirements of CBFO QAPD Section 1.4, Documents. The audit team evaluated AMWTP procedures MP-DOCS-18.1, Rev. 14, *Developing Written Work Instructions*; MP-DOCS-18.3, Rev. 8, *Developing Management Procedures*; and MP-DOCS-18.4, Rev. 39, *Document Control*, to determine the degree to which the procedures adequately address upper-tier requirements. The results of the review confirmed that the procedures adequately address upper-tier requirements.

The audit team conducted interviews with document control personnel and observed activities for adherence to approved procedures, and evaluated recently completed DCRs and case files associated with current and revised documents/procedures. Demonstrations of the electronic document control management system (EDMS) allowed for audit team evaluation and verification of document issue, validation, verification, and changes.

New procedures and revisions were properly reviewed, approved, and issued. The team verified appropriately identified procedural detail for format and content of instructions and procedures, including performer action steps, notes, hold, verification, and independent witness points, warnings, cautions, and roll-down identification. Documents are maintained in EDMS and documents issued for use are posted on the AMWTP home page. DCR case files were reviewed which verified that documents were evaluated for QA adequacy, effect on data quality, CBFO review and approval, training needs analysis, and comments processing.

The audit team identified one concern regarding documents that are not compliant with the required periodic review frequency. The Periodic Review Past/Coming Due Report dated 09/30/2014 identified 26 of 39 documents that were delinquent for periodic review. Several were overdue by 10 months or greater. This is a recurrence of periodic review delinquencies identified in AMWTP CAR 77022, dated 4/10/2013. See CAR 15-002 in section 6.1.

Although one concern was identified, the procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for document control are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.5 Records

The audit team verified that the AMWTP complies with the requirements of CBFO QAPD Section 1.5, Records. The audit team evaluated the adequacy of AMWTP procedure MP-DOCS-18.2, Rev. 17, *Records Management*, with respect to the requirements of the CBFO QAPD and determined that the procedure contains adequate flow-down of upper-tier requirements. The results of the review confirmed that the procedure adequately addresses upper-tier requirements.

The audit team interviewed records management personnel and observed activities in the records center to determine AMWTP record storage methods and records practices were in compliance with procedural and CBFO QAPD requirements. Activities evaluated by the audit team included custodian training, records receipt, verification, validation, submittal, and records maintenance.

Lifetime and non-permanent WIPP records are categorized and classified in Appendix B (of procedure MP-DOCS-18.2), *Record Categories, Classification, Disposition, and Retention Matrix,* also referred to as the Records Inventory and Disposition Schedule (RIDS). The audit team verified that procedures are established to ensure that the generator/storage site maintains records that are designated as lifetime records for the life of the waste characterization program plus six years, or that the records have been transferred to the WIPP Records Archive (WRA). The team also verified that the generator/storage site maintains records that are designated as non-permanent records for ten years from the date of record generation, and then dispositioned according to the approved RIDS or transferred to the WRA.

The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for records are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.6 Work Processes

The audit team verified that the AMWTP complies with the requirements of CBFO QAPD Section 2.1, Work Processes. The audit team evaluated the adequacy of AMWTP procedures MP-CD&M-11.1, Rev. 10, *Change Control*, and INST-CD&M-11.1.2, Rev. 15, *Facility Modification Proposal Preparation*, with respect to the CBFO QAPD, and determined

that the procedures and instructions contain adequate flow-down of upper-tier requirements. The results of the review confirmed that the procedures adequately address upper-tier requirements.

The audit team reviewed facility modification proposals (FMPs), test and investigation forms, and conducted interviews with appropriate AMWTP personnel regarding integration of FMPs with software change requests (SCRs). The FMP documentation confirmed that the appropriate level of review and approvals were completed and the appropriate organizations participated in the completion of individual FMPs, as required. The audit team verified that the processes for documenting unreviewed safety question (USQ) evaluator reviews and USQ determinations are performed in accordance with the procedural requirements. FMPs that identified hardware changes and associated software changes were reviewed. The audit team verified that appropriate SCRs were completed in coordination with hardware changes. Similarly, when a software change required an FMP, an appropriate FMP had been initiated to ensure that hardware modifications would coordinate with software modifications.

No work process concerns were identified during the audit. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for work processes are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.7 Procurement

The audit team verified that the AMWTP complies with the requirements of CBFO QAPD Section 2.3, Procurement. The audit team evaluated the adequacy of AMWTP procedures MP-PCMT-15.1, Rev. 16, *Acquisition of Material and Services,* and MP-PCMT-15.21, Rev. 8, *Material Management*, with respect to the CBFO QAPD, and determined that the procedures and instructions contain adequate flow-down of upper-tier requirements. The results of the review confirmed that the procedures adequately address upper-tier requirements.

The audit team interviewed procurement personnel and reviewed a sample of purchase orders; purchase requisitions; receiving inspection reports; procurement statements of work; subcontract oversight team checklists for management of procured services; commercial grade item/service dedication plans; standard procurement quality clause documentation; and request for quotation forms. AMWTP uses an electronic system, MAXIMO, to process and revise requisitions and purchase orders and to track inventory. The audit team observed use of the MAXIMO system relative to requisition/purchase order information.

The Commercial Grade Dedication process was evaluated in detail, from planning and determination of critical characteristics through closure of the dedication process. The audit team verified that supply chain inspectors, CMMS agents, and warehouse clerks had completed procurement-related training, including suspect/counterfeit item awareness training.

No procurement concerns were identified during the audit. The documents reviewed and evaluated provided evidence that the applicable requirements for procurement are

adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.8 Inspection and Testing (Control of Measurement and Test Equipment for Data Collection)

The audit team verified that the AMWTP complies with the requirements of CBFO QAPD Section 2.4, Inspection and Testing. The audit team evaluated the adequacy of AMWTP procedures MP-CMNT-10.5, Rev. 10, *Measuring and Test Equipment Program*; INST-CMNT-10.5.1, Rev. 13, *Calibration and Control of Measuring and Test Equipment*; MP-CMNT-10.14, Rev. 6, *In-Plant and Process Instrumentation Testing Program;* and INST-CMNT-10.14.1, Rev. 8, *Testing In-Plant and Process Instrumentation,* with respect to the CBFO QAPD, and determined that the procedures and instructions contain adequate flow-down of upper-tier requirements. The results of the review confirmed that the procedures adequately address upper-tier requirements.

The audit team interviewed personnel and reviewed the applicable AMWTP procedures for the established methods and processes to calibrate and control both measuring and test equipment (M&TE) and in-plant and process instrumentation. In general, M&TE is calibrated by an approved calibration facility, SIMCO Electronics. In-plant and process instruments have calibration and/or functional checks performed using calibrated M&TE at prescribed intervals using approved procedures.

Records of both M&TE calibrations and in-plant and process instrumentation checks are maintained in in the CMMS. Several records for M&TE and in-plant and process instruments were reviewed using CMMS. A site tour was also conducted to observe the site tool crib and in-plant instrumentation.

No inspection and testing concerns were identified during the audit. The documents reviewed and evaluated during the audit provided evidence that the applicable requirements for inspection and testing are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.9 Audits/Assessments

The audit team verified that the AMWTP complies with the requirements of CBFO QAPD Section 3, Assessment Requirements. The audit team evaluated the adequacy of AMWTP procedures MP-M&IA-17.1, Rev. 11, *Management Assessment*; MP-M&IA-17.2, Rev. 12, *Independent Assessment*; MP-M&IA-17.3, Rev. 8, *Quality Assurance Surveillance*; and MP-TRUW-8.26, Rev. 6, *Reports to Management*, with respect to the CBFO QAPD, and determined that the procedures contain adequate flow-down of upper-tier requirements. The results of the review confirmed that the procedures adequately address upper-tier requirements.

The audit team interviewed QA personnel and reviewed documentation including semi-annual reports to management; independent and management assessment schedules; surveillance schedules; lead auditor qualification and certification documentation; and

assessment plans and reports. The audit team verified that the electronic system, TrackWise®, serves as a suitable resource for tracking audit issues and notifications.

