



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

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AIR AND RADIATION

J. R. Stroble
Acting Manager, National TRU Program
Carlsbad Field Office
U.S. Department of Energy
P.O. Box 3090
Carlsbad, NM 88221-3090

Dear Mr. Stroble:

This letter provides the results of the U.S. Environmental Protection Agency's (EPA) unannounced inspection (EPA Inspection No. 06.09-24) of the Central Characterization Project (CCP) waste characterization program for contact-handled (CH) and remote-handled (RH) transuranic (TRU) waste at the Oak Ridge National Laboratory (ORNL) near Oak Ridge, Tennessee. In accordance with 40 CFR 194.8(b), this on-site inspection occurred at the ORNL on June 24-25, 2009. As a result of this inspection, EPA confirmed that the ORNL-CCP CH and RH TRU waste characterization program characterizes CH and RH TRU waste consistent with the conditions and limitations from EPA's baseline approvals (for CH waste EPA Air Docket No. A-98-49; II-A4-103 and for RH waste EPA Air Docket No. A-98-49; II-A4-111). The enclosed report (EPA Air Docket No. A-98-49; II-A4-121) gives the details of the inspection.

Based on the results of this inspection, EPA continues its approval of the ORNL-CCP CH and RH TRU waste characterization programs in the configuration observed during this inspection consistent with the limitations described in the baseline inspection reports. Since the baseline approval, EPA has approved Tier 1 and Tier 2 items to be added to the original baseline approval.

If you have any questions, please contact Rajani Joglekar (202 343-9462) or Ed Feltcorn (202 343-9422).

Sincerely,

Tom Peake, Director

Center for Waste Management & Regulations

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Enclosure

cc: Electronic Distribution
Christine Gelles, DOE EM HQ
Alton Harris, DOE EM HQ
Dave Moody, CBFO
Vernon Daub, CBFO
Court Fesmire, CBFO
Casey Gadbury, CBFO
Norma Casteneda, CBFO
Ava Holland, CBFO
Dennis Miehls, CBFO
Martin Navarrete, CBFO
Jonathan Edwards, EPA
Steve Zappe, NMED
David Ploetz, WTS
Allison Pangle, CTAC
Wayne Ledford, CTAC
Bill McMillan DOE ORNL
Rick Farr, DOE Site Rep

EPA DOCKET NO. A-98-49, II-A4-121

**WASTE CHARACTERIZATION INSPECTION REPORT
EPA UNANNOUNCED CONTINUED COMPLIANCE INSPECTION
EPA-ORNL-CCP-CH-RH-UA-06.09-24
OF THE CENTRAL CHARACTERIZATION PROJECT
WASTE CHARACTERIZATION PROGRAM
AT THE OAK RIDGE NATIONAL LABORATORY**

June 24–25, 2009

**U.S. Environmental Protection Agency
Office of Radiation and Indoor Air
Center for Waste Management and Regulations
1200 Pennsylvania Avenue, NW
Washington, DC 20460**

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CONTENTS

1.0	Introduction.....	1
2.0	Inspection Purpose.....	1
3.0	Inspection Scope.....	1
4.0	Background.....	2
5.0	Personnel.....	2
6.0	Performance of the Inspection.....	3
6.1	Radiological Characterization.....	4
6.1.1	Evaluation.....	4
6.1.2	Concerns.....	7
6.1.3	Conclusion.....	7
6.2	Real-Time Radiography (RTR) for CH TRU Wastes.....	7
6.2.1	Evaluation.....	7
6.2.2	Concerns.....	7
6.2.3	Conclusion.....	8
6.3	Visual Examination (VE) for RH TRU Waste.....	8
6.3.1	Evaluation.....	8
6.3.2	Concerns.....	8
6.3.3	Conclusion.....	8
6.4	Container Management.....	9
6.4.1	Evaluation.....	9
6.4.2	Concerns.....	10
6.4.3	Conclusion.....	10
7.0	Summary of Results.....	10
7.1	Summary of Concerns.....	10
7.2	Conclusion.....	11

