



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

JAN 16 2007

OFFICE OF  
AIR AND RADIATION

Dr. David Moody, Manager  
Carlsbad Field Office  
U.S. Department of Energy  
P.O. Box 3090  
Carlsbad, NM 88221-3090

Dear Dr. Moody:

This letter provides the results of the U.S. Environmental Protection Agency's (EPA) baseline inspection of the remote-handled (RH), transuranic (TRU) waste characterization program implemented by the Central Characterization Project (CCP) at the Argonne National Laboratory (ANL) (Inspection Number EPA-ANL-CCP-RH-09.06-08).

In September 2006, EPA conducted a baseline inspection of ANL-CCP's RH TRU waste characterization program to assess the characterization of RH TRU waste in accordance with EPA regulations (40 CFR 194.8(b)(3), 40 CFR 194.8(c) and 40 CFR 194.24). During the inspection, EPA assessed the technical adequacy of the characterization performed through acceptable knowledge, dose-to-curie, and visual examination. EPA's inspection team identified three concerns in the areas of visual examination and acceptable knowledge. The Department of Energy's (DOE) Carlsbad Field Office (CBFO) adequately responded to EPA findings and concerns and there are no open issues resulting from this inspection.

In accordance with 40 CFR 194.8, EPA issued a *Federal Register* notice on November 8, 2006, announcing EPA's proposed approval of the RH TRU waste characterization program at ANL-CCP. This *Federal Register* notice also opened a 45-day public comment period on our proposed approval and announced the availability of the inspection report (Air Docket No: A-98-49; II-A4-70). EPA received one set of public comments on the proposed ANL-CCP inspection report. Both Section 9 and Attachment C of the enclosed inspection report include the public comments and EPA's responses.

Although this letter and inspection report establish a baseline for the RH TRU waste characterization program at ANL-CCP, this approval does not authorize DOE to dispose of RH

TRU waste from ANL-CCP at the Waste Isolation Pilot Plant (WIPP). As stated in the enclosed inspection report, the waste tracking system known as the WIPP Waste Information System (WWIS) was not operational for RH waste at the time of EPA's baseline inspection. EPA's baseline approval designates the initiation of the WWIS for RH waste as a Tier 1 change and therefore requires EPA approval prior to implementation. The results of the ANL-CCP Tier 1 evaluation will be communicated to DOE under separate correspondence and will be posted on the EPA website at [www.epa.gov/radiation/wipp](http://www.epa.gov/radiation/wipp).

### **Approval Summary**

EPA approves the characterization of retrievably-stored, RH TRU, debris waste, as characterized by ANL-CCP, according to the conditions and limitations specified by this letter and inspection report. This letter and the final inspection report have been placed in the EPA docket (Air Docket No. A-98-49, II-A4-73) and posted on the EPA website at [www.epa.gov/radiation/wipp](http://www.epa.gov/radiation/wipp).

EPA approves the following RH TRU waste characterization processes and equipment at ANL-CCP:

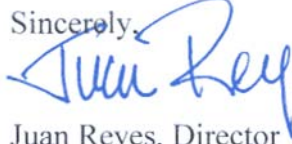
- (1) The AK process for RH retrievably-stored TRU debris in one waste stream, Argonne National Laboratory Waste Stream AERHDM, as defined in CCP-AK-ANLE-500, Revision 1, July 18, 2006
- (2) The radiological characterization process using Dose-to-Curie (DTC) and modeling-derived scaling factors for assigning radionuclide values to one RH waste stream for which the scaling factors are applicable, as described in CCP-AK-ANL-501, Revision 0
- (3) The VE process for one retrievably-stored RH S5000 debris waste stream AERHDM using the trained personnel, documentation, and procedures discussed in this report

As required by 40 CFR 194.8, any changes to these waste characterization activities from the date of the baseline inspection must be reported to, and, if applicable, approved by EPA, according to the enclosed table.

Changes to the approved waste characterization program that are designated in the enclosed table as Tier 1 must be reported to EPA prior to implementation. DOE may implement Tier 2 changes prior to EPA approval; however, DOE must provide periodic reports of these

changes to EPA. The attached inspection report provides additional details on the types of activities that are considered Tier 1 and Tier 2.