The audit team verified that quality trending is performed which requires that a semi-annual report be provided to the SPM by the QA Manager. The last two semi-annual reports were reviewed by the audit team.

Two concerns were identified in the area of audits/assessments. The first concern relates to the semi-annual report requirements detailed in MP-TRUW-8.26, Rev. 6, *Reports to Management.* The semi-annual reports to management for the periods 7/1/2013 to 12/31/2013 and 1/1/2014 to 6/30/2014 lack a discussion of whether quality assurance objectives (QAOs) have been met, and any resulting impact on decision-making, as required. See CAR 15-003 in section 6.1.

The second concern relates to the lack of objective evidence to demonstrate that an annual QA Surveillance Plan was developed for calendar year (CY) 2013 and CY2014, as required. An interview with the AMWTP QA Manager identified that the planning involved to develop the annual surveillance schedule is the actual "plan"; however, it is not documented. See CAR 15-004 in section 6.1.

Although two concerns were identified, the documents reviewed and evaluated during the audit provided evidence that the applicable requirements for assessments are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.10 Software Quality Assurance

The audit team verified that the AMWTP complies with the requirements of CBFO QAPD Section 6, Software Requirements. The audit team evaluated the adequacy of AMWTP procedures MP-TRUW-8.5, Rev. 29, *TRU Waste Certification;* MP-CD&M-11.2, Rev. 21, *Software Quality Assurance*; INST-CD&M-11.2.1, Rev. 9, *Software Version Control*; INST-CD&M-11.2.2, Rev. 16, *Software Inventory Classification*; INST-CD&M-11.2.3, Rev. 9, *System Data Change Request;* and INST-CD&M-11.2.6, Rev. 5, *Temporary Software Override,* with respect to the CBFO QAPD, and determined that the procedures contain adequate flow-down of upper-tier requirements. The results of the review confirmed that the procedures adequately address upper-tier requirements.

The audit team evaluated the implementation of the of AMWTP software quality assurance (SQA) process. The evaluation included interviews with personnel and examination of a sample of record documents. Documents reviewed included software build notes, software patch release logs, tests reports, test cases, temporary software overrides, software parameter updates, SCRs, and the list of baseline software applications installed on AMWTP systems. Details of SCRs were reviewed during a demonstration of the *TestTrack Pro* software application that is used for generation and management of SCRs. Details of configuration control of software code modules were reviewed during a demonstration of the *Polytronic Version Control System* (PVCS) used for control of AMWTP code. Both programs use access permission restriction to track and manage software changes and check-in or check-out software code for modification or installation. Software life-cycle documents and other documents supporting software changes and development are appropriately

referenced within the *TestTrack Pro* application. Personnel performing specific aspects of software configuration management activities are documented within *TestTrack Pro*. Dates of performance of these activities are traceable and reportable. Status of changes and modifications are evidenced with these programs and the status is adequately distributed and communicated to users and management.

The generation and management of FMPs were reviewed. The audit team determined that review and approval of facility modifications are performed by the appropriate departments including operations, QA, and SQA. These approvals are adequately documented from inception to resolution of a proposed modification. The coordination of software changes with facility modifications was reviewed and determined to be adequately managed and documented.

No SQA concerns were identified during the audit. The documents reviewed and evaluated during the audit provided evidence that the applicable requirements for SQA are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4 Technical Activities

Each technical area audited is discussed in detail in the following sections. The methods used to select objective evidence are discussed, the objective evidence used to assess compliance with the HWFP is cited briefly, and the results of the assessment are provided. Although the technical area of NDA is not required by the HWFP, it was audited and objective evidence reviewed during the audit is described in sections 5.4.1 and 5.4.5. NDA information will not be included in the final audit report.

5.4.1 Table C6-1, WAP Checklist

The audit was performed to assess AMWTP's ability to manage and perform TRU waste characterization and certification activities for CH SCG S3000 homogeneous solids and CH SCG S5000 debris waste. The C6-1 WAP checklist addresses general program requirements from an overall management perspective. The general requirements checklist addresses both technical requirements and QA programmatic requirements that, when collectively implemented, ensure effective overall management of TRU waste characterization and certification activities. Requirements are integrated into controlled documents that will ensure the waste characterization strategy, as defined in the WAP, is accomplished and documented in accordance with controlled processes and procedures.

The audit team evaluated the QA program, including aspects of the C6-1 checklist, and the technical activities defined in the remaining C6 checklists. The following items related to QA program implementation were evaluated by the audit team:

- **Personnel Qualification and Training:** The audit team conducted interviews with responsible personnel and reviewed AMWTP implementing procedures MP-RTQP-14.4, Rev. 22, *Personnel Qualification and Certification*; MP-RTQP-14.6, Rev. 10, *Job Analysis;* MP-RTQP-14.16, Rev. 8, *Training Program Evaluation*; MP-RTQP-14.19, Rev. 9, *Training Records Administration*; MP-Q&SI-5.8, Rev. 8, *Qualifying*

Supply Chain Inspectors, Auditors, Lead Auditors, and Technical Specialists; and LST-RTQP-03-IM, Rev. 1, *WIPP Training Requirements Implementation Matrix,* relative to the training and qualification of personnel, to determine the degree to which the procedures adequately address HWFP WAP training requirements. The results of the review confirmed that the procedures adequately address HWFP WAP requirements.

Personnel training records associated with RTR, VE, NDA, AK, and site project management were examined to verify implementation of associated requirements and to verify that personnel performing characterization activities are appropriately qualified. Record reviews included individual training plans, qualification and requalification checklists/packages, training course reports, and required reading documentation.

No WAP deficiencies regarding personnel qualification and training were identified during the audit. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for personnel qualification and training are adequately established for compliance with HWFP WAP training requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

- **Records**: The audit team conducted interviews and reviewed AMWTP implementing procedure MP-DOCS-18.2, Rev. 17, *Records Management*, relative to the control and administration of QA records, to determine the degree to which the procedure adequately addresses HWFP WAP records requirements. The results of the review confirmed that the procedure adequately addresses HWFP WAP requirements.

  The audit team interviewed records management personnel and observed activities to determine if AMWTP record storage methods were in compliance with procedural and WAP requirements. Documents such as record coordinator designation and training, records transmittals, and records indexes were reviewed during the evaluation. The audit team observed records management activities at the records center.

  No WAP deficiencies regarding records were identified during the audit. The procedure reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for records are adequately established for compliance with HWFP WAP records requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

- **Nonconformances:** The audit team conducted interviews with responsible personnel and reviewed AMWTP implementing procedure MP-Q&SI-5.4, Rev. 21, *Identification of Nonconforming Conditions,* relative to nonconformances, to determine the degree to which the procedure adequately addresses HWFP WAP nonconformance requirements. The results of the review confirmed that the procedure adequately addresses HWFP WAP requirements.

  Randomly selected NCRs, CARs, and root cause analysis reports were evaluated to ensure that CAQs were appropriately identified, documented, dispositioned,

investigated, and that root cause analysis was performed where required then resolved and tracked through closure. Review of the selected NCRs included verifications to ensure that AMWTP appropriately documents and reports WAP-related nonconformances identified at the site project management level to the CBFO, as required.

No WAP deficiencies regarding nonconformances were identified during the audit. The procedure reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for nonconformances are adequately established for compliance with HWFP WAP nonconformance requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

- **Transportation**: The audit team conducted interviews with AMWTP waste certification officials (WCOs) and reviewed AMWTP implementing procedure MP-TRUW-8.12, Rev. 25, *Waste Receipt and Shipping Inspection*, relative to transportation requirements, to determine the degree to which the procedure adequately addresses HWFP WAP transportation requirements. The results of the review confirmed that the procedure adequately addresses HWFP WAP requirements.

  The audit team evaluated shipping documentation and verified that the generator/storage site accurately completed the U.S. Environmental Protection Agency Hazardous Waste Manifest as required, including the container-specific information, and the shipment documentation was included within the shipment package. Objective evidence included two manifests for outbound shipments which were verified to be complete and compliant.

