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memorandum

Carlsbad Field Office
Carlsbad, New Mexico 88221



DATE: MAY 12 2011

REPLY TO
ATTN OF: CBFO:OQA:DSM:ANC:11-0557:UFC:2300.00

SUBJECT: Interim Audit Report A-11-12, Bettis Atomic Power Laboratory Central Characterization Project

TO: Christopher Labee, DOE-NRLFO

The Carlsbad Field Office (CBFO) conducted Audit A-11-12 of the Bettis Atomic Power Laboratory Central Characterization Project (BAPL/CCP) for remote-handled (RH) transuranic (TRU) waste characterization activities. The audit was conducted April 19-21, 2011. The CBFO interim audit report is attached.

The audit team concluded that the BAPL/CCP technical and quality assurance programs for RH TRU waste characterization activities were adequate in accordance with the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit, the CBFO *Quality Assurance Program Document*, the WIPP Waste Acceptance Criteria, and the *RH TRU Waste Characterization Program Implementation Plan*. The audit team determined that the BAPL/CCP procedures were satisfactorily implemented and the evaluated processes were effective.

As a result of the audit, no CBFO corrective action reports were issued. No Observations were identified; however, the audit team offered one Recommendation to BAPL/CCP management for consideration.

If you have any questions or comments, please contact me at (575) 234-7491.

Dennis S. Miehls
Senior Quality Assurance Specialist

Attachment

- | | | | |
|-----------------------|-----|--------------------------------|----|
| cc: w/attachment | | | |
| M. Navarrete, CBFO | *ED | S. Ghose, EPA | ED |
| J. R. Stroble, CBFO | ED | R. Lee, EPA | ED |
| C. Fesmire, CBFO | ED | J. Kieling, NMED | ED |
| D. Haar, WTS/CCP | ED | S. Holmes, NMED | ED |
| D. Ploetz, WTS/CCP | ED | T. Kesterson, DOE OB WIPP NMED | ED |
| V. Cannon, WTS/CCP | ED | D. Winters, DNFSB | ED |
| A. J. Fisher, WTS/CCP | ED | P. Gilbert, LANL-CO | ED |
| M. Walker, WTS/CCP | ED | G. Lyshik, LANL-CO | ED |
| Y. Salmon, WTS/CCP | ED | K. D. Martin, CTAC | ED |
| T. Peake, EPA | ED | P. Gomez, CTAC | ED |
| M. Eagle, EPA | ED | WIPP Operating Record | ED |
| E. Feltcorn, EPA | ED | CBFO QA File | |
| R. Joglekar, EPA | ED | CBFO M&RC | |

*ED denotes electronic distribu

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U.S. DEPARTMENT OF ENERGY
CARLSBAD FIELD OFFICE

INTERIM AUDIT REPORT

OF THE

BETTIS ATOMIC POWER LABORATORY (BAPL)
CENTRAL CHARACTERIZATION PROJECT (CCP)

CARLSBAD, NEW MEXICO

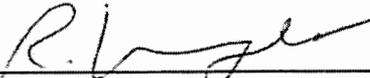
AUDIT NUMBER A-11-12

APRIL 19 – 21, 2011

INTERIM AUDIT REPORT OF WASTE CHARACTERIZATION IN
ACCORDANCE WITH THE HAZARDOUS WASTE FACILITY PERMIT



Prepared by:  Date: 5/12/11
Paul C. Gomez, CTAC
Audit Team Leader

Approved by:  Date: 12 May 11
Randy Unger, CBFO
Quality Assurance Director

1.0 EXECUTIVE SUMMARY

Carlsbad Field Office (CBFO) initial Certification Audit A-11-12 was conducted to evaluate the adequacy, implementation, and effectiveness of Bettis Atomic Power Laboratory (BAPL) Central Characterization Project (CCP) transuranic (TRU) waste characterization activities performed for remote-handled (RH) Summary Category Group (SCG) S5000 debris waste. Activities were evaluated relative to the requirements of the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit (HWFP), the *CBFO Quality Assurance Program Document (QAPD)*, the *Waste Acceptance Criteria (WAC) for the Waste Isolation Pilot Plant*, and the *RH TRU Waste Characterization Program Implementation Plan (WCPIP)*.

