

United States Government

Department of Energy

**memorandum**Carlsbad Field Office  
Carlsbad, New Mexico 88221

DATE: JUL 11 2014

REPLY TO  
ATTN OF: CBFO:OQA:DSM:MAG:14-1232:UFC 2300.00

SUBJECT: Transmittal of Surveillance Report S-14-33, SNL/CCP VE and DTC Operations

TO: Jim Todd, SNL

On June 16-17, 2017, the Carlsbad Field Office (CBFO) conducted Surveillance S-14-33 to evaluate the Sandia National Laboratories/Central Characterization Program (SNL/CCP) visual examination (VE) and dose-to-curie (DTC) characterization field activities conducted on remote-handled (RH) Summary Category Group (SCG) S5000 debris waste. The surveillance report is attached.

Three conditions adverse to quality (Corrective Action Reports 14-048, 14-049, and 14-050) identified during the surveillance were issued under separate cover. Two Recommendations were offered to CCP management for consideration. The surveillance team concluded that the VE and DTC field activities for radiological characterization of RH SCG S5000 debris waste are adequate with respect to procedural compliance, satisfactorily implemented, and effective.

If you have any questions concerning the attached surveillance report, please contact me at (575) 234-7491.

Dennis S. Miehls  
Senior Quality Assurance Specialist

## Attachment

cc: w/attachment

J. Franco, CBFO	*ED	L. Bender, EPA	ED
D. Bryson, CBFO	ED	E. Feltcorn, EPA	ED
M. Brown, CBFO	ED	R. Joglekar, EPA	ED
J.R. Stroble, CBFO	ED	S. Ghose, EPA	ED
M. Navarrete, CBFO	ED	R. Lee, EPA	ED
T. Morgan, CBFO	ED	J. Kieling, NMED	ED
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R. McQuinn, NWP	ED	S. Holmes, NMED	ED
J. Blankenhorn, NWP	ED	R. Maestas, NMED	ED
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F. Sharif, NWP/CCP	ED	V. Daub, CTAC	ED
D.E. Gulbransen, NWP/CCP	ED	R. Allen, CTAC	ED
V. Cannon, NWP/CCP	ED	P. Martinez, CTAC	ED
W. Ledford, NWP/CCP	ED	B. Pace, CTAC	ED
A.J. Fisher, NWP/CCP	ED	P. Gomez, CTAC	ED
M. Walker, NWP/CCP	ED	J. Harvill, CTAC	ED
J. Carter, NWP/CCP	ED	D. Harvill, CTAC	ED
J. Hoff, NWP/QA	ED	G. White, CTAC	ED
B. Allen, NWP/QA	ED	Site Documents	ED
S. Punchios, NWP/QA	ED	WWIS DA	ED
S. Escareno-Soto, NWP/QA	ED	CBFO QA File	
T. Peake, EPA	ED	CBFO M&RC	

\*ED denotes electronic distribution

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## **CBFO Surveillance Report**

Surveillance Number: S-14-33      Date of Surveillance: June 16-17, 2014

Surveillance Title: Visual Examination and Dose-to-Curie Operations

Organization: Sandia National Laboratories/Central Characterization Program

### **Surveillance Team:**

Dennis S. Miehl      Carlsbad Field Office (CBFO) Quality Assurance Representative

Paul C. Gomez      Surveillance Team Leader, CBFO Technical Assistance Contractor (CTAC)

Joe Harvill      DTC Technical Specialist (CTAC)

Porf Martinez      VE Technical Specialist (CTAC)

### **Surveillance Scope:**

The surveillance evaluated the implementation of Sandia National Laboratories (SNL)/Central Characterization Program (CCP) visual examination (VE) and dose-to-curie (DTC) characterization processes as related to field activities conducted on remote-handled (RH) Summary Category Group (SCG) S5000 debris waste in the Building 6580 Hot Cell Facility at SNL within the Kirkland Air Force Base in Albuquerque, New Mexico.

### **Surveillance Results:**

The surveillance team reviewed field documentation supporting the waste characterization processes and verified the implementation and effectiveness of applicable CCP procedures.

The surveillance team began by conducting a pre-surveillance briefing in the conference room in Building 6585 in Technical Area V (TA-V) at SNL within the Kirkland Air Force Base in Albuquerque, New Mexico. A safety briefing from the SNL safety coordinator was also presented.

## **Activities Evaluated:**

### **Dose-to-Curie**

The surveillance team observed the DTC characterization process for newly generated RH SCG S5000 debris waste at the SNL Hot Cell Facility in TA-V for container SNL001502. Procedure CCP-TP-504, *CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste*, Rev. 15, was used during the DTC characterization process.

The surveillance team interviewed DTC operators while observing the DTC process implemented through procedure CCP-TP-504, Rev. 15, at the SNL Hot Cell Facility. Three conditions adverse to quality (CAQs) were identified during the implementation of procedure CCP-TP-504, Rev. 15 resulting in the issuance of CBFO Corrective Action Reports (CARs) 14-048, 14-049, and 14-050. (See corrective actions.)

Two recommendations were also offered to CCP management for consideration. (See recommendations.)

The surveillance team verified the Thermo Scientific Gamma Probe (ID: XC0799) instrumentation with a Dyna-Link MSI-7200 1000# load cell (ID: XC0883) was properly calibrated. No quality affecting problems regarding items, services, and processes were identified, documented, reported, controlled, or corrected for DTC. Therefore, no non-conformances have been reported for DTC processes.

