



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

DEC 11 2008

OFFICE OF
AIR AND RADIATION

Dave Moody, Ph.D.
Manager, Carlsbad Field Office
Department of Energy
P.O. Box 3090
Carlsbad, NM 88221

Dear Dr. Moody:

Under its authority set forth in 40 CFR 194.8, the Environmental Protection Agency (EPA) conducted Inspection No. EPA-GEVNC-CCP-RH-12.08-8 of the Central Characterization Project's (CCP) waste characterization (WC) program implemented at General Electric's (GE) Vallecitos Nuclear Center (VNC) near Sunol, CA. EPA and the U.S. Department of Energy's (DOE) Carlsbad Field Office (CBFO) conducted inspection activities concurrently on December 2-4, 2008. Due to the lack of availability and/or poor quality of some important inspection-related documents, the Agency is unable to reach a conclusion regarding the adequacy of the WC system of controls implemented by the CCP to characterize remote-handled (RH), transuranic (TRU) debris waste at GE-VNC.

Based on the extent of the review completed by EPA inspectors, one finding and four concerns requiring a response were generated, as well as one concern that did not require a response. These are provided in Enclosure 1 below.

In addition to the finding and concerns mentioned above, EPA inspectors identified the need for additional documents prepared for GE by the Eberline Corporation and South West Research Institute (SWRI). These documents were objective evidence that supported a key aspect of the RH WC process. In summary, the Agency identified the following issues:

- The CCP did not acknowledge that such documents were available, applicable, and/or used. In addition, they did not complete a technical review of these GE/Eberline documents. This review will be necessary before the CCP uses this information to respond to EPA concerns.
- Only upon EPA's insistence did the CCP bring GE site staff into the discussions. GE personnel confirmed that many of the documents the Agency

was looking for were available and agreed to provide them. However, they were received only on the morning of the last day of the inspection.

- Information found in the GE/Eberline documents and any other applicable information must be incorporated into the appropriate CCP documents and submitted to EPA for evaluation.

As stated previously, EPA inspectors did not have adequate time to review the documents in question (described in Enclosure 2) prior to the closeout scheduled for mid-day on Thursday, December 4, since they were submitted so late in the inspection process. Therefore, EPA was unable to reach a conclusion regarding the adequacy of the CCP's waste characterization program at GE-VNC.

Once the Agency receives the modified procedures and supporting documents (e.g., "500" series documents and calculation packages for radiological characterization), EPA will determine if additional information or a conference call is necessary to speak with GE and CCP personnel. Only upon completion of these steps can EPA finalize the report and propose a baseline approval in the *Federal Register*.

EPA appreciates the hard work of numerous waste characterization personnel we interacted with during the GE-VNC inspection and their professional support prior to and during the inspection. Nevertheless, we are concerned about the process and events that led to the inadequate documentation. DOE must address these issues so that they do not occur in the future.

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

Sincerely,



for Jonathan Edwards, Acting Director
Radiation Protection Division

Enclosures

cc: Electronic Distribution
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bcc: WIPP Team

Enclosure 1
Findings and Concerns from GE-VNC Inspection

Inspection No. EPA-GEVNC-CCP-RH.12-08.8	Issue Number: GEVNC-CCP-RH-AK-08-001F Date: December 5, 2008, Final
Inspector: Connie Walker Attachments? YES NO	Sample Size: NA Population size (if known): NA
<p>Description of Issue: The Energy Solutions Sampling and Analysis Plan (SAP) GE Vallecitos Nuclear Center Hot Cell #4 provides the proposed Energy Solutions sampling locations and sample numbers for swipes to be collected from Hot Cell 4. However, the final sample numbers and location presented in CCP-AK-GEV-500 and 501 are inconsistent with the proposed sample numbers and locations presented in the SAP. There was no report or memorandum that documented the results of the SAP as it was implemented, including final sample locations, corresponding sample numbers, and location of field duplicates and associated sample identifiers. Also indicate whether any trip blanks or other field-related quality control samples were collected, and whether these were transmitted to the laboratory for analysis. Revise, as necessary, all discussions in CCP-AK-GEV-500 and 501 to be internally consistent and to reflect the results provided. Provide the revised CCP-AK-GEV-500 and 501, as well as the report or documents from Energy Solutions.</p>	
<p>B. Regulatory Reference: 40 CFR 194.24(c)</p>	
<p>C. Site requirement(s): WCPIP, Attachment C, Section 6</p>	
<p>D. Discussed with: Mark Doherty, Jene Vance, Dick Blauvelt</p>	
<p>E. Additional Comments: None</p>	
<p>F. Site Response Information:</p> <p>Site Response Required? YES NO Site Response Due Date: January 14, 2009</p>	