  No WAP deficiencies regarding transportation were identified during the audit. The procedure reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for transportation are adequately established for compliance with HWFP WAP transportation requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

- **WWIS/WDS**: The audit team conducted interviews with responsible personnel and reviewed AMWTP implementing procedure MP-TRUW-8.5, Rev. 29, *TRU Waste Certification*, relative to WWIS/WDS data entry, to determine the degree to which the procedure adequately addresses HWFP WAP WWIS/WDS requirements. The results of the review confirmed that the procedure adequately addresses HWFP WAP requirements.

  The audit team reviewed documentation of WDS access requests and requests for removal from WDS access for AMWTP WCO personnel. The audit team determined that appropriate personnel have been granted access to WDS and are adequately trained in WWIS/WDS operations. AMWTP WCO personnel receive WWIS/WDS updates distributed by WDS database administrators. Access control to WDS applications is established using AMWTP user identification and passwords for network/server access and WDS assigned access user names and passwords.

The audit team observed the data entry and uploading processes using the AMWTP WTS *Waste Container Data Entry Form* (WCDEF) and the WTS *Offsite Shipping Module* (OSM). Selected documentation packages were reviewed to provide objective evidence of data entry into the AMWTP WTS certification module. The audit team determined that WCOs properly manage data entry into the AMWTP WTS characterization and certification modules and promote data electronically to the WWIS/WDS. A sample of documentation packages were reviewed to provide objective evidence of data entry into AMWTP WTS modules and extraction to the WWIS/WDS certification modules.

The team reviewed six WWIS/WDS waste certification packages for CH waste containers. These were 85-gallon overpack containers 10295803 and 10018127; standard waste box (SWB) 10493493; 100-gallon overpack containers 10514268 and BN10528597; and 55-gallon container 0367054.

The audit team also witnessed two demonstrations of data entry using (1) the WCDEF method for waste certification of container 10018127; and (2) the OSM method for waste certification of container BN10514268.

No WAP deficiencies regarding WWIS/WDS data entry or waste characterization or certification were identified during the audit. The procedure reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for WWIS/WDS are adequately established for compliance with HWFP WAP requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

- **Container Management:** The audit team conducted interviews with responsible personnel and reviewed AMWTP implementing procedures MP-TRUW-8.12, Rev. 25, *Waste Receipt and Shipping Inspection*; INST-OI-09, Rev. 57, *Retrieval Inspection Station Operations*; INST-OI-11, Rev. 57, *Waste Container Handling;* MP-PRPL-22.1, Rev. 36, *Production Planning*; INST-OI-45, Rev. 20, *Drum Filter Installation;* and INST-OI-50, Rev. 18, *WMF-615 Filter Insertion Operations,* to determine the degree to which procedures adequately address upper-tier requirements. The results of the review confirmed that the procedures adequately address upper-tier requirements.

  Operations for container management, filter installation, and retrieval inspections were evaluated during the audit. Container management activities were evaluated by a walkthrough of AMWTP container storage areas and interviews with operators involved with container management. Container status and location are tracked using the WTS and TrackWise® system. Daily checks are performed to verify location of acceptable containers and reported to management via email. Storage of containers ready for shipment was verified to be satisfactory to preclude non-eligible containers from being shipped to the WIPP. Storage of non-INL containers was verified to be separate from INL containers. Two Hazardous Waste Manifests for outbound shipments were verified to be complete and compliant. Segregation of containers with NCRs versus those without NCRs was verified. Labeling of containers was verified to be compliant and tracking of the containers using the labels was acceptable.

Waste retrieval operations performed in Building 636 were observed and evaluated. Retrieval personnel work in protective gear inside a radiation area. The procedure for retrieval is maintained in the control room, accessible to the retrieval personnel via radio contact with the control room manager. Waste containers are surveyed out through an air lock, labeled, and then sent for characterization.

Filter installation on TRU drums was observed in Building 634. The Drum Vent System (DVS) is used to remotely insert an approved filter through the lid of a drum and through the liner lid, if present. The system is controlled by an operator who loads the DVS with the appropriate filter and then initiates and controls the operation of the DVS using a dedicated computer. When filter installation operations are completed, the operator then uploads the drum information into the WTS and sends the drum out for further characterization. Onsite, in Building 615, the drums enter the venting chamber via conveyor and filters are remotely installed by operators who view the drum and venting operations through a glass viewing port. The drums have filters installed, and then, using the conveyor, the drums are removed from the filter installation chamber and stored until characterization operations begin.

No WAP deficiencies regarding container management were identified during the audit. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for container management are adequately established for compliance with HWFP WAP container management requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

- **Project Level Data V&V:** Technical activities evaluated, including both characterization and certification activities, consisted of data-generation and project-level data V&V, AK, RTR, VE, and NDA (including Performance Demonstration Program [PDP] participation), and preparation of WSPFs for CH SCG S3000 homogeneous solids and CH SCG S5000 debris waste. Objective evidence was selected and reviewed to evaluate the implementation of the associated characterization activities. Batch data reports (BDRs) and personnel training documentation were included in the evaluation. The audit included direct observation of actual waste characterization activities. Each characterization process involves:

    - Collecting raw data
    - Collecting quality assurance/quality control samples or information
    - Reducing the data to a useable format, including a standard report
    - Review of the report by the data generation facility and the site project office
    - Comparing the data against program DQOs
    - Reporting the final waste characterization information to WIPP

  The flow of data from the point of generation to inclusion in the WSPF for each characterization technique was reviewed to ensure that all applicable requirements were captured in the site operating procedures. Specific procedures audited and the objective evidence reviewed are described in the following sections.

During the audit, AMWTP demonstrated compliance with the waste characterization requirements of the HWFP WAP through documentation and by performing characterization activities.

Objective evidence was reviewed to ensure project-level activities were adequately performed to support waste characterization. The audit team reviewed AMWTP procedures MP-TRUW-8.14, Rev. 15, *Preparation of Waste Stream Profile Forms;* MP-TRUW-8.8, Rev. 39, *Level I Data Validation*; and MP-TRUW-8.9, Rev. 26, *Level II Data Validation,* to determine the degree to which the procedures adequately address HWFP WAP requirements. The results of the review confirmed that the procedures adequately address HWFP WAP requirements.

BDRs were evaluated based on project-level requirements for RTR, VE, and NDA for CH SCG S3000 homogeneous solids and CH SCG S5000 debris waste. The project-level data V&V process was evaluated by reviewing the following BDRs:

Real-time Radiography (RTR)

RTR13-00242	RTR13-00305	RTR14-00005	RTR14-00086

Visual Examination (VE)

VEB13-00526	VEB14-00003	VEB14-00162	VEB14-00254
VNC14-00022			

Nondestructive Assay (NDA)

ASY14-00639	ASY14-00761	ASY14-01940	ASY13-03152
ASY13-03862	ASY14-02131		

Procedures and objective evidence were reviewed to ensure that AMWTP adequately performs data reconciliation and properly prepares WSPFs. A review was performed on the CH SCG S3000 homogeneous solids and CH SCG S5000 debris WSPF/Characterization Information Summary for waste streams BN004 special setups waste and BN510.3 supercompacted debris waste. The results of the review of the above referenced documents indicate that AMWTP is completing WSPFs in accordance with applicable requirements.

No WAP deficiencies were identified during the audit. The audit team verified that AMWTP is satisfactorily implementing the program requirements from an overall management perspective, including the project-level data V&V process to characterize and certify waste for disposal in accordance with HWFP WAP requirements.