The certification audit was performed in Carlsbad, NM, April 19 through April 21, 2011. Overall, the audit team concluded that the BAPL/CCP technical and quality assurance (QA) programs, as applicable to the audited activities, were adequate, satisfactorily implemented, and effective for compliance with applicable upper-tier requirements.

No conditions adverse to quality that resulted in the issuance of CBFO corrective actions reports (CARs) were identified during the audit. No deficiencies, isolated in nature and requiring only remedial corrective action, were corrected during the audit (CDA). No Observations were identified during the audit; however, one recommendation was offered to CCP management in the area of Acceptable Knowledge (AK). See section 7.2 for details.

2.0 SCOPE AND PURPOSE

2.1 Scope

The audit team evaluated the adequacy, implementation, and effectiveness of the programs and requirements controlling BAPL/CCP TRU waste characterization activities for SCG S5000 RH debris waste stream BT-T001. This audit, in conjunction with surveillance S-10-37 (conducted September 21-22, 2010) and surveillance S-11-08 (conducted December 7-8, 2010) supplemented the evaluation for all the specific TRU waste characterization processes.

The following programmatic and technical elements have been evaluated:

Quality Assurance

- Personnel Qualification and Training
- QA Records
- Nonconformances

Technical

- WIPP Waste Information System (WWIS)/Waste Data System (WDS)
- WAP Requirements and Data Validation & Verification (V&V)
- Acceptable Knowledge (AK)
- Headspace Gas (HSG) Sampling
- Visual Examination (VE)
- Radiological Characterization/Dose-to-Curie (DTC)

The evaluation of BAPL/CCP TRU waste activities and documents was based on current revisions of the following documents:

Hazardous Waste Facility Permit (HWFP) Waste Isolation Pilot Plant EPA No. NM4890139088-TSDF by the New Mexico Environment Department

CBFO Quality Assurance Program Document (QAPD), DOE/CBFO-94-1012
Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant, DOE/WIPP-02-3122

RH TRU Waste Characterization Program Implementation Plan (WCPIP), DOE/WIPP-02-3214

CCP Transuranic Waste Quality Assurance Characterization Project Plan (QAPjP), CCP-PO-001

CCP Transuranic Waste Certification Plan, CCP-PO-002

Related technical and QA implementing procedures

2.2 Purpose

Audit A-11-12 was conducted to evaluate the degree to which BAPL/CCP waste characterization and certification activities for SCG S5000 RH debris waste (waste stream BT-T001) are compliant with the HWFP, the CBFO QAPD, and any other relevant documents.

3.0 AUDIT TEAM AND OBSERVERS

AUDITORS/TECHNICAL SPECIALISTS

Dennis S. Miehl	Management Representative, CBFO QA
Paul C. Gomez	Audit Team Leader, CBFO Technical Assistance Contractor (CTAC), Technical Specialist
Cindi Castillo	Auditor, CTAC
Porf Martinez	Auditor, CTAC
Priscilla Martinez	Auditor, CTAC
Katie Martin	Auditor, CTAC
Greg Knox	Auditor, CTAC
William (BJ) Verret	Technical Specialist, CTAC
Rhett Bradford	Technical Specialist, CTAC
Jim Oliver	Technical Specialist, CTAC
Dick Blauvelt	Technical Specialist, CTAC

OBSERVERS

Steve Holmes	New Mexico Environment Department (NMED)
Connie Walker	NMED Contractor
J.R. Stroble	CBFO
Court Fesmire	CBFO

4.0 AUDIT PARTICIPANTS

The individuals who were contacted during the BAPL/CCP audit are identified in Attachment 1. A pre-audit meeting was held in the Skeen Whitlock Building, QA Conference Room, in Carlsbad, New Mexico, on April 19, 2011. Daily meetings were held with BAPL/CCP management and staff to discuss the audit progress, issues and potential deficiencies. The audit concluded with a post-audit meeting held in the Skeen-Whitlock Building QA Conference Room, in Carlsbad, New Mexico, on April 21, 2011.