Inspection No. EPA-GEVNC-CCP-RH.12-08.8	Issue Number: GEVNC-CCP-RH-AK-08-002CR Date: December 5, 2008, Final
Inspector: Connie Walker Attachments? YES NO	Sample Size: NA Population size (if known): NA
Description of Issue: CCP-AK-GEV-500 and other AK-related documents require technical and editorial modifications to correct errors and/or to clarify information. These modifications include, but are not limited to, the items that are listed in Attachment 1.	
B. Regulatory Reference: 40 CFR 194.24(c)	
C. Site requirement(s): Not applicable	
D. Discussed with: Mark Doherty, Kevin Peters, Irene Qunitana	
E. Additional Comments: None	
F. Site Response Information: Site Response Required? YES NO Site Response Due Date: January 14, 2009	

EPA Concern No. GEVNC-CCP-RH-AK-08-002CR
Attachment 1, Page 1 of 2

Issues Related to CCP-AK-GEV-500, Partial List

- References for each of the bulleted time-line activities presented on pages 8-9 of the AK Summary, and correlation of these activities (through reference to detailed discussions) on pages 12-16 are not provided.
- The AK Summary does not clearly state that Hot Cell 4 will be decontaminated and the interior enclosure will be removed, but the cell will not be demolished and will instead be used in the future for other purposes.
- Section 4.1 is unclear regarding which discussions address GEVNC as a whole versus activities that took place in Hot Cell 4.
- The AK record does not reflect all changes that were made to the waste stream volume and radionuclide scaling factors, including the text and tables.
- Information in the text of the AK Summary pertaining to the Q-tip smears obtained in 1982, including the specific analysis and information provided by the activity, is insufficient. This is important because the Sampling and Analysis Plan (SAP) apparently uses this information as the basis for developing specific aspects.
- The radionuclide discussion in Section 5 does not adequately address generalized waste composition. Of particular importance are changes in activities/potential radiological contamination pre-post 1978 (i.e., MOX prior with exceptions, sources post, with exceptions). The CCP did not prepare a radiological analysis or table to accompany their own time line that may help make these changes. Note that Section 5.4.10 may also require revision based on EPA Concern No. GEVNC-CCP-RH-AK-08-003CR.
- Table 5 of the CCP-AK-GEV-500 does not adequately reflect modified radionuclide scaling factors.
- The prohibited item discussion in Section 5.4.12 does not include an updated and thorough spent nuclear fuel (SNF) analysis.
- Table 6 is unclear regarding the quantification methods for TRU Waste, RH Waste, Activity, and determination of the 10 WIPP-Tracked radionuclides.
- Table 6 does not include all AK source documents. It is not clear why reference C007 (e.g., for TRU Waste DQO determinations) is included.

EPA Concern No. GEVNC-CCP-RH-AK-08-002CR
Attachment 1, Page 2 of 2

Issues Related to AK Accuracy Report, Partial List:

- The AK Accuracy Report (December 1, 2008) states that the AK compilation for the waste stream is complete and the required AK accuracy report is therefore incorporated into CCP-AK-GEV-502. This is not correct, as the waste stream contains only six characterized containers.
- Ensure that reference lists, including Attachments 1 (WCPIP) and 4 (CCP-TP-005), include all references presented in CCP-AK-GEV-501.

Issues Related to Confirmation Test Plan, Partial List:

The Confirmation Test Plan CCP-AK-GEV-502 states on page 12 that performance of additional swipe sample collection efforts will be evaluated if the variability of sample results so warrants; please clarify whether this will actually be performed.

