



MEMORANDUM

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Environmental Department, Hazardous Waste Bureau

FROM: Connie Walker

DATE: [REDACTED]

SUBJECT: Summary of NMED AK Observation of CCP Oak Ridge Recertification / Suspension
Audit A-12-08

On March 27 and 28, 2012, the New Mexico Environment Department (NMED) observed the acceptable knowledge (AK), non-destructive Examination (NDE, BDRs only), and headspace gas sampling (BDRs only) portions of DOE CBFO recertification audits of the Oak Ridge National Laboratory (ORNL). The scope of the audit was very limited with respect to typical recertification audits. ORNL was certified for CH S4000, CH S5000 and RH S5000 wastes, but CBFO indicated that all on-site characterization activities were suspended as of July 31, 2011, to be reinstated at a later date. Because of this suspension, the only equipment-related information included in the audit were BDRs (i.e. headspace gas and NDE) because on-site equipment was no longer in operation. Acceptable knowledge information for the CHS4000 and RHS5000 Summary Category Groups was little changed since the previous recertification audit, with the only changes to the AK Summary being the freeze file modifications that included modifications to comply with the Hazardous Waste Permit. Therefore, the AK portion of the audit focused on a single, S5000 waste stream that had been approved since the previous recertification audit, and only a cursory review of the CH S4000 and RH S5000 Summary Category Groups was performed. This memorandum presents the results of audit observations pertinent to the AK process.

The audit was performed at several locations other than Oak Ridge National Laboratory, due to the type of audit (recertification in association with shipment suspension). The AK technical auditor was located in Cincinnati, Ohio while the CCP auditees were stationed in Thornton and Morrison, Colorado. The AK QA auditor was stationed in Carlsbad, New Mexico. The NMED AK observer, Ms. Connie Walker (Trinity Engineering Associates) attended the audit with the auditee in Thornton, Colorado. All parties attended the audit via conference call. All other portions of the audit were performed in Carlsbad, New Mexico.

Acceptable Knowledge

The AK technical specialist was Mr. Dick Blauvelt and QA auditor was Mr. Rick Castillo. CCP-SRS representatives were Mr. Jeff Harrison and Mr. Kevin Peters; Ms. Lisa Watson (who was in Carlsbad) assisted Mr. Harrison with file retrieval and editing, as necessary. The NMED observer was Ms. Connie Walker (NMED support contractor, Trinity Engineering Associates). The documents presented in Attachment A were among those provided in hard copy and electronically to the audit team, including the NMED observers.

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The following BDRS were among those provided for review:

Drum Number	HSG BDR	RTR or VE BDR
X10C010269 8C (Box)	ORHSGS100009, ECL10023M	ORVECH0013
X10C931228 A	ORHSGS100003, ECL10005M	OR-RTR6-0282
X10C980141 6A	ORHSGS100002, ECL10004M	OR-RTR6-0284
X10C980142 0A	ORHSGS100002, ECL10004M	OR-RTR6-0284

Summary:

The CBFO Audit A-12-08 was performed in a professional manner. The AK audit focus was a single waste stream from the S5000 CH Summary Category Group: OR-GENR-CH-HET. The waste is a debris stream generated in the Transuranium Research Laboratory in Building 5505. The waste stream is described in the AK Summary Document CCP-AK-ORNL-006, as well as several supporting documents including an historic Weston AK Summary (U044) and the Trabalka (U038) report. Additionally, a freeze file for this stream was provided (Attachment B). Based on the revision and associated freeze file, the AK Summary Report for this stream was updated to include the November 2010 AK permit requirements.

The AK Auditor provided the following concerns that were corrected during the audit (also see Attachment C).

- CCP-TP-005 Attachment 1 Category S4, Waste Packaging Records, stated that there were no records to support this category, but several waste packaging records were available in cited source documents.
- CCP-TP-005 Attachment 6 indicates that unvented plastic bags greater than 4 liters were not present in the waste, but the AK Summary States that these bags may be present in the waste stream.

The performance of audits via conference call was satisfactory in this instance because: 1) the audit was of very limited scope (one waste stream), 2) all documents were provided beforehand and 3) the audit was essentially a “suspension” audit, so it was known going into the audit that all waste characterization activities (not including drums characterized up to July 31, 2011) would be suspended. It would have been much more beneficial if the technical specialist auditor and auditee met face-to-face, as the process limited auditor – auditee interaction and thus might hinder identification of issues and resolution of those issues in the future. However, because the QA auditor 1) assembles paperwork for the technical auditor and 2) examines documents for appropriate signatures, etc., the physical presence of the QA auditor wasn’t essential for this audit. In the future and for recertification and certification audits, it is recommended that the AK technical auditor and auditees meet face-to-face, although this does not have to occur in Carlsbad

if the audit documents are provided ahead of time and all documents needed are quickly emailed or sent to the audit team from the Carlsbad representatives.