5.0 SUMMARY OF AUDIT RESULTS

5.1 Program Adequacy, Implementation, and Effectiveness

This audit was performed to assess the ability of BAPL/CCP to characterize RH SCG S5000 debris waste for compliance with the requirements specified in the WIPP HWFP WAP, WIPP WAC, RH TRU WCPIP, and CBFO QAPD. The characterization methods assessed were AK, VE, HSG (sample collection), and radiological characterization (DTC). Processes evaluated included: data-generation and project-level data verification and validation, preparation of the waste stream profile form (WSPF), data quality objective (DQO) reconciliation, and WWIS/WDS data entry. Additionally, evaluations of the QA program elements for nonconformance reporting, QA records, and personnel qualification and training were performed.

The audit team concluded that the BAPL/CCP TRU waste characterization program is adequate, satisfactorily implemented, and effective. Attachment 2 is the Summary Table of Audit Results. Attachment 3 is the Table of Audited Documents evaluated during the audit. Attachment 4 is the List of Processes and Equipment Reviewed during the audit. Audit activities are described below.

5.2 Quality Assurance Activities

The following C6-1 checklist items related to QA program implementation were evaluated by the audit team. Additionally, aspects of the QA program governing the WWIS/WDS were evaluated. Each QA element evaluated is discussed in detail below. The objective evidence used to assess compliance and the conclusions reached for each area is briefly cited.

Personnel Qualification and Training

The audit team conducted interviews with responsible personnel and reviewed implementing Procedure CCP-QP-002, Rev. 30, *CCP Training and Qualification Plan*, to determine the degree to which the procedure adequately addresses upper-tier requirements. Personnel training records associated with VE, DTC, HSG Operations/Waste Sampling, 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 qualification cards, appointment letters, and other pertinent qualification documentation,

including attendance sheets/briefings on AK summaries for VE operators. No concerns were identified.

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

QA Records

The audit team conducted interviews and reviewed implementing procedures relative to the control and administration of QA records to determine the degree to which the procedures adequately address upper-tier requirements. The procedure reviews included CCP-PO-001, Rev. 18, *CCP Transuranic Waste Characterization Quality Assurance Project Plan*; CCP-QP-008, Rev. 17, *CCP Records Management*; and CCP-QP-028, Rev. 12, *CCP Records Filing, Inventorying, Scheduling, and Dispositioning*. Control of QA records was verified through review of the CCP RH RIDS dated 3/15/10. No concerns were identified.

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

Nonconformances

The audit team interviewed the resident QA engineer and then randomly selected a sampling of nonconformance reports (NCRs) (NCR-RHBAPL-0001-10, NCR-RHBAPL-0200-10, NCR-RHBAPL-0300-11, NCR-RHBAPL-0501-11, NCR-RHBAPL-0502-11, NCR-RHBAPL-2143-11, NCR-RHBAPL-2453-11) to confirm that deficiencies are appropriately documented and tracked through resolution as required. There have been no NCRs which require reporting to the Permittee within the 7-day requirement at the time of the audit. All NCRs were verified as being managed and tracked in the CCP data center and on the CCP NCR Logs.

Overall, nonconformance reporting activities were determined to be adequate, satisfactorily implemented, and effective.

Overall, the audit team identified no conditions adverse to quality or concerns in the QA portion of the BAPL/CCP program.