1.0 INTRODUCTION

This report describes results of the U.S. Environmental Protection Agency (EPA)'s unannounced continued compliance inspection at the Oak Ridge National Laboratory (ORNL). On June 24-25, 2009, under the authority of 40 CFR 194.21(a)(1), the EPA performed Inspection EPA-ORNL-CCP-CH-RH-UA-06.09-24, an unannounced inspection of the transuranic (TRU) waste characterization program of the Central Characterization Project (CCP) at the ORNL at Oak Ridge, Tennessee. This inspection focused on the following technical aspects of the ORNL-CCP waste characterization program for contact-handled (CH) and remote-handled (RH) TRU waste:

- Radiological characterization for RH TRU wastes
- Nondestructive examination (NDE) - Real-Time Radiography (RTR) for CH TRU wastes and Visual Examination (VE) for RH TRU wastes
- Chain of custody practices including waste container certification for tracking and shipment of both CH and RH TRU wastes

The EPA inspection team evaluated selected aspects of the areas listed above by conducting interviews with ORNL-CCP personnel, observing processes, and reviewing documents and records. The EPA inspection team did not identify any concerns and there are no open issues at ORNL-CCP as a result of this inspection. The EPA inspection team determined that the ORNL-CCP waste characterization programs for CH and RH TRU wastes continue to function in compliance with the requirements of 40 CFR Part 194.

2.0 INSPECTION PURPOSE

The purpose of this inspection was to evaluate the continued compliance of the technical processes implemented by ORNL-CCP for characterizing S5000 retrievably stored CH and RH TRU debris waste.

3.0 INSPECTION SCOPE

The following waste characterization components of the system of controls implemented by ORNL-CCP were evaluated under the inspection authority described in 40 CFR 194.8(b):

- Radiological characterization – Dose-to-Curie (DTC) measurements conducted at the TWPC¹ and calculation of WIPP-tracked radionuclides using scaling factors
- NDE – RTR and VE
- Chain of custody process including waste container certification for shipment and tracking of direct loaded and overpacked (due to container integrity) containers

¹ TWPC is the Transuranic Waste Processing Center, the facility at ORNL where CH and RH TRU wastes are processed.

As part of the inspection, EPA reviewed objective evidence and verified that the ORNL-CCP waste characterization program continues to perform waste characterization in compliance with the requirements of 40 CFR Part 194.

4.0 BACKGROUND

EPA had conducted two baseline inspections at ORNL-CCP and these provided the basis for EPA's approval of the ORNL-CCP waste characterization program for both CH and RH TRU wastes. Additionally, EPA approved two Tier 1 changes at ORNL for their CH waste characterization program; all EPA approvals of the CH and RH waste characterization programs at ORNL-CCP are shown in Table 1. EPA performs unannounced inspections of approved CH and RH TRU waste characterization programs to observe and document that the program continues to operate in compliance with 40 CFR Part 194.

Table 1. EPA Approvals of ORNL-CCP CH & RH Waste Characterization Programs

EPA Inspection Number	Approval Dates	CH or RH	Public Docket No.
Baseline CH Inspection ORNL-CCP-CH-11.07-8	August 2008	CH	A-98-49; II-A4-103
Baseline RH Inspection ORNL-CCP-RH-06.08-8	February 2009	RH	A-98-49; II-A4-111
Tier 1, Extension of Density Range for SGS	October 2008	CH	A-98-49; II-A4-108
Tier 1, Extension of Range for IPAN/DWAS	January 2009	CH	A-98-49; II-A4-109
Tier 1, Addition of S4000 Soils, Waste Stream OR-NFS-CH-SOILS ²	October 2009	CH	A-98-49; II-A4-117

5.0 PERSONNEL

The EPA inspection team consisted of the personnel shown in Table 2.

