EPA's Review of DOE's Inventory Tracking for TRU Wastes at Waste Control Specialists

April 9, 2014

Summary

On April 9, 2014, EPA's Waste Isolation Pilot Plant (WIPP) waste characterization team visited Waste Control Specialists (WCS) to determine whether the Department of Energy (DOE) was meeting EPA's waste inventory tracking requirements at 40 CFR 194.24(c)(4). DOE began shipping waste to the Andrews, Texas-based WCS in April 2014 due to the temporary closure of WIPP in response to the February 2014 fire and subsequent radiological release. Despite this temporary closure, DOE is required under a State of New Mexico Governor's Directive to remove 3,706 cubic meters of transuranic (TRU) waste from Los Alamos National Laboratory (LANL) by June 30, 2014. During the WCS visit, EPA observed unloading and storage operations, interviewed WCS and DOE contractor staff from the Central Characterization Project (CCP), and evaluated supporting information as objective evidence for technical adequacy. The Agency also evaluated the system of controls in place for TRU waste containers from LANL and determined that these controls are technically adequate and comply with requirements at 40 CFR 194.24 (c)(4).

Background

40 CFR 194.24 requires that all DOE TRU waste destined for WIPP disposal be characterized using an EPA-approved waste characterization program and be tracked from generation through disposal. The DOE's Waste Data System (WDS) tracks each waste container from generation through characterization, storage, certification, shipment and emplacement at WIPP. However, emplacement of TRU waste at WIPP was halted in February 2014 as a result of two separate incidents: an underground salt truck fire and a radiation release at the WIPP. Because a State of New Mexico Governor's Directive dated October 1, 2011, requires DOE to remove 3,706 cubic meters of TRU waste from LANL by June 30, 2014, the stoppage required DOE to immediately seek an alternate radioactive waste storage facility for LANL's remaining 577 cubic meters of contact-handled (CH) TRU waste.

Selection of WCS for Temporary Storage

The DOE looked at a number of potential options for waste storage during the interruption of WIPP activities. It identified alternate temporary storage capacity at the WCS facility in Andrews, TX. WCS is a waste management facility authorized by the Texas Commission on Environmental Quality (TCEQ) to accept hazardous, radioactive and mixed waste for treatment, storage and disposal. WCS routinely accepts low-level mixed waste from various DOE locations, including TRU waste generator sites, for treatment and disposal. The facility's radioactive materials license authorizes storage of TRU waste from DOE.

Before DOE's WIPP contractor signed the contract to use the WCS facility for temporary TRU waste storage, DOE's Carlsbad Field Office (CBFO) determined that WCS's security and safety operations and controlled waste handling activities were able to provide adequate security and safety throughout the storage period. CBFO also determined that the WCS storage area and waste loading/unloading operations were well suited and readily available for this purpose.

Any radioactive mixed waste brought to WCS must meet WCS's radioactive waste acceptance criteria (WAC). CBFO and their support contractor—the CCP, operated by the Nuclear Waste Partnership (NWP) in consultation with LANL-CCP—determined that most (perhaps all) of the remaining LANL Contact-Handled TRU waste that would be WIPP-certified would meet WCS's WAC. However, before WIPP-certified TRU waste containers leave LANL, TCEQ inspectors must verify the containers' eligibility for WCS acceptance.

EPA's Off-Site Evaluation of LANL-CCP's Waste Tracking System Used at WCS

On April 8, 2014, prior to visiting WCS, EPA inspectors (Rajani Joglekar and Ed Feltcorn) met with CBFO staff (J. R. Stroble and James Rhoades) and CCP staff (Farok Sharif, Ronnie Lee, Ed Gulbransen, Mike Sensibaugh and Mike Ramirez). The CCP staff described the flow of LANL TRU waste containers from LANL to WCS to WIPP. This ensures that the chain of custody is continuously maintained; they require that DOE's WIPP-certified waste inventory be continually tracked – from a generator site to a location in the WIPP repository. To meet this requirement during the temporary storage of the LANL contact-handled TRU waste at WCS, CCP developed an "interface" procedure (CCP-PO-042, Rev 0, dated 3/25/2014), which describes the system of controls to be implemented at WCS. As objective evidence of the interface procedure, CCP staff provided EPA with documentation of LANL waste shipments #1, #5 and #7, which began arriving at WCS on April 2, 2014.

EPA staff also reviewed a table included in the draft CCP-TP-199 procedure, which will be used by CCP at WCS to verify WCS ID numbers and container locations. CCP will prepare monthly reports using this verification information and provide them to EPA after their approval by CBFO.

EPA's April 9 WCS Site Visit

During April 2-9, 2014, WCS received a total of seven shipments consisting of standard waste boxes (SWBs) meeting WCS WAC requirements. Over the next few months, LANL-CCP plans to send between 80-100 TRUPACT-II or HalfPact shipments consisting of approximately six SWBs per shipment.

During their April 9 visit to WCS, in accordance with 40 CFR 194.24 (c)(4), EPA's inspectors reviewed LANL-CCP's waste inventory tracking procedure (CC-TP-199). CCP demonstrated the steps outlined in their interface document (CCP-PO-042, Rev 0 dated 3/25/2014), which define CCP and WCS roles and responsibilities while TRU waste is stored at WCS. EPA also observed the unloading of one TRU shipment (3 TRUPAC II) containing six SWBs with LANL-CCP's container identification label as shown in Figure #1. Upon unloading of TRU waste containers, WCS affixes its own container identification label, which is shown in Figure #2. Before LANL waste can be stored in the enclosed storage area, TCEQ staff must verify the LANL markings on waste containers against the pre-shipment information received from LANL-CCP. After TCEQ verification, WCS moves the dual-labeled TRU waste containers to the controlled storage area and enters relevant information (ID#s and location) into their tracking database. WCS then also provides the same information to CCP, which CCP in turn enters into the WDS, designed to track waste inventory and the status of every WIPP-certified container.

