

**DOCKET NO: A-98-49; II-A4-102**

**WASTE CHARACTERIZATION REPORT**

**TIER 1 CHANGE EVALUATION:  
NEW PROCESS FOR VISUAL EXAMINATION FOR NEWLY-PACKAGED WASTE  
AT THE CENTRAL CHARACTERIZATION PROGRAM'S REMOTE-HANDLED TRU  
WASTE AT ARGONNE NATIONAL LABORATORY EAST**

**May 28, 2008**

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

**June 2008**

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Attachment A - EPA Concern No. EPA-ANL-CCP-RH-VE/T1-08-001C

## **1.0 EXECUTIVE SUMMARY**

In accordance with 40 CFR 194.8(b), the U.S. Environmental Protection Agency (EPA or the Agency) conducted Baseline Inspection No. ANL-CCP-RH-9.06-8 of the Central Characterization Project Waste Characterization Program at the Argonne National Laboratory East (ANLE-CCP) on September 12–14, 2006. The scope of this baseline inspection included several aspects of the site’s program to characterize remote handled (RH) transuranic (TRU) wastes proposed for disposal in the Waste Isolation Pilot Plant (WIPP). As a result of this baseline inspection, EPA approved the ANLE-CCP waste characterization (WC) program with conditions and limitations, as documented in the ANLE-CCP Baseline Final Inspection Report (see EPA Docket No. A-98-49; II-A4-73). This approval included reviewing existing audio/visual recordings that were generated at the time of waste packaging to provide the visual examination (VE) data required for S5000 RH TRU debris waste. This approval stated that VE by any other process requires a Tier 1 (T1) change requiring EPA approval prior to implementation. The Department of Energy’s Carlsbad Field Office (DOE CBFO) requested that EPA approve the use VE for newly-packaged RH TRU waste and in response to this request EPA conducted a T1 evaluation of the proposed process on site at ANL-E on May 28, 2008. Based on the onsite evaluation described in this report, EPA approves the T1 change.

This report serves as EPA’s public notification of the evaluation and approval of the T1 change. This information will be provided through the EPA website and by sending e-mails to the WIPPNEWS list, in accordance with 40 CFR 194.8(b)(3). This approval does not make any changes to the tiering table provided with the baseline approval.

## **2.0 PURPOSE OF INSPECTIONS AND TIER 1 EVALUATIONS**

Specific changes to the WC activities from the date of the baseline inspection must be reported to, and, if applicable, approved by EPA, according to the tiering requirements set forth in the ANLE-CCP Baseline Final Report cited above. Under the changes to 40 CFR 194.8 promulgated in the July 16, 2004, Federal Register notice, EPA must perform a single baseline inspection of a TRU waste generator site’s WC program. (See Vol. 69, No. 136, pages 42571–42583 of July 16, 2004).

The purpose of a baseline inspection is to approve the site’s WC program based on the demonstration that the program’s components, with applicable conditions and limitations, can adequately characterize TRU wastes and comply with the regulatory requirements imposed on TRU wastes destined for disposal at the WIPP. An EPA inspection team conducts an on-site inspection to verify that the site’s system of controls is technically adequate and properly implemented. Based on the adequacies of the WC processes demonstrated during the baseline inspection, including all conditions and limitations, EPA specified which subsequent WC program changes or modifications are subject to further evaluation or inspection under 40 CFR 194.24. T1 activities have more stringent reporting requirements and require that DOE notify EPA, and that EPA provide approval prior to implementation of the proposed WC change.

Following the EPA’s approval of WC processes evaluated during the baseline inspection, under the authority of 40 CFR 194.24(h), EPA evaluates and approves, if necessary, changes to the

site's approved WC program by conducting additional inspections. Under 40 CFR 194.24, EPA has the authority to conduct continued compliance inspections to verify that the site continues to use only the approved WC processes to characterize the waste and remains in compliance with all the regulatory requirements.

### 3.0 PURPOSE OF THIS REPORT

This report presents the results of EPA's evaluation of a T1 change to add a new VE process for newly-generated waste as an approved waste characterization technique for RH TRU waste. The report also presents the technical basis and results of EPA's approval decision. As discussed previously, EPA will also announce the decision on its website at [www.epa.gov/radiation/WIPP](http://www.epa.gov/radiation/WIPP), in accordance with 40 CFR 194.8(b)(3).