5.3 Technical Activities

Each technical area evaluated is discussed in detail in the following sections. Technical activities that were evaluated included the following: data generation-level and project-level V&V, AK, HSG sampling and analysis, VE, and DTC. Objective evidence was selected and reviewed to evaluate implementation of requirements for characterization

activities. This included, but was not limited to, source documents, summaries, BDRs, sampling records, and personnel training and qualification records. Evaluations from surveillances S-10-37 and S-11-08 included direct observation of actual waste characterization activities such as VE, HSG sampling and DTC. Each characterization process involves:

- Collecting raw data
- Collecting quality assurance/quality control (QA/QC) 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 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 is described in the following sections. Objective evidence was assembled and used to assess compliance and the conclusions reached for each area is briefly cited.

WIPP Waste Information System (WWIS)/Waste Data System (WDS)

The audit team evaluated implementation of the CCP TRU Waste Certification and WWIS/WDS data entry procedure for data entry using the WWIS/WDS Data Entry Spreadsheet. The evaluation included data population of the spreadsheet, a review of data entry by a Waste Certification Assistant, and waste certification by the Waste Certification Official.

For the purposes of this audit, draft documentation for this process was generated due to the lack of data available for this site. The characterization data used is valid data; however, the WWIS/WDS Data Entry Spreadsheet and the WWIS/WDS Waste Container Data Report will not be approved until BAPL/CCP is certified to ship waste. Per procedure, CCP is not allowed to enter data from a non-certified site onto the WWIS/WDS Data Entry Spreadsheet. The WWIS/WDS Data Entry Spreadsheet was uploaded into the TEST instance (TST01) of WWIS/WDS in order to test the accuracy of the data transfer from the WWIS/WDS Data Entry Spreadsheet into WWIS/WDS. Record reviews included pages from batch data reports (BDRs) showing analyses values, draft WWIS/WDS Container Data Reports, and submittals for WWIS/WDS review/approval.

The audit team reviewed two WWIS/WDS waste certification packages RH waste. The first package reviewed was for high pressure inner (HIP) container HIP-41-23-4. The second package reviewed was for container HIP-41-20-1.

The audit team determined that requirements for WWIS/WDS were adequate, satisfactorily implemented, and effective. No concerns related to WWIS/WDS were identified.

5.3.1 Table C6-1, WAP Requirements and Data Validation & Verification (V&V)

The C6-1 WAP checklist addresses general program requirements from an overall management perspective and the validation of the data at the site project level. It documents the verification that the waste characterization strategy, as defined in the WAP, is implemented by using controlled procedures. In addition, Table C6-1 documents the site project-level reviews of the data collected as a result of the waste characterization implementing procedures.

Objective evidence was reviewed to ensure project level activities were adequately performed to support waste characterization. BDRs were evaluated based on project level requirements for VE, and HSG sampling and analysis for the S5000 SCG. Random selection requirements for HSG were evaluated. The quarterly repeat data generation level requirements have been evaluated.

A review of the draft WSPF/Characterization Information Summary for BAPL/CCP (not approved until BAPL/CCP is certified to ship) was performed. The characterization data performed on this stream is VE and HSG sampling and analysis.

The project level data V&V process was evaluated by reviewing the following BDRs:

VE
RHBAPLVE100001

HSG
BAHSGS100001
ECL10037G
ECL10037M

The audit team determined that the C6-1 general program requirements, including requirements relative to project-level data V&V were adequate, satisfactorily implemented, and effective. No concerns were identified.

5.3.2 Table C6-2, Solids and Soils/Gravel Sampling

Solids and Soils/Gravel sampling are not in the scope of this audit.

5.3.3 Table C6-3, Acceptable Knowledge

The audit team reviewed the AK record for an SCG S5000 RH TRU debris waste stream generated for the facility. The waste stream examined was identified as BT-T001. A primary document in the review process was the AK Summary Report, CCP-AK-BAPL-500, Rev. 1, titled *CCP AK Summary for Bettis Laboratory RH TRU Debris Waste*. This certification audit was based upon the requirements contained in the recently revised WIPP RCRA permit and described in the WAP as well as the requirements of RH TRU WCPIP and the WIPP WAC. The audit team therefore reviewed documentation to support of both sets of requirements, completing WCPIP

checklists, WAP C6-3 and C6-1 checklists, and compiling and reviewing objective evidence to demonstrate compliance.