Overall, the procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that procedures are adequately established for compliance with HWFP WAP requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4.2 Table C6-2, Acceptable Knowledge Checklist

The audit team evaluated the AK process for characterizing SCG S3000 homogeneous solids and SCG S5000 debris wastes. The audit team used the WAP C6 checklists, primarily checklist C6-2, as a guide for demonstration of HWFP compliance and also examined compliance with the WAC. Two waste streams were examined during the audit. The first waste stream examined was the S5000 mixed waste debris stream BN510.3 (RPT-TRUW-83, Rev. 8, *Acceptable Knowledge Summary for Supercompacted Debris Waste*), and the second was an S3000 mixed waste solids stream generated at the Rocky Flats Plant designated as BN004 (RPT-TRUW-59, Rev. 4, *Acceptable Knowledge Summary for Special Setups Waste*).

The audit team evaluated the following AMWTP implementing procedures: MP-TRUW-8.1, Rev. 24, *Certification Plan for INL Transuranic Waste*; MP-TRUW-8.2, Rev. 17, *Quality Assurance Project Plan*; MP-TRUW-8.11, Rev. 25, *Data Reconciliation*; MP-TRUW-8.13, Rev. 25, *Collection, Review, and Management of Acceptable Knowledge Documentation*; and MP-TRUW-8.14, Rev. 15, *Preparation of Waste Stream Profile Forms,* relative to AK activities, to determine the degree to which procedures adequately address upper-tier requirements. The results of the review confirmed that the procedures adequately address HWFP WAP requirements.

Numerous documents from the AK record that demonstrate adherence to the applicable requirements were reviewed and compiled as objective evidence, including the relevant AK summary reports, WSPFs and attachments with applicable change notices, AK source document summaries, and BDRs from RTR, VE, and NDA characterization testing augmenting the AK record. Data reconciliation packages that compare the results of the characterization testing with the AK record were also compiled and examined. In addition, the audit team examined AK discrepancy resolution documentation for discrepancies in the AK record and the resolution of discrepancies identified during characterization processes. The audit team reviewed NCRs dealing with the identification and disposition of prohibited items.

In addition to the respective AK summary reports mentioned above, the following supporting documents were utilized/reviewed by the audit team: RPT-TRUW-06, Rev. 16, *Acceptable Knowledge Document for AMWTP Waste*; RPT-TRUW-12, Rev. 23, *AMWTP Waste Stream Designations;* RPT-TRUW-05, Rev. 36, *Waste Matrix Code Reference Manual*; and RPT-TRUW-07, Rev. 20, *Determination of Radioisotopic Content in TRU Waste Based on Acceptable Knowledge*.

Among the AK source documents reviewed were AK summaries that supported the assignment of hazardous waste numbers to the supercompacted waste streams BN510.2 and BN510.3. The waste stream BN510.3 came from the addition of debris feedstock to the supercompaction process from the pre-1980 INL exhumed Subsurface Disposal Area (SDA) waste.

A total of five drums were tracked for the WAP-required traceability exercise including three drums from the BN510.3 waste stream and two drums from waste stream BN004. The audit team reviewed requisite RTR, VE, and NDA BDRs and traceability screenshot data from the active container database, along with container input forms where applicable.

The team examined training records for five AKEs and an SPM associated with the AK process. The handling of NCRs and AK discrepancy reports, including the segregation of non-conforming items/containers, were reviewed. In addition, the handling of AK records was examined for compliance with preparation, legibility, accuracy, review, approval, and maintenance. The distribution, control, and use of appropriate AK procedures were also reviewed.

The audit team examined the latest WAP-compliant AK Accuracy Report and the most recent internal surveillance relevant to AK (No. 74798 completed September 13, 2013), and reviewed the plan and checklist for Audit IA-14-002, which has been completed, but the report had not been issued.

The audit team identified one concern in the area of AK. The audit team recommended that the AK summary reports (RPT-TRUW-59 and RPT-TRUW-83) for the two waste streams reviewed, be revised to include additional information regarding the absorbents used (such as specific citations for Material Safety Data Sheets [MSDSs]), along with other AK source documentation that could provide information on absorbent use and limitations). This recommendation should be applied to other AK summary reports as they are revised or generated. See Recommendation 1 in section 6.4

No WAP deficiencies regarding AK were identified during the audit. Although one concern was identified, the procedure reviews, field observations, and document reviews provided evidence that the applicable requirements for characterizing CH SCG S3000 homogeneous solids and CH SCG S5000 debris waste using the AK process are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4.3 Table C6-3, Radiography Checklist

The audit team evaluated the adequacy, implementation, and effectiveness of AMWTP characterization and certification of CH SCG S3000 homogeneous solids waste and SCG S5000 debris waste using the RTR characterization process.

The audit team reviewed AMWTP procedures MP-TRUW-8.8, Rev. 39, *Level I Data Validation*, and INST-OI-12, Rev. 55, *Real-Time Radiography Examinations (Certification Scans)*, relative to RTR activities, to determine the degree to which procedures adequately address upper-tier requirements. The results of the review confirmed that the procedures adequately address HWFP WAP requirements.

The audit team evaluated RTR operator required test and training drum audio/video media for two operators. Records of RTR operators training and qualification, including test and training drum documentation, were examined. The audit team verified that RTR operators were appropriately trained and qualified for compliance with training requirements.

The audit team evaluated RTR operations in buildings WMF-634 and WMF-610. RTR operations were observed for the certification scans of containers 10528698 (SCG S3000) and 10368559 (SCG S5000) using RTR Unit 101 and RTR Unit 106, respectively. The audit team also examined RTR operational logbook entries in the electronic login system (eSOMS)

for both units and verified required components for the RTR units. The audit team examined RTR Unit 1001, but this unit was not being utilized during the audit.

The audit team examined the following RTR BDRs:

RTR13-00241	RTR13-00280	RTR13-00324	RTR14-00018
RTR14-00037	RTR14-00233		

No WAP deficiencies regarding RTR were identified during the audit. The procedure reviews, field observations, and document reviews provided evidence that the applicable requirements for characterizing CH SCG S3000 homogeneous solids and CH SCG S5000 debris waste using the RTR process are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4.4 Table C6-4, Visual Examination Checklist

The audit team evaluated the adequacy, implementation, and effectiveness of the AMWTP VE characterization process for SCG S5000 debris waste. The VE process for characterizing SCG S3000 homogeneous solids waste, implemented for the South Boxline in the waste treatment facility, Building WMF-676, is no longer performed. Procedure INST-FOI-022, *Visual Examination of S3000 Waste in the Facility*, was deactivated on February 26, 2012.

The audit team reviewed procedures MP-TRUW-8.8, Rev. 39, *Level I Data Validation*; INST-OI-34, Rev. 28, *Non-Facility Visual Examination Operations;* INST-FOI-17, Rev. 27, *Facility Visual Examination Operations*; INST-FOI-20, Rev. 42 FC-1, *Supercompactor and Post-Compaction Operations*; and LST-RTQP-03-IM, Rev. 1, *WIPP Training Requirements Implementation Matrix*, relative to VE activities, to determine the degree to which procedures adequately address upper-tier requirements. The results of the review confirmed that the procedures adequately address WAP requirements.

AMWTP uses the two-operator VE characterization method in which VE is performed by two qualified operators who examine the waste and place it into containers.

The audit team toured and evaluated VE operations in the North Boxline facility located in Building WMF-676, Room 231. The audit team observed VE operations on source container 10252365 from Item Description Code (IDC) AE100 into a newly-generated 55-gallon waste container (silver) number 10530745. The newly-generated waste containers are then assigned IDC 508, indicating that the waste was generated in WMF-676, directly related to operations from processing containers assigned IDCs listed in approved RPT-TRUW-83, Rev. 8, *Acceptable Knowledge Summary for Supercompacted Debris Waste*. The newly-generated waste containers, assigned IDC 508 and referred to as "silvers," are sent to the supercompactor where they are compacted and over-packed into 100-gallon drums.
The audit team verified that the current revision of RPT-TRUW-05, Rev. 36, *Waste Matrix Code Reference Manual*, was used to verify the waste description for IDC AE100 and IDC 508.

Interviews with VE operators were conducted and electronic VE operational logbook entries for the North Boxline were verified to be correctly entered and subsequently reviewed by the facility shift supervisor, as required.