Inspection No. EPA-GEVNC-CCP-RH.12-08.8	Issue Number: GEVNC-CCP-RH-AK-08-003CR Date: December 5, 2008, Final
Inspector: Connie Walker Attachments? YES NO	Sample Size: 1 Population size (if known): NA
<p>Description of Issue: The Sampling and Analysis Plan (SAP) must meet the requirements as specified in Attachment C, Section 6 of the RH WCPIP. Please address the following:</p> <ul style="list-style-type: none"> • The WCPIP states that the sampling plan "...shall be developed using the guidance provided in EPA QA/G5 and QA/G9." Please indicate how this was attained. • According to the WCPIP, the waste may include materials in which the "RH TRU materials embedded in...other solid material may require samples to be obtained from within the material." Based on the available data, please address whether any material are present in the GEVNC waste stream that may require this consideration. • The WCPIP requires that the SAP be submitted to CBFO for review and approval. Please provide evidence of the review and approval. 	
B. Regulatory Reference: 40 CFR 194.24(c)	
2C. Site requirement(s): RH WCPIP	
D. Discussed With: Mark Doherty	
E. Additional Comments: None	
F. Site Response Information: Site Response Required? YES NO Site Response Due Date: January 14, 2009	

Inspection No. EPA-GEVNC-CCP-RH.12-08.8	Issue Number: GEVNC-CCP-RH-VE-08-004CR Date: December 5, 2008, Final
Inspector: Dorothy E Gill Attachments? YES NO	Sample Size: 1 Population size (if known): NA
Description of Issue: The packaging process implemented for VE is not incorporated in a formal CCP procedure and is only described in the AK summary, CCP-AK-GEV-500, Revision 1, Section 5.5. Incorporating the packaging process instructions in a formal CCP procedure is necessary to ensure consistency of operation.	
B. Regulatory Reference: 40 CFR 194.24(c)	
2C. Site requirement(s): Not applicable	
D. Discussed with: Tommy Mojica, Joe Garcia	
E. Additional Comments: None	
F. Site Response Information: Site Response Required? YES NO Site Response Due Date: January 14, 2009	

Inspection No. EPA-GEVNC-CCP-RH.12-08.8	Issue Number: GEVNC-CCP-RH-VE-08-005C Date: December 5, 2008, Final
Inspector: Dorothy E Gill Attachments? YES NO	Sample Size: 1 Population size (if known): NA
Description of Issue: VE Procedure CCP-TP-500, Revision 8, Section 4.2.5 [C] states: "Ensure the waste package is stored with reasonable protection from tampering." This activity is assigned to the Visual Examination Operator (VEO). In practice, the VEO does not perform this activity and is not, therefore, in compliance with CCP's written procedure whenever VE is performed.	
B. Regulatory Reference: 40 CFR 194.24(c)	
2C. Site requirement(s): Not applicable	
D. Discussed with: Tommy Mojica, Joe Garcia	
E. Additional Comments: None	
F. Site Response Information: Site Response Required? YES NO Site Response Due Date: Not applicable	

Inspection No. EPA-GEVNC-CCP-RH.12-08.8	Issue Number: GEVNC-CCP-RH-RC-08-006CR Date: December 5, 2008, Final
Inspector: Patrick Kelly Attachments? YES NO	Sample Size: 8 Population size (if known): 11
Description of Issue: The ten calculation packages that document the radiological characterization (RC) process and the CCP report CCP-AK-GEV-501 have multiple technical and editorial errors. As presented during this inspection, these documents require revision to accurately serve as objective evidence for the RC process.	
B. Regulatory Reference: 40 CFR 194.24(c)	
2C. Site requirement(s): Not applicable	
D. Discussed with: Joe Harvill, Jene Vance, Earl Bradford, Mark Doherty	
E. Additional Comments: None	
F. Site Response Information: Site Response Required? YES NO Site Response Due Date: January 14, 2009	

Enclosure 2

Examples of Insufficient Information

Information in the documents described below should have been part of the acceptable knowledge (AK) and dose-to-curie (DTC) records that were provided to EPA prior to the inspection. The CCP should have performed a thorough, technical review of the analytical procedures used and data provided by GE/Eberline before using it to develop radiological documentation and scaling factors.

- Analytical procedures used to prepare and analyze the swipes for a suite of radiochemical analyses (20 medium sized pdf files)
- Copies of the laboratory log books that document the analytical approach
- Memoranda and correspondence regarding the sampling locations
- Quality Assurance criteria to be used by the analytical laboratory (Eberline and SWRI) performing the analyses

In addition, the CCP didn't ask GE/Eberline whether any deviation had occurred from the sampling and analysis plan provided as part of the AK documentation related to types of samples, sample locations, and quality control samples needed for analytical testing.