Table 2. EPA Inspection Team Members

Name	Affiliation	Inspection Role
Mr. Ed Felcorn	EPA ORIA	EPA Inspection Team Lead
Rajani Joglekar	EPA ORIA	EPA Inspection Team Inspector
Ms. Lindsey Bender	EPA ORIA	EPA Inspection Team Observer
Ms. Dorothy Gill	SC&A, Inc.	Technical Inspector, VE & RTR
Mr. Patrick Kelly	SC&A, Inc.	Technical Inspector, DTC

The EPA inspection team interviewed and obtained information and/or inspection support from the ORNL-CCP, ORNL and DOE personnel listed in Table 3.

² The ORNL CH T1 approval for soils occurred after this unannounced continued compliance inspection and is included for completeness.

Table 3. Personnel Interviewed During Inspection

Name	Affiliation
Ron Reeves	WTS-CCP
Pat Tilmon	WTS-CCP
Jim Moore	DOE
Bob McKay	TWPC
Fred Heacker	TWPC
J.R. Stroble	DOE-CBFO
Jeri Miles	WTS-CCP
Hillari Neely	WTS-CCP
Michael Gracey	WTS-CCP
L.A. Thompson	TWPC
Micael Sensibaugh	WTS-CCP
Joe Harvill	WTS-CCP
Jim Kopotic	DOE-EM
Shane Miles	WTS-CCP
Rick Farr	DOE

6.0 PERFORMANCE OF THE INSPECTION

Background

The logistics of an unannounced inspection are different from a scheduled inspection at a TRU generator site. Because site personnel do not know an inspection will be occurring on a given day, certain aspects of the site's waste characterization program may not be available for evaluation. Waste characterization systems of interest to the EPA inspection may not be operational and key personnel may not be available, particularly since CCP personnel move among the DOE TRU sites and are not tied to a specific site. However, on this inspection, key personnel in the areas of radiological characterization, VE, RTR and container management were available.

In preparation for a scheduled inspection, the EPA technical inspectors typically obtain and review the latest revisions of key procedures and reports in the preparation of inspection checklists. For an unannounced inspection, EPA technical inspectors prepare using what they know to be the latest revisions of these documents. However, these documents may have been revised or superseded without EPA's knowledge. This may require the EPA inspection team to modify or adjust the inspection's scope on short notice on site. For this inspection, for the most part, the operating procedures for radiological characterization, RTR and VE that the EPA inspection team used to prepare were the current versions.

Logistics

On Wednesday, June 24, 2009, at approximately 8:00 am, EPA inspectors met with ORNL management and ORNL-CCP staff responsible for TRU waste for a pre-inspection

conference/kick-off meeting at the TWPC located on the Oak Ridge Reservation to explain the inspection's scope and provide a copy of the inspection plan. The EPA inspectors then met with personnel from ORNL-CCP to schedule inspection activities specific to the technical areas of radiological characterization, RTR, VE and container management. Following these meetings, the EPA inspection team personnel divided into two groups: (1) radiological characterization, and (2) RTR, VE, both of which were accompanied by appropriate ORNL-CCP and other personnel. These two technical areas were evaluated on June 24 and the morning of June 25, 2009. In mid-morning of June 25, 2009, the EPA inspection team as a whole evaluated container management. A post-inspection EPA Briefing/Close-Out Meeting was held on the afternoon of June 25, 2008. The EPA inspection team provided an oral summary of the inspection to ORNL-CCP and ORNL personnel.

6.1 Radiological Characterization

6.1.1 Evaluation

The EPA inspection team evaluated three aspects of the ORNL-CCP RH radiological characterization program: 1) the DTC measurement process; 2) RTR of CH and VE of RH and 3) RH and CH container tracking.