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

Sincerely,  
  
Juan Reyes, Director  
Radiation Protection Division

**Enclosure**

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**Tiering of RH TRU WC Processes Implemented by ANL-CCP**  
**(Based on September 12–14, 2006 Baseline Inspection)**

RH WC Process Elements	ANL-CCP RH WC Process - T1 Changes	ANL-CCP RH WC Process - T2 Changes*
Acceptable Knowledge (AK)	<p>Any new waste streams not approved under this baseline; AK (1)</p> <p>Modification of the approved waste stream AERHDM to include additional containers beyond the approximately 45 included in CCP-AK-ANLE-500, Revision 1. The 20 <i>additional</i> containers identified in the AK summary as being present are not included in this waste stream approval; AK (1)</p> <p>Substantive modification(s)*** that have the potential to affect the characterization process to CCP-AK-ANLE-500, CCP-AK-ANLE-501 or CCP-AK-ANLE-502; AK (8)</p> <p>Implementation of load management for any RH waste stream; AK (16)</p>	<p>Notification to EPA that the final DTC determination is complete for RH containers in the approved waste stream; AK (3)</p> <p>Notification to EPA when updates are made to AK documentation as a result of WCPIP revisions**; AK (4)</p> <p>Notification that updates have been completed to the following documents:</p> <ul style="list-style-type: none"> <li>• All future revisions of CCP-ANLE-AK-500, CCP-ANLE-AK-501; AK (4)</li> <li>• Listing of the references that document the assembly of fuel pin data and review process; AK (5)</li> <li>• All future revisions of CCP-ANLE-AK-502; AK (8)</li> <li>• CCP-AK-ANLE-500 and CCP-AK-ANLE-502 to address freeze file changes; AK (8)</li> </ul> <p>Notification to EPA that the data package for this debris waste stream is completed, including any modifications to the WSPF including the CRR and AK Summary; AK (9), and AK (14)</p> <p>Notification to EPA when AK accuracy reports are completed, prepared annually at a minimum; AK (15)</p>
Radiological Characterization, including Dose-To-Curie (DTC)	Use of any alternate radiological characterization procedure other than DTC with established scaling factors as documented in CCP-TP-504 and	Notification to EPA that revisions of CCP-AK-ANLE-501 or CCP-TP-504 that require CBFO approval** are

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RH WC Process Elements	ANL-CCP RH WC Process - T1 Changes	ANL-CCP RH WC Process - T2 Changes*
	<p>CCP-AK-ANLE-501, Revision 0, respectively, or substantive modification thereof***; RC (8.2.2 and 8.2.3)</p> <p>Any new waste stream not approved under this baseline or addition of containers to waste stream AERHDM that require changing the established radionuclide scaling factors; RC (8.2.3)</p> <p>Application of new scaling factors for isotopic determination other than those documented in CCP-AK-ANLE-501; RC (8.2.2 and 8.2.3)</p>	complete; RC (8.2.2 and 8.2.3)
Visual Examination (VE)	<p>VE by reviewing existing audio/visual recordings for Summary waste category not covered by this approval; VE (1) &amp; VE (3)</p> <p>VE by any new process for S5000 debris wastes; VE (1) and VE (3)</p>	<p>Notification to EPA that revisions of any VE procedure that require CBFO approval are complete; VE (1) and VE (3)</p> <p>Addition of new S5000 debris waste streams; VE (2)</p>
Real Time Radiography (RTR)	Any use of RTR requires EPA approval	None
WIPP Waste Information System (WWIS)	Any use of WWIS requires EPA approval prior to RH waste disposal	None

\* ANL-CCP will report all T2 changes to EPA every three months.

\*\* Excluding changes that are editorial in nature or are required to address administrative concerns. New references that are included as part of the document revision may be requested by EPA.

\*\*\* *Substantive modification* refers to a change with the potential to affect ANL's RH WC process, e.g., the use of an inherently different type of measurement instrument or the use of the high range probe as described for CCP-TP-504 for radiological characterization.