Batch Data Report preparation, including data generation-level and project-level review, as well as DTC operator training records, will be evaluated during the CBFO Certification Audit A-14-26.

The surveillance team concluded that, with the exceptions documented in CBFO CARs 14-048, 14-049, and 14-050, DTC operations for RH SCG S5000 debris waste using procedure CCP-TP-504, Rev. 15, *CCP Dose-to-Curie Survey Procedure for Remote-Handled Transuranic Waste*, are adequate in meeting upper-tier requirements, and the procedure is satisfactorily implemented and effective.

### **Visual Examination**

The surveillance team observed the SNL/CCP VE characterization process for newly generated RH SCG S5000 debris waste at the SNL within the Kirkland Air Force Base in the Hot Cell Facility in TA-V.

The surveillance team interviewed VE operators, including the VE Expert, and observed the implementation of procedure CCP-TP-500, Rev. 13, *CCP Remote-Handled Waste*

*Visual Examination*, to determine the effective implementation of the VE characterization process. The surveillance team observed the VE process for parent container number C00188425, from waste stream number SNL-HCF-S5400-RH, into container number SNL001503. VE operator interactions and data entry into the Visual Examination Data Form was performed in compliance with procedure CCP-TP-500, Rev. 13.

The surveillance team reviewed the VE logbook (CCP-SN-RH-VE-003) and verified logbook entries were complete and maintained appropriately. All entries are legible, accurate, and complete for the work accomplished. The VPM verified the contents of the logbook to be complete. Batch Data Report preparation, including data generation-level and project-level review, as well as visual examination technique operator training records will be evaluated during the CBFO Certification Audit A-14-26.

The surveillance team concluded that VE operations for RH SCG S5000 debris waste using procedure CCP-TP-500, Rev. 13, *CCP Remote-Handled Waste Visual Examination*, are adequate in meeting upper-tier requirements, and the procedure is satisfactorily implemented and effective.

### **Corrective Actions:**

#### **CBFO CAR 14-048**

The CAQ was in regard to the primary technical change for procedure CCP-TP-504, Rev. 15, dated 04/16/2014, which stated the revision was to "add steps to perform sum of fraction for containers exceeding Cs-137 Ci of 288; Co-60 Ci of 4.26, and Eu-154 Ci of 3.52." While Attachment 13 did summarize the sum of fractions methodology, the implementing step 4.3.1[H] does not use these same numbers. This procedural change had been added to address a concern identified during the processing of RH-TRU 72-B Cask 00-11 (RH Shipment ID13046) which had a dose rate of >200 mR/hr (290 mR/hr) on contact when received. WIPP Form 13-217 was written to document the observed condition. A corrective action (ACT 13-217-1) was developed to add revisions to CCP-TP-504 to identify and prevent this condition. The implementing step of CCP-TP-504 (step 4.3.1[H]) does not correctly implement the described sum of fractions methodology.

#### **CBFO CAR 14-049**

In several locations in procedure CCP-TP-504, Rev. 15, the sequence or range of steps is incorrectly presented; however, the work appears to have been correctly performed even though the procedure does not specify the correct performance sequence. For example, a Note on page 13 specifies performance of steps "4.1.2[A] through

4.1.2[G.1]"; however, the steps should be specified as "4.1.2[A] through 4.1.2[J]." Also, step 4.1.2[G] should specify performance of steps "4.1.2[G.1] through 4.1.2[J]."

Other step sequences contained in the procedure, but not used at SNL, also appear in error. This appears to be a process or conduct of operations issue since this work was not performed as directed in the procedure, nor was the activity stopped, as would be required.

## **CBFO CAR 14-050**

The Record of Revision for CCP-TP-504, Rev. 15, does not adequately describe the extent of the changes made to the procedure. The Record of Revision states that the procedure was "revised to add steps to perform sum of fraction for containers exceeding Cs-137 Ci of 288; Co-60 Ci of 4.26, and Eu-154 Ci of 3.52." However, other changes to the procedure included, for example:

- Deletion of the NDA Technical Lead
- Deletion of Sections 3.6 and 3.7
- Steps were added (4.1.2[A] and 4.1.2[E])
- Steps were deleted
- Steps renumbered
- Steps were changed but not marked by sidebars (see steps 4.2.14 to 4.2.20)

Since many of these changes cannot be considered editorial in nature, then the procedure changes should be noted in the Record of Revision and marked with sidebars.

## **Recommendations:**

1. It was recommended that a measurement of area background radioactivity at the DTC location be performed and documented. The background is actually measured with the shielded cask containing the drum to be characterized on the platform. Since the primary component of the background at SNL appears to be from the drum in the cask, the background for the DTC is overestimated. The background should be measured without the cask in close proximity.
2. It was recommended that the DTC rotator and detector be tucked into an area near the corner of two shield walls. The distance to the walls could be an issue due to their proximity and possible reflection. The albedo effect could result in

higher estimates of the dose rates from the drums and therefore lead to a substantial overestimate of the drums' actual contents.

**Summary:**

The surveillance team concluded that the SNL/CCP VE and DTC operations for characterizing RH SCG S5000 debris waste are adequate in meeting upper-tier requirements, and procedures are satisfactorily implemented and effective.

Surveillance Team Leader Signature:  Date: 7-10-2014

Assistant Manager/Office Director: \_\_\_\_\_ Date: \_\_\_\_\_

CBFO QA Director Approval Signature:  Date: 7-10-14