### 4.0 SCOPE OF REVIEW

The scope of this inspection was the use of VE for newly-generated S5000 debris RH TRU waste. This is an addition to the VE process approved in the baseline as a result of EPA Inspection No. EPA-ANL-CCP-RH-9.06-8. The initial approval of the ANLE-CCP RH WC program included generation of VE data by review of existing audio/visual recordings for legacy waste. The scope of this Tier 1 inspection included: reviewing the operating procedure used for conducting VE (CCP-TP-500), training records and Batch Data Reports (BDRs); observing the VE process; and interviewing ANLE-CCP VE personnel.

### 5.0 EVALUATION PERSONNEL

The evaluation team consisted of Ms. Rajani Joglekar, EPA Inspection Team Leader, and one SC&A contractor, Ms. Dorothy Gill, EPA Technical Inspector. The ANLE-CCP and CBFO personnel who took part in the inspection are listed in Table 1.

**Table 1. Personnel Involved with Tier 1 Evaluation**

Personnel	Affiliation	Inspection Function - Area of Expertise
Larry Porter	WTS/CCP	CCP RH Manager
F. Wesley Root	WTSCCP	RH Vendor Project Manager
Pat Beallis	ANLE/NOD/WMO	RH VE Operator (VEO)
Gary Redman	ANLE/NOD/WMO	RH VEO
Gloria Ruppert	ANLE/NOD/WMO	RH VEO
Tommy Mojica	WTS CCP	RH VE Expert (VEE)
Joe Uptergrove	ANLE/NOD	RH TRU Operations Interface
Lee Essenmacher	ANLE/NOD	RH Packer
Irene Quintana	WTS CCP	Site Project Manager (SPM)
Hillari Neely	WTS CCP	SPM
Jay Geller	ANLE-FMS	RH Quality Assurance (QA) Representative
Court Fesmire	DOE-CBFO	Environmental Engineer
Kaushik Joshi	DOE	DOE Project Officer
Dale Dietzel	DOE ANLE Site Office	DOE Federal Project Director
Jim Frego	ANLE-FMS/DPM	Project Manager

## 6.0 TECHNICAL EVALUATION

The EPA inspection team examined the VE process that is performed in accordance with CCP-TP-500 for the purpose of determining if the proposed addition of the new VE technique was technically adequate and in compliance with the requirements of 40 CFR 194.8.

### **Background Information**

The T1 changes identified in the baseline inspection for retrievably-stored S5000 waste stream No. AERHDM included the use of VE for S5000 RH TRU debris waste by any new process. CBFO informed EPA of their intention to perform VE on newly-generated S5000 RH TRU debris waste by a new process that was not included in the original approval. In response to the CBFO request, EPA performed this T1 change evaluation during an on-site inspection of the proposed VE process.

### **Documents Reviewed**

The following documents were among those reviewed to assess whether VE operations follow the appropriate approved procedures and meet VE requirements:

- CCP-TP-500, CCP Remote-Handled Waste Visual Examination, Revision 7, February 27, 2008
- Remote-Handled TRU Waste Characterization Program Implementation Plan (WCP/IP), Revision 0D, October 30, 2003
- CCP-QP-002, Training and Qualification Plan, Revision 26, February 7, 2008
- CCP-PO-001, TRU Waste Characterization Quality Assurance Project Plan, Revision 16, October 31, 2007
- CCP-PO-002, Transuranic Waste Certification Plan, Revision 20, November 2, 2007
- CCP-AK-ANLE-500, Central Characterization Project Acceptable Knowledge Summary Report For Argonne Remote-Handled Debris Waste, Waste Stream AERHDM, Revision 3, May 8, 2008

The following records were among those reviewed that provided objective evidence of the successful implementation of the RH VE program:

- VE BDRs: RHANLVE080001, RHANLVE080002, RHANLVE080004
- Nonconformance Report (NCR) No. NCR-RHANL-0001-08
- Appointment Letter for Mr. T. Mojica as Central Characterization Project VEE For The Remote-Handled Waste Project, April 17, 2006
- List of Qualified Individuals (LOQI), Visual Examination
- Visual Examination Qualification Cards for VE SPM, VEE, VPM and three visual examination operators (VEOs)

**Technical Evaluation: The VE process was evaluated and was found to be acceptable**

The on-site evaluation of ANL-CCP RH VE process included review of procedure CCP-TP-500 and observation of the VE event for the seven-gallon waste can No. 394. The demonstration took place in Building 212, Area F113. Two VE Operators and an ANL RH Packer, who physically packaged the waste using manipulator arms inside a glove-box, performed the demonstration VE event. The two VEOs had clear and unobstructed view of the waste during packaging. The RH Packer selected and packaged the waste on an item-by-item basis. One VE Operator called out his identification of a waste item, including the item's Waste Material Parameter (WMP). Examples include "plastic, P" and "dry rag, C". This information was entered into Attachment 1, Visual Examination Data Form, of CCP-TP-500 by the second VE Operator. Prior to entering the data on the form, the second VEO observed the waste item and called out his identification and WMP assignment of the item. Any discrepancies between the two VE operator's WMP assignments were discussed and resolved before processing the next waste item. Although the VE process that the EPA inspection team observed for identifying and recording of waste was adequate, it was not fully described in the ANLE-CCP VE operating procedure CCP-TP-500. To address this issue, EPA generated Concern No. EPA-ANL-CCP-RH-VE/T1-08-001C, described below and included as Attachment A.