Dose-to-Curie (DTC) Measurement

The EPA inspection team observed the dose rate measurement process in TWPC Building 7880 during the inspection. All radiation dose rate measurements were made as described in CCP-TP-504 and all drum operations were controlled remotely using a series of cameras and manipulators. The EPA inspection team verified that the operational details of the DTC process had not changed since the baseline approval and observed the DTC process for container No. ORRH00037. The EPA inspection team addressed the following items related to DTC:

- Was the current revision of the appropriate ORNL-CCP procedure available in the ORNL-CCP DTC Alcove?
 - CCP-TP-054, Revision 8, dated 4-23-09 was present and available to the DTC Operator.
- Were entries in the system's operation notebook current and appropriate for June 24, 2009?
 - Operational Log for RH DTC, Control Number RH-DTC-ORNL-002, CY 2009, TWPC Building No. 7880 Process Building contained the appropriate entries as required by CCP-TP-504.
- Were the appropriate gamma probes used for the DTC measurements and did each have a current calibration?
 - FHZ 612 Low Range Probe XC00672 and FHZ High Range Probe 177 were used and both had stickers indicating a current calibration.
- Was the background determination performed and recorded?

- A background of 0.094 mR/hr was recorded prior to performing DTC.
- Were source checks performed and recorded for both probes?
 - A reading of 76.8 mR/hr was recorded for a source whose acceptance range was 66.8 – 100 mR/hr; a reading of 1120 mR/hr was recorded for a source whose acceptance range was 862 – 1290 mR/hr.
- Were four measurements taken and recorded for the RH container?
 - Four measurements of 9.1 mR/hr, 11.5 mR/hr, 8.85 mR/hr and 11.3 mR/hr were taken and recorded on the form from CCP-TP-504, Attachment 2.
- Were all required surveys/checks performed, recorded and evaluated prior to beginning the DTC process?
 - Measurements were taken at the DTC Alcove shield door and on contact with the cask, a Thermo Model ESM FH 40G Ratemeter with a Model FHZ 512 probe was used to record the gamma dose in the DTC Alcove.
- Was the waste container being measured during this inspection within ORNL's approved waste stream?
 - Container No. ORRH00037 contained S5000 debris waste from the Post-1991 period of ORNL waste stream OR-REDC-RH-HET.
- Was the appropriate scale used to determine the container's weight and did it have a current calibration?
 - The scale was No. WIPP-120 with a tolerance of ± 1 kg, and it was last calibrated on 2-15-08 and this calibration expired on 2-12-10.
- Whether the individuals observed performing the DTC analysis during this inspection were qualified and listed on the current List of Qualified Individuals (LOQI)?
 - Ronald K. Whitson, Mike W. Fryberger and Anthony Presely were all listed on the current LOQI; the ORNL-CCP DTC operator (M. Fryberger) recorded all required information in Operational Log Book RH-ORNL-DTC001 and worked from the current revision of CCP-TP-504.

All aspects of the DTC process that the EPA inspection team observed were adequate.

Calculation of Concentrations of WIPP-Tracked Radionuclides

The EPA inspection team determined that the radionuclide scaling factors that were evaluated in depth during the baseline inspection had not changed, with one minor exception discussed below. Next, the EPA inspection team examined the spreadsheet containing the radionuclide-specific scaling factors and determined that it was the correct version, ORNL DTC-Mark-HFIR, Version 4, Addendum 4, SCO 1000. The EPA inspection team evaluated the execution of the radiological characterization process as documented in DTC Batch Data Report (BDR) Nos. ORRHDTCC08005, ORRHDTCC08006, and ORRHDTCC09007. BDRs Nos. ORRHDTCC08005 and ORRHDTCC08006 contained Non Conformance Report (NCR) No. NCR-RHORNL-0500-09, related to an overstatement of the container's curie content due to an

incorrect accounting for gamma scatter within the DTC Alcove. As a result of the NCR, the above cited two BDRs were changed and contained superceded Waste Container Dose-to-Curie Conversion Records. The EPA inspection team also reviewed a revision of calculation package Nos. ORNL-RH-23 (Revision 4), ORNL-RH-07 Revision 2), ORNL-RH-11 (Revision 4) and ORNL-RH-23 (Revision 4) that were prepared to address this. ORNL-CCP provided a copy of a memorandum dated February 2, 2009 from J. Vance that documented the nature and extent of the changes. All documentation was acceptable. The EPA inspection team verified that all three DTC BDRs contained the following information for each RH TRU container:

- Cask number and container number
- Waste stream designation
- Waste net weight and material type
- Measured dose rates from four quadrants and the calculated average dose rate in mR/hr
- Scaling factor in curies per mR/hr
- Activity and mass values and uncertainties for the 10 WIPP-tracked radionuclides in curies and grams, respectively
- Activity and mass values and uncertainties for other TRU radionuclides (^{243}Am , ^{244}Cm , ^{245}Cm , and ^{246}Cm) in curies and grams, respectively
- TRU alpha activity and concentration
- Plutonium equivalent curies (PE Ci) in curies
- Fissile gram equivalents (FGE) in grams
- Decay heat in watts
- Volume activity in curies per liter

The DTC BDRs and the revised calculation packages were acceptable.

Determination of RH and TRU Status

The determinations that RH containers meet the definition of TRU wastes (TRU alpha activity concentration greater than 100 nCi/g) and RH waste (contact dose equivalent rate in excess of 200 mrem/hr) were examined, as discussed below.

TRU Determination: The three DTC BDRs that were evaluated contained values for the 10 WIPP-tracked and other TRU radionuclides at concentrations greater than 100 nCi/g in all cases. Any drum whose results indicated a TRU concentration less than 100 nCi/g was accompanied by an NCR, as appropriate.

RH Determination: The three DTC BDRs that were evaluated contained objective evidence of the RH determination for all containers. Any drum whose results indicated a contact dose equivalent rate of less than 200 mrem/hr was accompanied by an NCR, as appropriate.

Both the TRU and RH determinations were acceptable.

6.1.2 Concerns

There were no concerns relative to any aspect of the ORNL-CCP RH radiological characterization process identified during this inspection.

6.1.3 Conclusion

The EPA inspection team concluded that ORNL-CCP continues to perform radiological characterization of RH TRU waste in a manner that is compliant with the requirements of 40 CFR Part 194 and EPA's 2007 baseline approval.

6.2 Real-Time Radiography (RTR) for CH TRU Wastes

6.2.1 Evaluation

Prior to and during EPA's on-site inspection, the EPA NDE technical lead reviewed the ORNL-CCP RTR processes and procedures for examination of CH waste. Procedure CCP-TP-053, Revision 6, *CCP Real-Time Radiography (RTR) Inspection Procedure*, was reviewed to ensure it continued to contain sufficient operational instructions to ensure the generation of reliable RTR data. EPA determined the procedure to be adequate.

The EPA inspection team observed the RTR examination of drum No. X10C9313137A, contained in BDR OR-RTR6-0205. Two operators, L. Smith and S. Smith, performed RTR by reviewing an electronic image remotely while rotating the drum on the turntable and moving the imaging equipment vertically along the sides of the container. These actions are intended to provide a comprehensive assessment of the drum's contents and the operator increased or decreased the x-ray device voltage to compensate for waste items with different densities. As the examination progressed, the operator identified and called out each waste item, which was confirmed by a second operator who was viewing the same RTR event on a separate screen. The second operator recorded waste items and the Waste Material Parameter (WMP) of each item on the electronic data sheet CCP-TP-053, Attachment 2. The EPA inspection team verified that the two operators were listed on the current LOQI and were qualified to perform the examination. At the conclusion of the examination, the operators verified that the waste met the waste stream description and Waste Matrix Code (WMC). The absence of prohibited items was recorded and WMP weights were estimated and recorded.

BDR Nos. OR-RTR6-0195, OR-RTR6-0189, and OR-RTR6-0191 were reviewed for completeness and accuracy. All BDRs contained a valid RTR Measurement Control Report (Attachment 1, CP-TP-053), data sheets, completed Independent Technical Reviewer and completed SPM Project Level Validation Checklist and Summary.