The audit team examined the following VE BDRs:

VNC13-00170	VEB13-00518	VNC14-00022	VEB14-00026
VEB14-00054	VEB14-00079	VEB14-00117	VEB14-00146
VEB14-00180	VEB14-00212	VEB14-00254	

The audit team examined training records for VE operators, Independent Technical Reviewers (ITRs), and VEEs, and confirmed the appointment of AMWTP VEEs. The audit team verified that VE operators, ITRs, and VEEs were appropriately trained and qualified, as required.

The audit team identified one concern in the area of VE. Currently, the VE operators verbally verify that containers are empty prior to performing VE operations. The audit team recommended that procedures INST-OI-34, *Non-Facility Visual Examination Operations,* and INST-FOI-17, *Facility Visual Examination Operations,* be revised to include steps to verify that the container is empty and also record the status on the VE data sheet. See Recommendation 2 in section 6.4.

With the exception of the concern noted, the procedure reviews, field observations, and document reviews provided evidence that the applicable requirements for characterizing SCG S5000 debris waste using the VE process are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4.5 Nondestructive Assay

The audit team evaluated the continued adequacy, implementation, and effectiveness of the Z-390-100 and Z-390-101 NDA systems in Building WMF-676, and the Z-211-102 and Z-211-103 NDA systems in Building WMF-634 on-site. The Z-390-100 and Z-390-101 systems are capable of assaying waste in 55-gallon drums, while the Z-211-102 and Z-211-103 systems are capable of assaying waste in both 55- and 83/85-gallon drums.

The audit team reviewed procedures MP-TRUW-8.8, Rev. 39, *Level I Data Validation*; INST-TRUW-8.1.1, Rev. 12, *Drum Assay Post-Maintenance Calibration & Verification;* RPT-TRUW-03, Rev. 9, *Drum Assay Technical Review Report;* CI-IDA-NDA-0035, Rev. 3, *Calibration Verification & Confirmation Procedure for the Integrated Waste Assay System (IWAS) at AMWTP,* Canberra Industries; CI-IDA-NDA-0055, Rev. 1, *Total Measurement Uncertainty for the AMWTP Integrated Waste Assay Systems,* Canberra Industries; INST-OI-14, Rev. 35, *Drum Assay Operations;* and INST-FOI-01, Rev. 30, *In-Plant Drum Assay Operations*, relative to NDA activities, to determine the degree to which procedures adequately address upper-tier requirements. The results of the review confirmed that the procedures adequately address upper-tier requirements.

The NDA systems are Canberra multi-mode hybrid systems that run NDA 2000 and incorporate Canberra's Genie 2000, Multi-Group Analysis, as well as Multi-Group Analysis-Uranium, when sufficient quantities of uranium are detected. Each system consists of the following components:

- Two broad energy germanium gamma detectors mounted one over the other in the assay chamber wall, perpendicular to, and pointing toward the vertical axis of the drum.
- An array of 122 Helium-3 proportional tubes is arranged in a 4π geometry about the assay chamber. These tubes are divided into 16 detector banks currently only used in the passive neutron coincidence counting mode. These systems have the capability (both qualified and maintained) to assay in the active neutron differential die-away (DDA) mode. Active mode was not used for WIPP assay purposes in the year since the last audit.
- A Cf-252 (Californium)/Cs-137(Cesium) Add-A-Source correction source, mounted in a retractable housing external to the assay cavity, with an intensity of approximately 10^5 neutrons per second is used, in part, for the determination of matrix correction factors.
- A 14 million electron volt (MeV) neutron generator with a capability of producing 10^8 14-MeV neutrons per second can be used, along with cavity and barrel flux monitors and four Fast Neutron Detector Packs, in the active neutron DDA mode.

Based on a review of the current revisions of AMWTP procedures and reports provided, a checklist was prepared and used to evaluate the following:

- System stability as evidenced by the implementation and effectiveness of daily and weekly measurement controls and calibration verifications.
- Applicability of each system's calibration and operational range to the matrix, geometry, and radionuclide content of waste assayed since previous Audit A-14-01, conducted October 2013.
- Successful participation in the CBFO-sponsored NDA PDP Cycle 21A.
- Completed BDRs to ensure data are reported and reviewed as required.
- Data storage and retrievability.

- Personnel qualification and training.
- Continued operability and condition of the NDA systems since Audit A-14-01, conducted October 2013.

The audit team interviewed AMWTP NDA personnel and operations staff, observed equipment and practices, and examined electronic and paper copies of records, including BDRs, control charts, NCRs, and work orders. The audit team also verified that NDA operators were appropriately qualified as required for compliance with training requirements.

No system recalibrations have been required or performed since Audit A-14-01, conducted in October 2013, and the system performance checks have been performed, as required.

AMWTP successfully participated in PDP Cycle 21A for combustibles and glass waste matrices for all four systems.

The following BDRs were reviewed during the audit:

ASY13-03293	ASY14-00276	ASY14-00480	ASY14-00288
ASY13-03562	ASY14-00697	ASY14-00720	ASY13-03597
ASY13-03168	ASY14-01227	ASY14-01773	ASY14-00305
ASY14-00480	ASY14-00205	ASY14-01907	ASY13-03682
ASY13-03601	ASY13-03665	ASY13-03168	ASY13-03287
ASY14-01845	ASY14-00366	ASY13-03581	ASY13-03373
ASY13-03667	ASY14-01350	ASY13-03258	ASY13-03373
ASY14-01196	ASY13-03439	ASY14-00288	ASY14-01176
ASY14-01744	ASY14-01847	ASY13-03750	ASY14-00002
ASY14-00755	ASY14-01763	ASY13-03026	ASY14-01886
ASY13-03282	ASY13-03460	ASY14-00569	ASY14-01370
ASY14-00932	ASY14-01703	ASY14-00528	ASY14-00710
ASY14-00709	ASY14-00241	ASY14-00476	ASY14-01056
ASY14-01310	ASY14-01628	ASY14-02306	ASY14-00175
ASY14-00863	ASY14-01102	ASY14-01354	ASY14-02165
ASY14-02319	ASY13-03739	ASY14-01513	ASY14-00123
ASY14-00913	ASY13-03480	ASY14-00949	ASY13-03862
ASY14-00949	ASY14-01108	ASY14-01628	ASY14-00950
ASY14-00530	ASY14-00560	ASY14-02128	ASY14-00121

No concerns regarding NDA were identified during the audit. The procedure reviews, field observations, and document reviews provided evidence that the applicable requirements for characterizing CH SCG S3000 homogeneous solids and CH SCG S5000 debris waste using the NDA process are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.4.6 Load Management

The audit team conducted interviews with responsible personnel and reviewed AMWTP implementing procedure MP-TRUW-8.1, Rev. 24, *Certification Plan for INL Transuranic Waste,* to determine the degree to which the procedure adequately addresses upper-tier requirements. The results of the review confirmed that the procedure adequately addresses upper-tier requirements.

AMWTP practices load management on CH TRU waste streams as appropriate following the guidance and requirements in procedure MP-TRUW-8.1. The audit team examined two AK summary reports with waste streams that are load-managed: RPT-TRUW-83, Rev. 8 *Acceptable Knowledge Summary for Supercompacted Debris Waste (BN510.3)*, and RPT-TRUW-59, Rev. 4, *Acceptable Knowledge Summary for Special Setups Waste (BN004)*. Estimates of the amount of TRU waste assaying at less than 100 nanocuries per gram (nCi/g) is 32% for the primary IDC RF-004, making up the bulk of waste stream BN004.

Similar estimates are available for most of the feedstock IDCs sent to the supercompactor, but a number for the supercompacted waste stream BN550 is listed as "to be determined".