For the purposes of this audit, a draft WAP-compliant WSPF, a draft WCPIP WSPF, and draft Characterization Reconciliation Report were reviewed. These documents will be approved upon the certification of BAPL/CCP to ship waste.

The objective evidence reviewed and compiled included the AK Summary (AKS) Report listed above, numerous AK source documents, a draft WAP-compliant WSPF and attachments, and BDRs for HSG, VE, and DTC characterization activities. The random container selection memo for HSG sampling and analysis was also examined along with the corresponding HSG Analysis Summary Report. Additional supporting documentation for the RH TRU WCPIP requirements included a draft WCPIP WSPF, a draft Characterization Reconciliation Report and supporting documentation, and the CCP RH TRU Radiological Characterization Report, CCP-AK-BAPL-501, Rev. 0, for this waste stream. Examples from the AK record were reviewed to assure that all DQOs cited in the RH TRU WCPIP were met. In addition, the auditors examined the AK record regarding the methods for qualification of AK information as required by the RH TRU WCPIP.

With regard to the WAP requirements, in addition to the AKS, AK source document summaries, and other relevant AK records cited above, the audit team reviewed the AK Documentation Checklist, attachment 1, the AK Source Document Reference List, attachment 4, the AK Hazardous Constituents List, attachment 5, the AK Waste Form, Waste Material Parameters, Prohibited Items and Packaging, attachment 6, along with the applicable justification memo for waste material parameter weight estimates, and the AK Container List, attachment 8. An example of the resolution of AK discrepancies in the AK record, WAP and WCPIP-compliant AK accuracy reports, and the most recent internal surveillance were also collected and examined along with screenshots from the DTC database. Requisite training records for AK experts (AKEs) and site project managers (SPMs) were reviewed by the designated QA auditor based upon names provided by the AK auditors. The WAP-required container traceability exercise was conducted for two waste containers from the total population of 15, with one of those taken from the HSG sampling batch.

The audit team provided BAPL/CCP management with one Recommendation dealing with changes to the text of the AK Summary for the purposes of clarification and consistency. The audit team also examined additional freeze file changes developed in advance of the audit that addressed the new WAP requirements and the NMED matrix developed during the audit of the Oak Ridge National Laboratory Central Characterization Project (ORNL/CCP). The freeze files changes to the AK Summary will be incorporated at the next revision of the AKS.

Overall, the AK program was adequate in addressing the requirements of the RH TRU WCPIP, the WAC, and the WAP, as applicable, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.4 Table C6-4, Headspace Gas Sampling

The audit team reviewed documentation to evaluate compliance with HSG sampling requirements specified in the HWFP. BAPL/CCP collects headspace gas samples in SUMMA[®] canisters and ships the canisters to the Idaho National Laboratories (INL) for analysis. Documentation and activities examined included: sampling BDR BAHSGS100001, operations from sampling activities (evidenced from CBFO Surveillance S-11-08), chain-of-custody forms, certificates of calibration for thermometers and pressure gauges, calculation of drum age criteria, temperature equilibration, and personnel training with qualification records. Interviews with responsible HSG sampling personnel (during Surveillance S-11-08) were conducted along with viewing of a HSG sampling event for container HIP-41-30-3.

HSG sampling operations were evaluated at the BAPL Materials Evaluation Laboratory (MEL) in West Mifflin, PA, during CBFO Surveillance S-11-08 conducted December 7-8, 2011.

The audit team determined that requirements for HSG sampling operations were adequate, satisfactorily implemented, and effective. No concerns for HSG Sampling activities were identified.

5.3.5 Table C6-5, Radiography

Radiography was not in the scope of this audit. BAPL/CCP is not characterizing any SCG S5000 RH debris waste utilizing real-time radiography at this time.