Description of Concern No. EPA-ANL-CCP-RH-VE/T1-08-001C: CCP-TP-500, Revision 7, does not include the actual operational steps used by the two visual VEOs to identify, document and ensure concurrence of identification for WMPs during the VE event.

ANL-CCP Response: This concern did not require a response as the CCP RH Manager verbally agreed to address this concern.

Status of Concern: EPA considers this concern to be closed and will verify at the next RH inspection.

Upon completion of the examination, the operators reviewed the data sheets for errors and completeness, and signed the data sheets to document their acceptance of the data. Although CCP has designated a VEE for ANL RH, the VEE is not normally present to witness the VE events. However, the VEE is remotely available for consultation if requested by the VE Operators. For the purpose of the inspection the VEE was present and available to answer EPA's questions with regard to his duties. Waste can No. 394 was closed, a paper Tamper Indication Device (TID) was affixed and the can was loaded into a 30-gallon drum. Although not observed by the EPA inspection team, a second seven-gallon can is normally loaded into the 30-gallon drum. The drum is then closed and the VE process is considered complete.

BDRs RHANLVE080001, RHANLVE080002, and RHANLVE080004 were reviewed to verify completeness of the required forms and concurrence between the two VEOs, evidenced by both signatures on the Attachment 1 forms. WMP weights are not determined or estimated for RH waste because the WCPIP requires the entire waste weight be entered into WIPP Waste Information System (WWIS) as plastic. These three BDRs had been reviewed at the data generation level by a qualified Independent Technical Reviewer (ITR) who did not examine the waste, and were also reviewed by a SPM. NCR No. NCR-RHANL-0001-08 was issued as required when a 7-gallon can failed to be successfully placed in the receiving 30-gallon drum. At the time of the on-site inspection, the NCR had not been finally dispositioned.

The EPA Team reviewed training records for VEOs, the VEE and SPMs. All records demonstrated that only trained personnel were used to perform VE and data review. Training records were complete and available for review.

## **7.0 SUMMARY OF RESULTS**

EPA determined that CCP was performing VE of RH newly-generated (S5000) debris waste in accordance with the requirements of procedure CCP-TP-500 and that the data generated by the VE process were technically adequate. VE data were accurately recorded, verified and validated.

### **Findings**

The EPA Inspection Team did not identify any concerns relative to the proposed T1 change to the ANLE-CCP baseline approval.

### **Concerns**

The EPA Inspection Team identified one concern that is discussed in Section 6, above. This concern did not require a response and EPA considers this concern to be closed.

### **Conclusions**

During this T1 change inspection, EPA evaluated the execution, documentation, records, and training for the proposed VE process. Based on the results of this inspection of the VE system implemented by CCP at ANLE for RH waste, EPA approves this VE process for newly-generated (S5000) debris waste in Waste Stream No. AERHDM.

**ATTACHMENT A**  
**EPA Concern No. EPA-ANL-CCP-RH-VE/T1-08-001C**

<b>Inspection No.</b> EPA-ANL-CCP-RH-T1-08-05	<b>Issue Number:</b> EPA-ANL-CCP-RH-VE/T1-08-001C <b>Date:</b> 5/28/08
<b>Inspector:</b> Dorothy E Gill <b>Attachments?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	<b>Sample Size:</b> 1 <b>Population size (if known):</b> 1
<b>Description of Issue:</b> CCP-TP-500, Revision 7, does not include the actual operational steps used by the two visual examination operators to identify, document and ensure concurrence of identification for waste material parameters during the VE event.	
<b>B. Regulatory Reference:</b> 40 CFR 194.24(c)	
<b>C. Site requirement(s):</b> N.A.	
<b>D. Discussed with:</b> Larry Porter, CCP RH Manager	
<b>E. Additional Comments:</b> None	
<b>F. Site Response Information:</b>  <b>Site Response Required?</b> <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <b>Site Response Due Date:</b> N.A.	