For BN510.3 supercompacted waste stream, pucks that assay at slightly less than 100 nCi/g of waste are loaded in 100-gallon waste containers with pucks assaying at greater than 100 nCi/g such that the assay for the 100-gallon drum is compliant at greater than 100 nCi/g. Pucks that assay well below the 100 nCi/g are also placed into 100-gallon containers, but are then managed as mixed low level waste. These containers are treated to comply with Land Disposal Restriction standards and are shipped to the Nevada National Security Site, formerly the Nevada Test Site, as appropriate. The SCG S3000 waste stream BN004 is also load-managed by overpacking drums assaying at less than 100 nCi/g of waste with those assaying at greater than 100 nCi/g such that the assay of the payload container is compliant.

No concerns were identified regarding load management during the audit. The procedures reviewed and objective evidence assembled and evaluated during the audit provided evidence that the applicable requirements for load management are adequately established for compliance with upper-tier requirements, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

6.0 CORRECTIVE ACTIONS, OBSERVATIONS, AND RECOMMENDATIONS

The audit team identified eight concerns during the audit. These concerns were classified by CBFO QA, as documented in the following subsections.

6.1 Corrective Action Reports

During the audit, the audit team may identify CAQs, as defined below, and document such conditions on CARs.

> *Condition Adverse to Quality (CAQ) – Term used in reference to failures, malfunctions, deficiencies, defective items, and nonconformances.*
>
> *Significant Condition Adverse to Quality – A condition which, if uncorrected, could have a serious effect on safety, operability, waste confinement, TRU waste site certification, compliance demonstration, or the effective implementation of the Quality Assurance (QA) program.*

Four CAQs were identified during the audit and were classified as CARs.

CAR 15-002

Condition:

Periodic reviews are not being performed (as required by the periodic intervals table) to assure AMWTP documents are maintained to accurately identify the content or processes specific to the activity addressed by the document. The concern is as follows:

The Periodic Review Past/Coming Due Report as of 09/30/2014 identifies 26 of 39 documents delinquent for periodic review. Several are overdue by 10 months or greater. This is a recurrence of an issue identified by AMWTP on CAR 77022, dated 4/10/13.

The following examples are oversights in AMWTP procedures which result from the lack of periodic reviews being performed:

- LST-RTQP-03-IM, Rev. 1, *WIPP Training Requirements Implementation Matrix,* has not been reviewed and updated as required after the revision of MP-TRUW-8.2, *Quality Assurance Project Plan.*
- INST-OI-12, Rev. 55, *Real-Time Radiography Examinations (Certification Scans),* uses terms such as "headspace gas," which is no longer used in the current WIPP Hazardous Waste Facility Permit.
- RPT-TRUW-06, Rev. 16, *Acceptable Knowledge Document for AMWTP Waste,* identifies operations with respect to special case waste, drummed waste handling enclosure, and the drummed waste packaging glove-box; however, AMWTP does not perform these operations.

Requirement:

MP-DOCS-18.4, Rev. 39, *Document Control,* Section 3.5.1 states: "Document Owner: Review controlled documents, as a minimum, within the indicated periodic intervals per the table below, to ensure the information and instructions are technically accurate." (Review intervals are listed in a table in Section 3.5.1 of the procedure.)

CAR 15-003

Condition:

The semi-annual reports to management for the periods 7/1/2013 to 12/31/2013 and 1/1/2014 to 6/30/2014 do not include a discussion of whether QAOs have been met, and any resulting impact on decision-making, as required.

Requirement:

MP-TRUW-8.26, Rev. 6, *Reports to Management,* Section 3.1.1 states: "Quality Assurance Representative: Issue a semi-annual report that summarizes all relevant information on the QA/quality control (QC) activities for the reporting period and submit it to the SPM in accordance with MP-TRUW-8.1.

NOTE: The QA report will include, as appropriate, the following information:

A. Any changes to the QAPjP (MP-TRUW-8.2)
B. Identification of any significant QA/QC problems, recommended solutions, and corrective actions

C. An assessment of QC data collected during the period, including the frequency of repeated analyses, reasons for those repeats, and corrective actions

D. Discussions of whether Quality Assurance Objectives (QAOs) have been met, and any resulting impact on decision making (emphasis added)

E. Limitations on the use of measurement data

F. Status of Performance Demonstration Program (PDP) results

G. Results of audits and surveillances conducted during the period

H. Nonconformance report (NCR) status

I. Trend analysis information."

CAR 15-004

Condition:

No objective evidence was provided to the audit team to demonstrate that an annual QA Surveillance Plan was developed for calendar year (CY) 2013 and CY2014, as required. An interview with the AMWTP QA Manager identified that the planning involved to develop the annual surveillance schedule is the actual "plan"; however, it is not documented.

Requirement:

MP-M&IA-17.3, Rev. 8, *Quality Assurance Surveillance*, Section 3.2.1 states: "QA Manager or Designee: Annually establish a QA Surveillance Plan to evaluate the following:

- Adequacy and effectiveness of work activities
- Completed work performance and product quality
- Compliance with established policies, procedures, instructions, and contractual requirements
- Effectiveness of implemented corrective actions based on potential risk associated with the initiating noncompliant condition.
- Past compliance issues
- Opportunities to promote improvement."

CAR 15-005

Condition:

Numerous instances were noted regarding methods used for correcting record entries contrary to the requirements for correcting records as specified in MP-DOCS-18.2, *Records Management*. Additionally, numerous instances were noted regarding incomplete records. These instances were observed in records of various program disciplines, including RTR, independent technical review, SPM, NDA, AK, etc. Examples include:

- RTR Biannual Container forms – obliterating information and no initial or date for corrections (multiple instances).

- Requalification Checklist – Level I Validation (ITR) for VE form – no initial or date for corrections and obliterating information.
- SPM Requalification form – date was recorded rather than required initials.
- AKE Requalification & Level I Validation (ITR) for RTR – performance of on-the-job training (either simulated, performed, or discussed) was not documented.

Requirement:

DOE/CBFO-94-1012, Rev. 11, CBFO QAPD, Section 1.5.2B states: "QA records shall be legible, accurate, and completed appropriate to the work accomplished."

DOE/CBFO-94-1012, Rev. 11, CBFO QAPD, Section 1.5.7C states: "Corrections to QA records should be made using a single line through and shall not obliterate the prior entry. QA records shall not be corrected with correction fluids or tapes."

MP-RTQP-14.19, Rev. 9, *Training Records Administration*, Section 3.2.5E states: "TC or Training Staff: Review training records on receipt for: ... legibility, accuracy, completeness and appropriateness to the work accomplished."

6.2 Deficiencies Corrected During the Audit

During the audit, the audit team may identify CAQs. Audit team members, the audit team leader (ATL), and the CBFO QA representative evaluate the CAQs to determine if they are significant. Once a determination is made that the CAQ is not significant, the audit team member, in conjunction with the ATL and the CBFO QA representative, determines if the CAQ is an isolated case requiring only remedial action and therefore can be corrected during the audit. Upon determination that the CAQ is isolated, the audit team member, in conjunction with the ATL and the CBFO QA representative, evaluates/verifies any objective evidence/actions submitted or taken by the audited organization and determines if the condition was corrected in an acceptable manner. Once it has been determined that the CAQ has been corrected, the CBFO QA representative categorizes the condition as corrected during audit (CDA) according to the definition below.

> *CDAs – Isolated deficiencies that do not require a root cause determination or actions to preclude recurrence. Correction of the deficiency can be verified prior to the end of the audit. Examples include one or two minor changes required to correct a procedure (isolated), one or two forms not signed or not dated (isolated), and one or two individuals that have not completed a reading assignment.*

Two CAQs were corrected during the audit.

CDA 1

Condition:

The revision/modification section of the RTR qualification card (QPOT3A, Rev. 13) was missing the change history date, resulting in an incomplete record.

Requirement:

MP-RTQP-14.4, Rev. 22, *Personnel Qualification and Certification*, Section 3.9.2.3 states: "The body of the qualification package shall contain the following sections:

- Revision/Modification Record."

During the audit, AMWTP provided the audit team with a new revision of the qualification card, and previously issued qualification cards, which included a change history date. The concern was determined to be isolated in nature and was corrected during the audit.