5.3.6 Table C6-6, Visual Examination

The audit team evaluated the adequacy, implementation and effectiveness of BAPL/CCP ability to characterize and certify SCG S5000 RH debris waste using the VE characterization process.

The audit team evaluated VE procedure CCP-TP-500, *CCP Remote-Handled Waste Visual Examination*, Rev. 9 (the revision used during the VE process), and training qualification records for VE operators and the VE expert.

The audit team examined RH VE BDR RHBAPLVE100001 for all 15 HIP containers in waste stream BT-T001. Audit team members interviewed the BAPL/CCP RH SPM, VE expert/VE operator, and an AKE. BAPL/CCP uses the two-operator method when performing VE characterization activities. Two qualified operators visually examine the waste in HIP containers that are packaged into 55-gallon drums.

VE operations were evaluated at the BAPL MEL facility in West Mifflin, PA, during CBFO Surveillance S-10-37 conducted September 21-22, 2010.

The audit team identified no concerns for Visual Examination.

Overall, the RH VE activities, in conjunction with the results of the referenced surveillance, were determined to be adequate in addressing upper-tier requirements as

applicable, satisfactory in the implementation of these requirements, and effective in achieving the desired results.

5.3.7 Radiological Characterization - Dose-to-Curie (DTC) Methodology

The audit team assessed the adequacy, implementation, and effectiveness of the DTC methodology used at BAPL by the CCP to characterize waste stream BT-T001, consisting of fifteen 55-gallon drums of RH TRU debris waste. Inventory information to support development of DTC scaling factors was presented for waste generated in the MEL. The audit team evaluated the collection and analysis of swipe samples from the hot cell during CBFO Surveillance S-10-37 conducted September 21-22, 2010. The development of scaling factors that relate the measured dose rate to the activity of the radionuclides in the RH waste was reviewed during the BAPL MEL CBFO Surveillance S-11-08, conducted December 7-8, 2011. For DTC, the dose rate is defined as the external exposure rate from gamma-ray emitting radionuclides within the waste matrix, predominately cesium-137 (Cs-137).

Based on a review of the current revisions of CCP procedures and CCP and site and site-contractor reports provided prior to and during the audit, checklists were prepared and used to evaluate the following:

- Development of average radionuclide ratios through examination of swipe sample data;
- Development of the relationship between the measured dose or exposure rate and the activity of Cs-137;
- Measurement of the external dose or exposure rate of the waste containers;
- Calculation of the radionuclide activities and other derived radiological quantities and associated uncertainties;
- Results of applying the DTC methodology to characterize waste as evidenced in BDR BAPLRHDTTC11001;
- Determination of the number of containers examined, completed BDRs and BDRs that had been through project-level review that were generated prior to this audit;
- Completed BDRs to ensure data are reported and reviewed as required;
- Data storage and retrievability;
- Personnel qualification and training.

The source of the RH waste at the MEL that was presented as part of this audit was the decontamination of the cell following years of experiments to support the development of nuclear fuels, control rods, reactor structural materials, and reactor components and instrumentation. Based on sample data collected for the swipe samples, scaling factors were developed to establish ratios of the isotopes of interest to Cs-137.

Measurements of the external dose or exposure rates of the waste are made in a high-bay area of the MEL. The exposure rate, attributed entirely to Cs-137, is measured four

times at a distance of 1.0 meter from the 55-gallon waste containers. Auditors examined the apparatus for performing DTC during CBFO Surveillance S-11-08. A Thermo Scientific Model FHZ-612 (Probe XC-0672) survey meter is used to measure the dose rate. Each container is rotated 90 degrees successively between each of the four measurements. The average measured dose or exposure rate for each 55-gallon waste container and associated scaling factors are used to estimate the activity of individual radionuclides and other derived radiological quantities and associated uncertainties.

The audit team interviewed DTC personnel, observed equipment and practices during CBFO Surveillance S-11-08, and examined electronic and paper copies of reports and records. The audit team identified no concerns.

The audit team determined that requirements for DTC operations were adequate, satisfactorily implemented, and effective.