6.2.2 Concerns

The EPA inspection team did not identify any concerns relative to RTR during this inspection.

6.2.3 Conclusion

EPA concluded that CCP at ORNL continues to perform RTR examinations in a manner that is compliant with the requirements of 40 CFR Part 194 and EPA's 2007 baseline approval.

6.3 Visual Examination (VE) for RH TRU Waste

6.3.1 Evaluation

Prior to and during EPA's on-site inspection, the EPA NDE technical lead reviewed the ORNL-CCP VE process and procedures for examination of RH TRU waste. Procedure CCP-TP-500, Revision 8, *CCP Remote-Handled Waste Visual Examination*, is used to perform VE and the EPA inspection team reviewed it to verify that it continues to provide adequate and complete instructions. EPA did not identify any issues with this procedure. VE of RH waste is performed in the hot cell in Room 231, Building 7880. The VE Operators are employed by EnergX³ but are trained to ORNL-CCP procedures, and they operate the hot cell manipulator arms and complete the required data sheet (CCP-TP-500, Revision 8, Attachment 1, Visual Examination Data Form). The EPA inspection team observed two operators performing VE and both were listed on the current LOQI. A CCP VE Expert (VEE) was present at each VE event to oversee the process and provide technical assistance, as needed.

Waste was unloaded into the hot cell from casks and repackaged into 55-gallon (208-liter) drums. Waste from one cask may be packaged into several drums, depending on the physical form of the waste and other considerations. The EPA inspection team observed part of the VE process for drum No. ORRH00033. At the start of the VE process, the receiving drum was verified as being empty and it was fitted with a wide-neck funnel to facilitate waste loading and reduce spillage. ORNL-CCP personnel stated that the hot cell smoke detector had been isolated because dust generated during drum loading set off the alarm. After identification of the waste and agreement between the two operators regarding the pertinent waste details, the waste was loaded into the drum and the appropriate waste-related information was entered electronically into the VE data form.

The EPA inspection team reviewed three VE BDRs, Nos. RHORVE090009, RHORVE090011 and RHORVE090013. These BDRs were complete and had been reviewed at both data generation and project levels. NCR-RH-ORNL-0501-09 and NCR-RH-ORNL-0502-09 were associated with BDR Nos. RHORVE090009, RHORVE090011 and both NCRs had been dispositioned appropriately.

6.3.2 Concerns

The EPA inspection team did not identify any concerns relative to RTR during this inspection.

6.3.3 Conclusion

³ EnergX is the operating contractor for the TWPC.

The EPA inspection team concluded that CCP-ORNL continues to perform VE in a manner that is compliant with the requirements of 40 CFR Part 194 and EPA's 2007 baseline approval.

6.4 Container Management

6.4.1 Evaluation

Prior to and during EPA's on-site inspection, the EPA inspection team reviewed the processes and procedures used by ORNL-CCP to manage containers of CH and RH waste at the ORNL site. The EPA inspection team evaluated CH and RH wastes processes separately, as reported below.

Contact-Handled (CH) Waste

ORNL-CCP manages CH waste in accordance with procedure CCP-TP-068, Revision 5, *CCP Container Management at the Idaho National Laboratory (INL) and TRU Waste Processing Center (TWCP)*. The EPA inspection team determined that this procedure was adequate and complete. As part of the inspection, EPA randomly chose two containers from the EnergX TWCP container list to verify that the containers were in the location specified on that list. ORNL-CCP does not have its own database for container tracking but uses the ORNL database, WICS⁴. Containers are tracked by location and not by position. The EPA inspection team established that container Nos. X10C0506154DD and X10C9312368A were located in the CHMB⁵ storage facility as reported on the container list. Within the CHMB facility, fully characterized containers that are awaiting shipment to WIPP are segregated from other containers by an expandable metal fence. ORNL-CCP personnel stated that waste handling personnel retrieving containers for shipment only take those located within the metal fence. The EPA inspection team verified that *Hold* tags had been placed on container No. X10C9311943A for an NDA-related NCR (NCR-ORNL-0132-09), and container No. X10C9311283A for an NCR related to the presence of liquids (NCR-ORNL-0636-09). Both containers were labeled appropriately and the documentation regarding all CH containers was adequate.