CDA 2

Condition:

The 24-Hour HAZWOPER Checklist (0AWT2510) required for operational positions stated: "Complete all 7 courses from Section 1"; however, there are 9 courses (not 7) required as listed on the checklist for completion.

Requirement:

MP-RTQP-14.19, Rev. 9, *Training Records Administration*, Section 3.2.5E states: "TC or Training Staff: Review training records on receipt for: ... legibility, accuracy, completeness and appropriateness to the work accomplished."

During the audit, AMWTP issued a DCR to revise the 24-Hour HAZWOPER Checklist (0AWT2510) and changed the verbiage to state: "Complete all 9 courses from Section 1." The concern was determined to be isolated in nature and was corrected during the audit.

6.3 Observations

During the audit, the audit team may identify potential problems that should be communicated to the audited organization. The audit team members, in conjunction with the ATL, evaluate these conditions and classify them as Observations using the following definition.

Observation – A condition that, if not controlled, could result in a CAQ.

Once a determination is made, the audit team member, in conjunction with the ATL, categorizes the condition appropriately.

There were no observations identified during the audit.

6.4 Recommendations

During the audit, the audit team may identify suggestions for improvement that should be communicated to the audited organization. The audit team members, in conjunction with the ATL, evaluate these conditions and classify them as Recommendations using the following definition.

Recommendations – Suggestions that are directed toward identifying opportunities for improvement and enhancing methods of implementing requirements.

Once a determination is made, the audit team member, in conjunction with the ATL, categorizes the condition appropriately.

Two Recommendations were provided to AMWTP management as a result of the audit.

Recommendation 1

The audit team recommended that the AK summary reports (RPT-TRUW-59 and RPT-TRUW-83) for the two waste streams reviewed, when next revised, include additional information regarding the absorbents used (such as specific citations for MSDSs, along with other AK source documentation that could provide information on absorbent use and limitations). This recommendation should be applied to other AK summary reports as they are revised or generated.

Recommendation 2

The audit team recommended that procedures INST-OI-34, *Non-Facility Visual Examination Operations*, and INST-FOI-17, *Facility Visual Examination Operations*, be revised to include steps to verify that containers are empty prior to performing VE operations and also to record the status on the VE data sheet. Currently, the VE operators verbally verify the containers are empty, but it is not recorded on the data sheet.

7.0 LIST OF ATTACHMENTS

Attachment 1: Personnel Contacted During the Audit
Attachment 2: Summary Table of Audit Results
Attachment 3: Table of Audited Documents
Attachment 4: List of Processes and Equipment Reviewed

PERSONNEL CONTACTED DURING THE AUDIT				
NAME	**ORG/TITLE**	**PRE-AUDIT MEETING**	**CONTACTED DURING AUDIT**	**POST-AUDIT MEETING**
Jade Anderson	ITG Software Engineering Manager	X	X	
Dan Arrenholz	ITG AK Expert		X	X
Mike Auble	ITG Production Planning Manager		X	
Kevin Bake	ITG Systems Engineer	X	X	
Adrian Bergman	DOE-ID Observer	X	X	X
Scott Bjorn	ITG Operations Manager		X	
Delisa Blattner	ITG Document Technical Publications Specialist	X	X	
Bob Blyth	DOE-ID Observer	X	X	X
Bob Boucher	ITG Systems Engineer	X	X	
Lisa Boucher	ITG CMMS Admin.	X		
George Byram	ITG TRU Programs Manager	X	X	X
Steve Carpenter	ITG AK Expert	X	X	
Darin Cook	ITG Ops. Tech.		X	
Doug Dineen	ITG Systems Engineer		X	
Rebecca Escott	ITG M&TE Tech.	X	X	
Shannon Flores	ITG Packaging & Shipping Manager		X	
Todd Goldberg	ITG Training Manager	X	X	X
Ronald Grise	ITG VE Expert	X	X	X
David Haar	ITG Waste Programs Manager	X	X	X
Rod Harrison	ITG Procurement Manager	X	X	
Steve Holmes	NMED Observer	X	X	X
Rachelle Hubler	ITG Transportation Manager		X	
Nolan Jacobs	ITG VE Operator		X	

PERSONNEL CONTACTED DURING THE AUDIT				
NAME	**ORG/TITLE**	**PRE-AUDIT MEETING**	**CONTACTED DURING AUDIT**	**POST-AUDIT MEETING**
Pete Johansen	Idaho DEQ Observer	X	X	
Lee Roy Jones	ITG Retrieval Lead		X	
Shawn Jordan	ITG RTR Operator		X	
Mike Keeton	ITG QA Engineer		X	
Adam Kennedy	ITG Production Planning SME		X	
Frank Kuck	ITG Ops. Tech.		X	
Gene Kurtz	ITG Retrieval		X	
Bruce LaRue	Idaho DEQ Observer	X	X	X
Denise Lee	ITG RTR ITR	X	X	X
Kenneth Lickliter	CBFO NTP Observer	X	X	X
Dennis Miehls	CBFO QA Rep.	X	X	X
Randall Morris	ITG AK Expert	X	X	X
Angie Morse	ITG QA Manager	X	X	X
Trent Olaveson	ITG PAIT/ICS	X		X
Jerry Patterson	ITG/ICS Team Lead	X	X	
Shirley Perez	ITG VE Operator		X	
Ben Roberts	DOE-ID, AMWTP Operations Activity Manager			X
Lyle Ryman	ITG QA Engineer	X	X	X
Eric Schweinsberg	ITG TRU Programs SPM	X	X	
James Seamans	ITG TRU Programs NDA SME	X	X	
Michelle Sharp	ITG QA Engineer	X	X	X
Jim Simonds	ITG Contracts & Logistics Manager	X		X
Brittany Skaar	ITG Production Coordinator		X	
Mark Sorenson	ITG RTR ITR	X	X	X
Cameron Stamos	ITG Sr. Training Coordinator	X	X	X
Chuck Stepzinski	ITG Characterization & Storage Manager		X	

PERSONNEL CONTACTED DURING THE AUDIT				
NAME	**ORG/TITLE**	**PRE-AUDIT MEETING**	**CONTACTED DURING AUDIT**	**POST-AUDIT MEETING**
Norm Stoner	ITG NDA Expert	X	X	
Matthew Storms	ITG WCO		X	
Paul Swassing	ITG Ops. Tech.		X	
Steve Tallman	ITG RTR SME	X	X	X
Gina Tedford	ITG SPM Audit Lead	X	X	X
Cindy Tiegs	ITG RTR Operator		X	
Matt Thompson	WTS Program Manager	X	X	X
Ron Todd	ITG Engineering Manager	X	X	
Ines Triay	NMED Observer	X	X	
Steve Turner	ITG Systems Engineer		X	
LJ Walker	ITG VE Expert	X	X	X
Brian Warner	ITG Characterization & Storage Lead		X	
Jerry Wells	DOE-ID, AMWTP Deputy Operations Activity Manager	X		X
Stormie Winterbottom	ITG WCO		X	
Jack Zimmerman	DOE-ID, Deputy Manager Idaho Cleanup Project			X

SUMMARY TABLE OF AUDIT RESULTS

QA/ Technical Elements	Concern Classification				QA Evaluation		Technical
	CARs	CDAs	Obs	Rec	Adequacy	Implementation	Effectiveness
Acceptable Knowledge				1	A	S	E
Reconciliation of DQOs/WSPFs					A	S	E
Project Level Data V & V					A	S	E
Real-time Radiography					A	S	E
Visual Examination				1	A	S	E
Nondestructive Assay					A	S	E
Container Management/ C6-1 Transportation					A	S	E
Personnel Qualification & Training including Training Records Administration	1	2			A	S	E
Corrective Actions/NCRs M&TE/Graded Approach					A	S	E
Work Processes					A	S	E
TRU Reports (Reports to Management)	1				A	S	E
Assessments/Records Document Control	2				A	S	E
Software QA / WWIS/WDS Procurement					A	S	E
Organization/QA Program/Load Management					A	S	E
TOTALS	**4**	**2**	**0**	**2**	**A**	**S**	**E**