6.0 CORRECTIVE ACTIONS, OBSERVATIONS, AND RECOMMENDATIONS

6.1 Corrective Action Reports

During the audit, the audit team may identify conditions adverse to quality (CAQs) and document such conditions on a corrective action report (CAR). CAQs are defined below.

Condition Adverse to Quality – 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.

No CARs were identified as a result of the audit.

6.2 Deficiencies Corrected During the Audit

During the audit, the audit team may identify CAQs. The audit team members and the Audit Team Leader (ATL) 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, determines if the CAQ is an isolated case requiring only remedial action and therefore can be corrected during the audit (CDA). Upon determination that the CAQ is isolated, the audit team member, in conjunction with the ATL, 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 ATL categorizes the condition as a CDA according to the definition below.

Corrected During the Audit – 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.

No CDAs were identified as a result of the audit.

7.0 SUMMARY OF OBSERVATIONS AND RECOMMENDATIONS

During the audit, the audit team may identify potential problems or make suggestions for improvement that should be communicated to the audited organization. The audit team member, in conjunction with the ATL, evaluates these conditions and classifies them as Observations or Recommendations using the following definitions.

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

Recommendation – Suggestion that is 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.

7.1 Observations

No Observations were provided to BAPL/CCP management as a result of the audit.

7.2 Recommendations

One Recommendation, described below, was presented to BAPL/CCP management as a result of this audit.

Recommendation 1

Recommend changes to AK Summary for waste stream BT-T001 to provide clarity and to address the newly established AK WAP requirements matrix developed during the ORNL/CCP audit. CCP has developed a freeze file for this document that includes results from the EPA inspection of this waste stream during the week of April 11, 2011.

8.0 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

PERSONNEL CONTACTED DURING AUDIT A-11-12				
NAME	ORG/TITLE	PREAUDIT MEETING	CONTACTED DURING AUDIT	POST-AUDIT MEETING
Brown, M.	BPMC Bettis Laboratory/STR	X	X	X
Billet, M.	CCP/ Training - Stoller		X	
Cannon, V.	CCP QA/Manager	X		
Doherty, M.	CCP/Acceptable Knowledge Expert	X	X	X
Fesmire, C.	CBFO NTP/Observer	X	X	X
Fisher, A. J.	CCP/ Sr. Tech. Advisor Training		X	X
Gomez, C.	CCP QA/NCR Coordinator	X	X	X
Harper, D.	NRLFO - Pittsburgh	X		X
Holmes, S.	NMED/Hazardous Waste Bureau/Observer	X	X	X
Kirkes, C.	CCP/ WCO		X	
Luginbyhl, J.	CCP/AKE – LANL	X	X	X
Martin, R.	CCP/ Training – Stoller		X	
Mojica, T.	CCP/Operator – Visual Examination		X	
Pearcy, S.	CCP/Stoller/Records Manager		X	X
Ploetz, D. K..	CCP/Manager			X
Quintana, I.	CCP/Site Project Manager	X	X	X
Sensibaugh, M.	CCP/Project Manager			X
Walker, C.	NMED Hazardous Waste Bureau/Inspector/Observer	X	X	
Watson, L.	CCP/AKE – LANL		X	X

SUMMARY TABLE OF AUDIT RESULTS
Audit A-11-12

Area/Activity	Concern Classification					QA Evaluation		Technical
	CARs	CDAs	Obs	Rec	EP	Adequacy	Implementation	Effectiveness
Headspace Gas (HSG)						A	S	E
Visual Examination (VE)						A	S	E
Project Level Data Validation and Verification (PL V&V)						A	S	E
Quality Assurance – C6						A	S	E
Dose-to-Curie (DTC)						A	S	E
Acceptable Knowledge (AK)				1		A	S	E
TOTALS	0	0	0	1	0	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