Note that CCP representatives explicitly stated that all characterization activities under CCP, including all aspects of CCP's AK program, will be suspended; no AK data collection, AK source document review, AK Summary preparation or any other AK-related activities will be performed. Thus, any issues identified during this audit that were not corrected during the audit would have been placed in a freeze file to be addressed at a later date. It is recommended that this stream be included in the "certification" audit held when the site initiates characterization again to check whether the freeze file changes were made. CCP representatives indicated that there are four drums still at Oak Ridge that have undergone full characterization and are ready to ship (if shipment were to be necessary, for some reason). These are:

	CONTAINER TYPE	WHC	WASTESTREAM	RTRBDRID	FGABDRID	WDS_STATUS
NFS0335	55G	CH	OR-NFS-CH-SOIL	OR-RTR6-0072	OR08FG4054	APPROVED_CERT
X10C9311454A	55G	CH	OR-ISTP-CH-HET	OR-RTR6-0411	OR11FG11022	APPROVED_CERT
CONTAINER ID	55G	CH	OR-ISTP-CH-HET	OR-RTR6-0393	OR11FG11013	APPROVED_CERT
X10C9313063A	55G	CH	OR-ISTP-CH-HET	OR-RTR6-0392	OR11FG11017	APPROVED_CERT

The auditor obtained documentation associated with previously performed WTS CCP audits that included AK and AK documentation as part of those audit scopes. For example, WTS Quality Assurance Audit I-10-08 issued findings in 2010 pertaining to AK documentation/ recordkeeping (i.e. Attachment 3 submission) and other AK-related issues. This is important because AK issues with respect to AK compilation that came to light in 2011 were actually identified by WTS in previous audits. Also, CCP clarified that it only keeps those AK documents cited in AK Summary Reports in CCP records; additional documents presented on Attachment 4 (but not referenced in the AK Summary), are not required to be retained. This is not consistent with past practice, but the permit does not specifically identify how these "additional" AK documents should be managed. As such, it is not a direct permit violation *not* to retain the documents, but NMED should be aware that CCP no longer retains all AK documents examined through the course of AK compilation activities.

ATTACHMENT A REFERENCES

Note: All references available electronically will be copied to a flash drive and provided to the NMED representatives at the next audit. Most of the documents presented below were available electronically, while others were reviewed in hard copy as no electronic version was provided. Not all references provided electronically may be presented below.

- AK Tracking Spreadsheet, includes OR-GENR-CH-HET, provided March 27, 2012
- CCP-AK-ORNL-006, Central Characterization Project Acceptable Knowledge Summary Report For Oak Ridge National Laboratory General Research and Development Contact-Handled Transuranic Waste, Waste Stream: OR-GENR-CH-HET, Revision 1, January 20, 2011
- CCP-TP-005, Attachment 1 - Acceptable Knowledge Documentation Checklist
- Site(s): Oak Ridge National Laboratory Waste Stream Description: ORNL General Research and Development CH TRU Debris Waste, Waste Stream Number(s): OR-GENR-CH-HET, provided March 28, 2012
- CCP-TP-005 Attachment 4, Acceptable Knowledge Source Document Information List, prepared March 28, 2012
- CCP-TP-005 Attachment 5, Hazardous Constituents, ORNL General Research and Development CH TRU Debris Waste, waste stream number OR-GENR-CH-HET, May 24, 2011
- CCP-TP-005 Attachment 6, Waste Form, Waste Material Parameters, Prohibited Items, and Packaging, ORNL General Research and Development CH TRU Debris Stream, including Memorandum, prepared March 28, 2012
- CCP-TP-005 Attachment 8, Waste Containers, Waste Stream OR-GENR-CH-HET, March 13, 2012
- CCP-TP-005 Attachment 10, Acceptable Knowledge Re-Evaluation Checklist (Batteries in Waste Stream OR-GENR-CH-HET), September 9, 2010
- Inter-Office Correspondence, B. S. Schrock To R. D. Reeves, Acceptable Knowledge Accuracy Report: Oak Ridge National Laboratory Waste Stream Number OR-GENR-CH-HET, Heterogeneous Debris Waste, Lots 1 Through 3, March 15, 2012
- Inter-Office Correspondence, C. M. Weston to CCP Records Custodian, Headspace Gas Random Sample Selection Memorandum For The First Lot Of Containers Of Oak Ridge National Laboratory General Research And Development Contact-Handled Transuranic Waste, Waste Stream OR-GENR-CH-HET, Being Characterized By The Central Characterization Project At The Oak Ridge National Laboratory, January 27, 2010