Definitions

E = Effective
S = Satisfactory
I = Indeterminate
M = Marginal
U = Unsatisfactory

CAR = Corrective Action Report
CDA = Corrected During Audit
EP = Exemplary Practice
NE = Not Effective

Obs - Observation
Rec = Recommendation
A = Adequate
NA = Not Adequate

TABLE OF AUDITED DOCUMENTS			
NUMBER	**PROCEDURE NUMBER**	**REVISION NUMBER**	**PROCEDURE TITLE**
1.	CI-IDA-NDA-0035	3	Calibration Verification & Confirmation Procedure for the Integrated Waste Assay System (IWAS) at AMWTP
2.	CI-IDA-NDA-0055	1	Total Measurement Uncertainty for the AMWTP Integrated Waste Assay Systems
3.	RPT-TRUW-03	9	Drum Assay Technical Review Report
4.	INST-CD&M-11.1.2	15	Facility Modification Proposal Preparation
5.	INST-CD&M-11.2.1	9	Software Version Control
6.	INST-CD&M-11.2.2	16	Software Inventory Classification
7.	INST-CD&M-11.2.3	9	System Data Change Request
8.	INST-CD&M-11.2.6	5	Temporary Software Override
9.	INST-CMNT-10.14.1	8	Testing In-Plant and Process Instrumentation
10.	INST-CMNT-10.5.1	13	Calibration and Control of Measuring and Test Equipment
11.	INST-FOI-01	30	In-Plant Drum Assay Operations
12.	INST-FOI-17	27	Facility Visual Examination Operations
13.	INST-FOI-20	42 FC-1	Supercompactor and Post-Compaction Operations
14.	INST-OI-09	57	Retrieval Inspection Station Operations
15.	INST-OI-11	57	Waste Container Handling
16.	INST-OI-12	55	Real-Time Radiography Examinations (Certification Scans)
17.	INST-OI-14	35	Drum Assay Operations
18.	INST-OI-34	28	Non-Facility Visual Examination Operations
19.	INST-OI-45	20	Drum Filter Installation
20.	INST-OI-50	18	WMF-615 Filter Insertion Operations
21.	INST-TRUW-8.1.1	12	Drum Assay Post-Maintenance Calibration and Verification
22.	LST-RTQP-03-IM	1	WIPP Training Requirements Implementation Matrix
23.	MP-CD&M-11.1	10	Change Control
24.	MP-CD&M-11.2	21	Software Quality Assurance
25.	MP-CMNT-10.14	6	In-Plant and Process Instrumentation Testing Program
26.	MP-CMNT-10.5	10	Measuring and Test Equipment Program
27.	MP-DOCS-18.1	14	Developing Written Work Instructions
28.	MP-DOCS-18.2	17	Records Management
29.	MP-DOCS-18.3	8	Developing Management Procedures
30.	MP-DOCS-18.4	39	Document Control
31.	MP-M&IA-17.1	11	Management Assessment
32.	MP-M&IA-17.2	12	Independent Assessment
33.	MP-M&IA-17.3	8	Quality Assurance Surveillance
34.	MP-PCMT-15.1	16	Acquisition of Material and Services
35.	MP-PCMT-15.21	8	Material Management
36.	MP-PRPL-22.1	36	Production Planning
37.	MP-Q&SI-5.1	9	Investigation and Root Cause Analysis
38.	MP-Q&SI-5.3	13	Corrective Action
39.	MP-Q&SI-5.4	21	Identification of Nonconforming Conditions
40.	MP-Q&SI-5.6	4	Graded Approach
41.	MP-Q&SI-5.8	8	Qualifying Supply Chain Inspectors, Auditors, Lead Auditors and Technical Specialists
42.	MP-RTQP-14.16	8	Training Program Evaluation
43.	MP-RTQP-14.19	9	Training Records Administration
44.	MP-RTQP-14.4	22	Personnel Qualification and Certification
45.	MP-RTQP-14.6	10	Job Analysis

TABLE OF AUDITED DOCUMENTS			
NUMBER	**PROCEDURE NUMBER**	**REVISION NUMBER**	**PROCEDURE TITLE**
46.	MP-TRUW-8.1	24	Certification Plan for INL Transuranic Waste
47.	MP-TRUW-8.2	17	Quality Assurance Project Plan
48.	MP-TRUW-8.5	29	TRU Waste Certification [Includes Offsite Shipping Module (OSM)]
49.	MP-TRUW-8.8	39	Level I Data Validation
50.	MP-TRUW-8.9	26	Level II Data Validation
51.	MP-TRUW-8.11	25	Data Reconciliation
52.	MP-TRUW-8.12	25	Waste Receipt and Shipping Inspection
53.	MP-TRUW-8.13	25	Collection, Review, and Management of Acceptable Knowledge Documentation
54.	MP-TRUW-8.14	15	Preparation of Waste Stream Profile Forms
55.	MP-TRUW-8.26	6	Reports to Management

Processes and Equipment Reviewed

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
NEW PROCESSES OR EQUIPMENT				
NONE				
PREVIOUSLY APPROVED PROCESSES OR EQUIPMENT				
Evaluated During A-15-01 Audit				
Nondestructive Assay (NDA)				
9DA1	Procedure – INST-OI-14 Description – Canberra Drum Assay System Z-211-102	Solids (S3000) Debris (S5000)	N/A	YES
9DA2	Procedure – INST-OI-14 Description – Canberra Drum Assay System Z-211-103	Solids (S3000) Debris (S5000)	N/A	YES
9DA3	Procedure – INST-FOI-01 Description – Canberra Drum Assay System Z-390-100	Debris (S5000)	N/A	YES
9DA4	Procedure – INST-FOI-01 Description – Canberra Drum Assay System Z-390-101	Debris (S5000)	N/A	YES
Nondestructive Examination (NDE)				
9RR1	Procedure – INST-OI-12 Description – Real-Time Radiography System Z-213-101	Solids (S3000) Debris (S5000)	YES	YES
9RR2	Procedure – INST-OI-12 Description – Real-Time Radiography System Z-213-106	Solids (S3000) Debris (S5000)	YES	YES
9RR3	Procedure – INST-OI-12 Description – Real-Time Radiography System RTR-1001	Solids (S3000) Debris (S5000)	YES	YES

Processes and Equipment Reviewed

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
Visual Examination				
9VE2	Visual Examination Procedure – INST-OI-34 Description – Visual Examination (in lieu of RTR) (VEC)	Solids (S3000) Debris (S5000)	YES	YES
9VE3	Visual Examination Procedure – INST-OI-34 Description – Newly Generated Waste Visual Examination Closure (VNC)	Solids (S3000) Debris (S5000)	YES	YES
9VE5	Visual Examination Procedure – INST-FOI-17 Description –Visual Examination (in lieu of RTR) (VEC)	Debris (S5000)	YES	YES
9VE6	Visual Examination Procedure – INST-FOI-17 Description – Newly Generated Waste Visual Examination Closure (VNC)	Debris (S5000)	YES	YES
9VE7	Visual Examination Procedure – INST-FOI-17 Description – Box Line Visual Examination (VEB) – Box to drum repackaging	Debris (S5000)	YES	YES
9VE8	Visual Examination Procedure – INST-FOI-17 Description – Box Line Visual Examination (VEB) – Drum to new drum repackaging	Debris (S5000)	YES	YES

Processes and Equipment Reviewed

WIPP #	Process/Equipment Description	Applicable to the Following Waste Streams/Groups of Waste Streams	Currently Approved by NMED	Currently Approved by EPA
9VE10	Visual Examination Procedure – INST-OI-34 Description – Box Line Visual Examination (VEB) – Drum to new drum repackaging	Solids (S3000) Debris (S5000)	YES	YES

DEACTIVATED PROCESSES OR EQUIPMENT

***No processes or equipment have been deactivated since the previous Audit A-14-01**