



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 10 HANFORD PROJECT OFFICE**

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**EDMC**

Keith Klein, Manager  
Richland Operations Office  
U.S. Department of Energy  
P.O. Box 550, A7-50  
Richland, WA 99352

Re: Violation of CERCLA Requirements at the 233-S Plutonium Concentration Facility

Dear Mr. Klein:

The purpose of this letter is to inform you that the U.S. Department of Energy (DOE) has violated the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requirements agreed to in the Hanford Federal Facility Agreement and Consent Order (Tri-Party Agreement) with respect to waste management practices at the 233-S Plutonium Concentration Facility (233-S) located at Hanford. The following provides background and a description of the CERCLA violation.

The 233-S facility is undergoing decontamination and decommissioning as a CERCLA non-time-critical removal action. Sampling and analysis for waste characterization and designation was governed during the time of the violation by the Sampling and Analysis Plan for 233-S (DOE/RL-97/87, Revision 0).

In April 1999, Fluor Hanford Incorporated (FH) began performing non-destructive assay (NDA) of waste generated at 233-S as a subcontractor to Bechtel Hanford Incorporated (BHI). The NDA was performed to designate waste packages as either low-level waste or transuranic waste and for plutonium gram-quantity determinations. The NDA of packages continued until May 31, 2001, when FH asked BHI to evaluate discrepancies between FH's NDA data and that from Canberra Industries. Canberra Industries is the manufacturer of the NDA systems used at 233-S and was hired by FH to assist in processing a backlog of 233-S waste items. On June 7, 2001, FH officially notified BHI of apparent errors in the NDA analyses performed by FH since at least May 1999. The BHI 233-S Project informed DOE which subsequently notified EPA on June 12, 2001.

An investigation by all concerned parties led to the discovery of several procedural and system errors that produced inaccurate NDA results. Besides entry errors and a lack of validation of spreadsheet calculation factors, the calibration and use of the NDA equipment was wholly inadequate for the waste designation activities. During this investigation, it was discovered that the Sampling and Analysis Plan had not been revised as planned to include the use of NDA for waste designation.

A one-time violation of CERCLA and Tri-Party Agreement requirements occurred with regard to NDA activities at 233-S:

Failure to comply with waste designation requirements in the approved Sampling and Analysis Plan. The use of NDA data for designation was discussed during the Sampling and Analysis Plan development, but the plan was never revised to allow the use of NDA data for waste designation.

The violation is further supported by the comments and responses on the draft Sampling and Analysis Plan (Revision A) that were provided in an attachment to a letter from DOE to EPA dated February 27, 1998. The EPA project manager commented that more information was necessary on the requirements and specifications of NDA systems before NDA could be used for waste designation. The response from DOE was to delete the text in the Sampling and Analysis Plan that allowed NDA to be used for waste designation. Later, an NDA system was made available to the 233-S Project, and it was used for hot spot identification to support conventional sampling and for waste designation of individual waste items. The Sampling and Analysis Plan was not revised to allow for waste designation using NDA.

On the matter of inadequate NDA calibration and operation procedures, new procedures have been reviewed and approved by DOE and EPA. These newly approved procedures have been incorporated in Revision 1 of the Sampling and Analysis Plan that was signed by EPA on October 30, 2001. This revision of the Sampling and Analysis Plan covers waste characterization activities and includes a new section on NDA.

EPA is disappointed with the slow response from FH on providing the supporting data packages from NDA of backlogged 233-S waste items using the new approved NDA procedures. The data FH initially provided was incomplete, sometimes contradictory, and required a significant effort from BHI, DOE, and EPA to obtain the information necessary to properly review the NDA results.

EPA appreciates the cooperation from the DOE and BHI, including a complete overhaul of the portable NDA system and procedures used at 233-S. The cooperation also included the removal from Environmental Restoration Disposal Facility (ERDF) of a waste box that contains radionuclides with activities that, taking into account measurement error, cannot be demonstrated to be in compliance with the ERDF Waste Acceptance Criteria. In light of this cooperation, the EPA will not be assessing stipulated penalties. However, DOE needs to redouble its efforts to make sure designation is done properly across the Hanford Site.

Please call me at 509 376-8631 if you have any questions.

Sincerely,



Dennis Faulk  
Acting Hanford Project Manager  
U.S. Environmental Protection Agency

cc: Julie Atwood, BHI  
Harry Bell, DOE  
Alan Chaloupka, BHI  
Mike Gearheard, EPA  
George W. Jackson, FH  
Dave Van Leuven, FH  
Tom Logan, BHI  
Owen Robertson, DOE  
Mike Schlender, DOE  
Michael Wilson, Ecology  
Administrative Record: REDOX 233-S Pu Facility