- Inter-Office Correspondence, C. M. Weston to CCP Records Custodian, Subsequent Headspace Gas Random Sample Selection Memorandum For The Second Lot Of Containers Of Oak Ridge National Laboratory General Research And Development Contact-Handled Transuranic Waste, Waste Stream OR-GENR-CH-HET, Being Characterized By The Central Characterization Project At The Oak Ridge National Laboratory, February 1, 2010
- Inter-Office Correspondence, P. Kantrowitz to CCP Records Custodian, Transmittal Of Oak Ridge National Laboratory Waste Stream Profile Form for Waste Stream #OR-GENR-CH-HET, February 8, 2011
- Inter-Office Correspondence, from J.E. Hoff to D.K Ploetz, WTS Quality Assurance Surveillance S11-18, Acceptable Knowledge, April 6, 2011
- Inter-Office Correspondence from J.E. Hoff, Transmittal of WTS Quality Assurance Audit 111-05, Central Characterization Project Qualify Assurance Program, September 27, 2011
- Memorandum, S. Schafer to Laura Nelson, CCP SPM, Addition of 5 containers to Waste Stream OR-REDC-RH-HET, May 20, 2011
- Interoffice Correspondence, R. P. Kantrowitz to CCP Records Custodian, Transmittal Of Oak Ridge National Laboratory Random Selection Headspace Gas Summary Results For Lot 1 Waste Stream #Or-GENR-CH-HET, Oak Ridge National Laboratory Random Selection Headspace Gas Summary Results For Lot 1 To Be Placed in Records for Waste Stream #OR-GENR-CH-HET, February 8, 2011
- Inter-Office Correspondence, R. P. Kantrowitz, Oak Ridge National Laboratory Random Selection Headspace Gas Summary Results For Lot 2 Waste Stream #OR-GENR-CH-HET, January 5, 2012
- Traceability information for drums X10C0102698C (Box), X10C931228A, X10C9801416A, X10C9801420A including: CH Handled Waste Packaging Forms, Waste Item Descriptions (TRU Mixed Waste Description), Activity Calculation Spreadsheets, Waste Container Log Sheets, Container Shipment Compliance Reports, Waste Certification Variance Requests, Waste Approval Checklists, NMC&A Spreadsheets, Waste Pickup Requests, Waste Characterization Checklist and attachments, MicroShield calculations, and Waste Acceptance Summary, various dates.
- Various NCRs: NCR-ORNL-0106, X10C0102698L, Liquid in Plastic Tray, NCR-ORNL-0107-10 impenetrable object X1020102696B, NCR-ORNL-0108-20, impenetrable object X10C9400012A, NCR-ORNL-2298-11, impenetrable object, X10C9311492A
- Waste Stream Characterization Checklist, Waste Stream OR-GENR-CH-HET, Lots 1,2 and 3, November 15, 2010, May 11, 2011, and September 6, 2011
- WTS Quality Assurance Audit I10-08, Central Characterization Project Quality Assurance Program, J.E. Hoff, September 13, 2010

The following Source Documents were also provided (See the AK Summary Report and Attachment 4 for specific reference citations associated with each Source Document number):

- C002, C020, C078, C158, C159,
- DR016, DR017, DR029
- IO22
- M165, M166, M167, M168, M169, M170, M171, M172, M182, M198, M205
- P014, P099, P100, P131, P162, P163, P166, P167, P169, P170, P171, P172, P203, P241, P244, P251, P252, P253, P254, P255, P256, P272, P358, P360, P364, P365, P432, P472, P566, P644, P956, P1082, P1083, P1112, P1195, P1235, P1236, P1237, P1242, P1247, P1248, P1249, P1251, P1252, P1258, P1261, P1262, P1270, P1273,

The latest version Attachment 4 is provided with this memorandum as a separate document.

**ATTACHMENT B
ACCEPTABLE KNOWLEDGE FREEZE FILE,
WASTE STREAM OR-GENR-CH-HET**

Freeze File #1:

The following table includes excerpts from the NMED representative's Compliance Tracking Table" (2/10/2011), which identifies suggestions for enhancement of the AKSR CCP-AK-ORNL-006 examined during the CBFO recertification audit (A-12-08).