Audit A-11-12
TABLE OF AUDITED DOCUMENTS
BETTIS ATOMIC POWER LABORATORY
CENTRAL CHARACTERIZATION PROJECT

No.	Procedure Number	Rev	DOCUMENT TITLE
1.	CCP-AK-BAPL-500	1	Central Characterization Project Acceptable Knowledge Summary Report for Bettis Laboratory Remote-Handled Transuranic Debris Waste
2.	CCP-AK-BAPL-501	0	Central Characterization Project Remote-Handled Transuranic Radiological Characterization Technical Report for Bettis Atomic Power Laboratory Remote-Handled Transuranic Fuel Debris Waste
3.	CCP-AK-BAPL-502	0	Central Characterization Project Remote-Handled Transuranic Waste Certification Plan for 40 CFR Part 194 Compliance and Confirmation Test Plan for Bettis Laboratory Remote-Handled Transuranic Debris Waste
4.	CCP-AK-BAPL-505A	0	Central Characterization Project Sampling and Analysis Plan for Bettis Atomic Power Laboratory Remote-Handled Transuranic Debris Waste
5.	CCP-PO-001	18	CCP Transuranic Waste Characterization Quality Assurance Project Plan
6.	CCP-PO-002	25	CCP Transuranic Waste Certification Plan
7.	CCP-PO-005	21	CCP Conduct of Operations
8.	CCP-PO-008	9	CCP Quality Assurance Interface with the WTS Quality Assurance Program
9.	CCP-PO-505	0	CCP Remote-Handled Transuranic Waste Authorized Methods for Payload Control (CCP RH-TRAMPAC)
10.	CCP-PO-511	0	CCP/BAPL RH TRU Waste Interface Document
11.	CCP-QP-002	30	CCP Training and Qualification Plan
12.	CCP-QP-005	19	CCP TRU Nonconforming Item Reporting and Control
13.	CCP-QP-008	17	CCP Records Management
14.	CCP-QP-028	12	CCP Records Filing, Inventorying, Scheduling, and Dispositioning
15.	CCP-TP-001	19	CCP Project Level Data Validation and Verification
16.	CCP-TP-002	23	CCP Reconciliation of DQOs and Reporting Characterization Data
17.	CCP-TP-003	18	CCP Data Analysis for S3000, S4000, and S5000 Characterization
18.	CCP-TP-005	21	CCP Acceptable Knowledge Documentation
19.	CCP-TP-093	15	CCP Sampling of TRU Waste Containers
20.	CCP-TP-106	7	CCP Headspace Gas Sampling Batch Data Report Preparation
21.	CCP-TP-162	1	CCP Random Selection of Containers for Solids and Headspace Gas Sampling and Analysis
22.	CCP-TP-500	10	CCP Remote-Handled Waste Visual Examination
23.	CCP-TP-504	10	CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste
24.	CCP-TP-506	2	CCP Preparation of the Remote-Handled Transuranic Waste Acceptable Knowledge Characterization Reconciliation Report
25.	CCP-TP-512	4	CCP Remote-Handled Waste Sampling
26.	CCP-TP-530	9	CCP RH TRU Waste Certification and WWIS Data Entry

List of 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				
BAPL/CCP Audit A-11-12 Remote-Handled (RH) S5000 Debris Waste				
N/A	Acceptable Knowledge (AK) Procedure – CCP-TP-002 & CCP-TP-005	Debris (S5000)	No	No
19RHVE 1	Visual Examination (VE) Procedure – CCP-TP-500	Debris (S5000)	No	No
19DTC1	Radiological Characterization (DTC) Procedure – CCP-TP-504	Debris (S5000)	N/A	No
N/A	Headspace Gas Sampling Procedure – CCP-TP-093	Debris (S5000)	No	N/A
N/A	Data Generation and Project Level Validation & Verification (V&V) Procedure – CCP-TP-001	Debris (S5000)	No	No
N/A	WIPP Waste Information System (WWIS) Procedure – CCP-TP-530 and CCP-TP-507	Debris (S5000)	No	No
N/A	Quality Assurance	N/A	N/A	Yes