Remote-Handled (RH) Waste

ORNL-CCP manages RH waste in accordance with procedure CCP-TP-500, Revision 2, *CCP Remote-Handled Transuranic Container Tracking*. The EPA inspection team determined that this procedure was adequate and complete. According to the baseline approval, ORNL-CCP is approved to characterize and ship wastes from RH waste stream No. OR-REDC-RH-HET that were generated after 1991, known as the Post-1991 or Mark 42 wastes. The EPA inspection team chose to verify the disposition of all RH containers from the approved portion of this waste stream that had been characterized and shipped to date. ORNL-CCP personnel stated that a total of thirty-six 55-gallon (208-liter) containers had been loaded with RH TRU wastes in the Building 231 Hot Cell. EPA requested a detailed break down of the disposition of these thirty-six containers and ORNL-CCP provided the following information:

⁴ WICS is the Waste Information Control System.

⁵ CHMB is the Contact Handled Marshalling Building at the TWPC.

- ORNL-CCP has shipped twelve containers to WIPP in three shipments of four drums each and these have been interred in the repository (subtotal of 12 containers).
- Three drums were determined to not contain TRU wastes, i.e., they had TRU concentrations of less than 100 nCi/g, and ORNL-CCP indicated that they were classified as low-level waste (LLW) and they had been removed from the hot cell; this was appropriately noted on NCR-RHORNL-0050-09 (subtotal of 15 containers).
- Three drums were determined to contain CH TRU wastes, i.e., they had an external dose rate of less than 200 mRem/hr⁶ and are still in the hot cell although ORNL-CCP personnel stated that these would be returned to the host site; this was appropriately noted on NCR-RHORNL-0503-09 (subtotal of 18 containers).
- Six containers were on hold due to an NCR related to an excessive neutron dose rate; this was appropriately noted on NCR-RHORNL-0502-08 and NCR-RHORNL-0504-09 (subtotal of 24 containers).
- Six containers were determined to belong to an earlier part of waste stream OR-REDC-RH-HET, the Pre-SETF⁷ period, which was not approved for shipment to WIPP, and these are on hold (subtotal of 30 containers).
- Six containers required repackaging and were being held (total of 36 containers)

The documentation regarding all thirty-six containers was adequate.

6.4.2 Concerns

The EPA inspection team did not identify any concerns relative to the management and tracking of CH and RH containers by CCP-ORNL.

6.4.3 Conclusion

The EPA inspection team concluded that CCP-ORNL continues to manage and track CH and RH TRU waste containers in a manner that is compliant with the requirements of 40 CFR Part 194.

7.0 SUMMARY OF RESULTS

7.1 Summary of Concerns

The EPA inspection team did not identify any concerns during this inspection. Based on this unannounced inspection of ORNL-CCP, there are no open issues in any of the technical areas evaluated related to CH or RH TRU wastes.

⁶ The criterion for RH versus CH TRU wastes is often stated as a *dose rate* expressed in units of millirem per hour (mRem/hr). In a strict technical sense this should be called an *external dose equivalent rate*, however, usage of the term *dose rate* is common throughout CCP documents.

⁷ SETF is the Solvent Test Extraction Facility.

7.2 Conclusion

The EPA inspection team evaluated selected aspects of the following waste characterization areas at ORNL-CCP:

- Radiological characterization for RH TRU wastes by DTC
- NDE - RTR for CH TRU wastes
- NDE- VE for RH TRU wastes
- Container management for CH or RH TRU wastes

Based on the results of this inspection, EPA determined that the ORNL-CCP waste characterization programs for CH and RH TRU wastes continue to comply with the requirements of 40 CFR Part 194.