Requirement	Items to Address
<p>C4-3e: Each site shall document, justify, and consistently delineate all generator-specific waste streams and hazardous waste number assignments. The site must also consider site-specific permit requirements and other state-enforced agreements in this analysis.</p>	<p>Clarify the current regulatory status of the waste with respect to the state agency (e.g. the "RCRA suspect" status is nebulous). Clarify whether any waste streams were combined to create the subject waste stream.</p> <p>Revise text to specify HWN currently assigned by the generator to the waste streams. In support of this, Table 5-3 may be revised to present HWN assigned by the generator. Also, revise statements indicating general compliance with requirements imposed by TDEC to include a listing of HWN recognized by the State for these streams (i.e. may be in a storage permit).</p>

To address NMED's suggestions, the following changes will be incorporated into AKSR CCP-AK-ORNL-006 upon the next revision of this AKSR.

Add the following to the end of Section 2.1:

Waste Stream OR-GENR-CH-HET meets the WIPP-WAP waste stream definition. The waste stream consists of waste materials that have common physical form, that contain similar hazardous constituents, and that are generated from a single process or activity (Refer to Section 4.6.2).

Revise 1st paragraph in Section 4.5.3 as follows:

Nearly 60 percent of waste stream OR-GENR-CH-HET was generated prior to ORNL implementing a Resource Conservation and Recovery Act (RCRA) program in about 1987. All of these have subsequently been identified by ORNL as RCRA-regulated. Most are identified as RCRA suspect (i.e., assumed to contain hazardous constituents but specific EPA hazardous waste numbers have not been assigned by ORNL). The RCRA suspect designation is the result of a 2003 Tennessee Department of Environment and Conservation (TDEC) EPA inspection in which TDEC EPA pointed out numerous instances of waste in storage that had not been properly characterized. TDEC indicated this waste was to be managed onsite as RCRA hazardous waste "Pending Analysis for Hazardous Waste". The RCRA suspect designation was removed from a few of the drums and EPA hazardous waste number D008 (lead) was assigned based on RTR conducted by ORNL several years ago (References M165, M171, M198, U038).

Add a new 3rd paragraph in Section 4.5.3 as follows:

Containers in this waste stream have been historically managed by the generator individually or in small populations for RCRA characterization purposes. Containers included in waste stream OR-GENR-CH-HET were not managed as a single hazardous or non-hazardous waste stream. Therefore, this waste stream does not consist of containers historically segregated by the generator into separate mixed and non-mixed waste streams based on the hazardous constituent identified for specific containers.

Add the following to the end of the 3rd bullet in Section 4.6.2:

However, containers included in the waste stream were not managed as single hazardous or non-hazardous waste streams. Therefore, these waste streams do not consist of containers historically segregated by the generator into separate mixed and non-mixed waste streams based on the hazardous constituent identified for specific containers.

Make the following changes to Table 5-3:

Add an asterisk to D006 and D008, and add a footnote at the end of the table that says "These EPA hazardous waste number were also assigned by the waste generator to containers in this waste stream"

ATTACHMENT C
AUDIT ISSUES AND CONCERNS

Number	Who	Description of Concern	Requirements Comments
1	K. Martin	Page numbers to the Table of Contents were not recorded on Attachment 4 – CCP Radiography Batch Data Report Table of Contents and Batch Narrative (page 2) of BDR OR-RTR6-0402.	<p>CCP-QP-008, CCP Records Management, Rev. 19, Section 3.4.4 and 3.5.2 state, "CCP Records Custodian/Facility Records Custodian...verifies that CCP Records are complete. This includes verifying that there are no missing signatures, the page count is correct, and that the Batch Data Reports (BDRs) contents match their Table of Contents."</p> <p>CCP-QP-008, CCP Records Management, Rev. 19, Section 4.4.1 [A] states, "Blank spaces are filled in where information is required to be entered making the document complete."</p>
2	D. Blauvelt	AK attachment 1, the AK Documentation Checklist, for waste stream OR-GENR-CH-HET should be updated to include AK Source Documents in the Additional AK category S4, Waste Packaging records, since there are examples in the AK record that fit that description. AK attachment 6, waste form, waste material parameters, prohibited items, and packaging, for waste stream OR-GENR-CH-HET should be revised to be consistent with the information in the AK Summary. Specifically, "any un-vented plastic bags >4 liters that have been heat-sealed" should be answered "Y".	
3			
4			