Once in the controlled area, WCS segregates WIPP-bound waste containers in a roped off area as shown in Figure #3. WCS's multiple layers of secured, controlled access insures against tampering or unauthorized movement of the WIPP-certified containers in WCS's possession. All LANL waste containers will remain in the same location until they are moved for WIPP disposal when the repository restarts its emplacement operation. Until the TRU waste containers are moved to WIPP, CCP will perform verification checks at WCS using CCP-TP-199, Rev 0, dated 4/22/2014, to validate that the information given by WCS remains true and applicable. CCP will continue to generate monthly reports tabulating the waste inventory as shown in the example in Attachment 1. EPA will receive a copy of CCP's monthly inventory report.

Conclusion

Based on its discussions with CCP staff and the WCS visit, EPA confirms that an adequate system of controls is in place to ensure necessary physical security and a chain of custody while LANL TRU waste containers are in temporary storage at WCS.

Figure #1: Standard waste box with LANL-CCP's container identification label shown

Figure #2: WCS affixed container identification label

Figure #3: WIPP-bound waste containers in a roped out and segregated area at WCS

Attachment 1 – Sample Inventory Report

Controlled Copy

Attachment 1 – CCP/WCS Monthly Inventory Review Checklist

Reviewer: Jake Knox **Escort:** Kerl Gonzalez **Date:** 4-24-14

Description of Criteria Reviewed	YES	NO	NA	Comments
1. Are stored TRU waste containers physically segregated from other containers and placed in a clearly identified and designated holding area?	X			
2. Are stored TRU waste containers with NCRs segregated from non-NCR waste in the storage area?			X	
3. Was a visual examination of accessible surfaces performed on each stored TRU waste container to verify no integrity issues exist?	X			
4. Does each container number correlate with the WCS container number listed on the WCS TRU waste inventory document?	X			
5. Does each container location match the location specified on the WCS TRU waste inventory document?	X			
6. Does the receipt date on the WCS TRU waste inventory document match the receipt date on the AK tracking spreadsheet printout for each container?	X			
7. Were all stored containers on the AK tracking spreadsheet printout examined?	X			Additionally, the following containers were added to storage before the AK tracking spreadsheet printout had been updated to include them: LASB50061, LASB50104, LASB50068, LASB50056, LASB50100, LASB50053, LASB500[illegible], LASB50062, LASB50057. AKE notified.
8. Are only TRU waste containers located in the segregated TRU waste area?	X			
9. Was this monthly inventory review acceptable, meeting the storage requirements of CCP-PO-042? (Comments required if answered NO)	X			

[signature] 4-24-14
Reviewer Signature **Date**

[signature] 4-24-14
Escort Signature **Date**

CONTAINERID	AKA	CONTAINER_TYPE	CONTAINER_STATUS	CONTAINER_STATUS_DATE	INNERCONTAINERID
68283	14-108415	SWB	SHIP WCS	04/02/2014	
68268	14-108416	SWB	SHIP WCS	04/02/2014	
68272	14-108417	SWB	SHIP WCS	04/02/2014	
68286	14-108418	SWB	SHIP WCS	04/02/2014	
68275	14-108419	SWB	SHIP WCS	04/02/2014	
68269	14-108420	SWB	SHIP WCS	04/02/2014	
68281	14-108421	SWB	SHIP WCS	04/03/2014	
LASB02195	14-108422	SWB	SHIP WCS	04/03/2014	56449, S818401, S834576, S841245
68762	14-108423	SWB	SHIP WCS	04/03/2014	S802727, S818269, S823273, S824250
LASB02166	14-108424	SWB	SHIP WCS	04/03/2014	55348, 56452, 57376, 68426
68009	14-108425	SWB	SHIP WCS	04/03/2014	s804917, S813495, S813516, S855610
LASB02224	14-108426	SWB	SHIP WCS	04/03/2014	55330, 92833, S833264, S852998
68284	14-108427	SWB	SHIP WCS	04/03/2014	
LASB02193	14-108428	SWB	SHIP WCS	04/03/2014	57356, S818304, S853650, S864571
68763	14-108429	SWB	SHIP WCS	04/03/2014	S813553, S816411, S816448, S816666
LASB02190	14-108430	SWB	SHIP WCS	04/03/2014	55377, S825850, S835425, S862089
68003	14-108431	SWB	SHIP WCS	04/03/2014	
LASB02191	14-108432	SWB	SHIP WCS	04/03/2014	S818299, S818300, S834604, S834763
LASB02214	14-108433	SWB	SHIP WCS	04/04/2014	56427, 56474, 63830, S832421
68266	14-108434	SWB	SHIP WCS	04/04/2014	
LASB02205	14-108435	SWB	SHIP WCS	04/04/2014	54078, 55331, S832422, S835295
68004	14-108436	SWB	SHIP WCS	04/04/2014	
68116	14-108437	SWB	SHIP WCS	04/04/2014	
68122	14-108438	SWB	SHIP WCS	04/04/2014	
68244	14-108439	SWB	SHIP WCS	04/04/2014	
LASB02206	14-108440	SWB	SHIP WCS	04/04/2014	57351, 64414, 68656, S832424
68250	14-108441	SWB	SHIP WCS	04/04/2014	
LASB02204	14-108442	SWB	SHIP WCS	04/04/2014	55378, 64488, 68315, S832485
68267	14-108443	SWB	SHIP WCS	04/04/2014	
68126	14-108444	SWB	SHIP WCS	04/04/2014	