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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10 HANFORD PROJECT OFFICE
712 SWIFT BOULEVARD, SUITE 5
RICHLAND, WASHINGTON 99352

January 21, 1998

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EDMC

Jeff Bruggeman
Department of Energy
Richland Operations Office
P.O. Box 550, MS H0-12
Richland, WA 99352

Re: Comments on the Sampling and Analysis Plan (SAP) for the 233-S Plutonium Concentration Facility

Dear Mr. Bruggeman:

The U.S. Environmental Protection Agency has completed the review of the "Sampling and Analysis Plan for the 233-S Plutonium Concentration Facility " (DOE/RL-97-87, Draft A, November 1997). 48554

The sampling plan lacks some key elements necessary for approval of the SAP. It is recognized that it is difficult to develop a complete set of instructions for sampling and analysis of the 233-S process area. It is, however, important that an agreement on the basis, protocol and approval authority for defining unspecified requirements (e.g., analytical requirements, number of samples, methods, instrumentation, etc.) be developed. EPA anticipates review and approval, to some extent, of the work instructions for the specific sampling events. EPA and DOE shall meet to determine the hold points for this approval prior to initiation of sampling.

An electronic version of the comments has been forward for your convenience. If you have any questions or concerns regarding these comments, please contact me at 376-4919.

Sincerely,

Pamela S. Innis

Pamela S. Innis
233-S Project Manager
U. S. Environmental Protection Agency

Enclosure

cc: Administrative Record, REDOX
Tom Tobin, Gannett Fleming

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INTRODUCTION

The U.S. Environmental Protection Agency and their contractors, Gannett Fleming/Ion Technology, have reviewed the "Sampling and Analysis Plan for the 233-S Plutonium Concentration Facility " (DOE/RL-97-87, Draft A, November 1997). This plan is intended to define the sampling and analytical activities for the 233-S facility.

The following comments are based on a review of the subject draft considering the background information provided in previous documents and the general expectations for a comprehensive sampling and analysis plan to support decommissioning and waste disposal activities.

GENERAL COMMENT

The "Sampling and Analysis Plan (SAP) for the 233-S Plutonium Concentration Facility" is not presented in a format that is easily followed, nor does it develop a complete set of instructions for sampling and analysis (as is usual in a SAP). This introduces a level of confusion in the presentation of SAP requirements. It is recognized that the SAP must have some degree of flexibility for this facility characterization and D&D environment; however, when important details are not specified and should be specified in sample instructions/forms, or some future document. It is important that the SAP provide a basis, protocol and approval authority for defining unspecified requirements (e.g., analytical requirements, number of samples, methods, instrumentation, etc.). Also, it is not satisfactory to make general statements and reference other documents for key SAP elements. The SAP is the usual vehicle for defining these requirements, and it is the one document where clear directions for project sampling and analysis are to be found. At a minimum, a summary should be provided within the SAP. The DQO process (as presented in the plan) develops the basis and a reasonable strategy for sampling and analysis, but requirements and instructions are not completely developed and presented. EPA anticipates review and approval, to some extent, of the work instructions for the specific sampling events. A meeting has been set up to further define the level of review and approval of the work instructions.

SPECIFIC COMMENTS

Section I.3.4, page I-9. The extent of contamination discussion provides survey results/data in units of dpm. The general convention is to provide dpm/100cm^2, or for fixed contamination, provide detector area with the statement of the dpm value.

Section I.3.5, page I-10. The radiological list of Chemicals of Concern (COCs) provided in this section does not reflect other long lived fission product nuclides. Supporting documents note that Cs-137 was detected. Additionally, Table I-5 lists other fission product nuclides along with Co-60. Please correct these inconsistencies.

Section I.3.7, page I-10. The D&D operations will result in configuration changes and possible material redistribution, and these factors appear to have been evaluated. However, it is important to note in this section of the plan that the D&D work procedures and NDA measurements will be adhering to specified controls and limitations outlined in work procedures; this ensures that work will proceed safely in light of any unexpected events.

Section I.4, page I-11. The last sentence of the first paragraph references DOE-RL 1997. This document is the Removal Action Report. The correct reference should be *U.S. Environmental Protection Agency Memorandum dated March 24, 1997 - Removal Action at the 233-S Plutonium Concentration Facility.*

Table I-1, page I-12. The footnote specifies that EPA chose not to participate in the workshops. This is not a true statement. EPA had conflicts on 8/25 and was not informed of any following sessions.

Section 1.6.3, page I-13. Few, if any, of the EPA issues were identified in the interview process. EPA anticipated participating in the workshop and therefore did not include all the issues.

Section I.6.3.1, page I-13. Data validation methodology is an appropriate DQO objective for discussion at this point. It is covered in section II.4 by making reference to some existing procedures and specifying a Level C review (with an option to pursue a more in-depth validation). As a minimum, the rationale for Level C, in light of how and where the data would be used, and an outline validation protocol should be provided.

The Sampling and Authorization Form (SAF) is an important document that appears to contain much information that is not directly specified in the SAP, and many decisions will be left to the Characterization Team. The SAP does not discuss the SAF, the information required, or how it is integrated with, and satisfies all the key elements of, a SAP. EPA anticipates reaching an agreement with DOE in a meeting scheduled for 01/15/98 on review and approval authority of subsequent sampling instructions.

Section I.6.3.2, page I-13. Establishing survey and minimum detectable activity requirements are an independent DQO item and independent of NDA instrumentation selection. The characterization objectives and data uses set the detection and accuracy/precision requirements.

Section I.6.3.4, page I-14. The primary disposal alternative is identified in the Action Memorandum, which is the primary authorization mechanism.

Section I.6.3.6, page I-18. The first sentence is not complete. It would be more accurate to state that "BHI Solid Waste management will need to ensure proper waste characterization, verification, and designation to satisfy the federal and state ARAR and the receiving facilities waste acceptance criteria."

Table I-3 is not a "data" table, but a "required actions for waste designation" table. The data is necessary to make these determinations.

Section I.7.2, page I-19. The Central Waste Complex is not a disposal option but rather a storage option. Also, the Action Memorandum identifies TRUSAF as the primary storage area.

Section I.7.5, page I-20. It would appear necessary to identify PCB wastes and rad-contaminated PCB waste (LL and TRU) as separate waste streams.

The second bullet should be changed to "dangerous waste criteria" rather than "hazardous waste criteria."

Additionally, number 3 identifies CWC as a disposal option. The Central Waste Complex is not a disposal option but rather a storage option. Also, the Action Memorandum identifies TRUSAF as the primary storage area.

Section I.7.5.1.1, page I-21. The stated parameter of interest is a single maximum value (rather than an average) for waste stream constituents that will be compared to WAC decision levels. Depending on how these data are used and coupled with other information, one outcome is increased waste to disposal paths other than the ERDF, or potential misclassification of the overall waste stream. How is the more hazardous waste volume to be minimized? It is assumed that ongoing field screening during D&D will help define actual contamination levels.

Section I.7.5.1.1, page I-22. The specified criteria for cleanup levels (WAC 173-340-745) has not been agreed to by the EPA. The agreement, as stated in the Removal Action Report, is that a determination to stop excavation will be made by DOE in consultation with EPA.

Section I.7.5.2, page I-22. This section should summarize the basis for nonradiological decision levels.

It is not clear from the document why procurement reasons should interfere with establishing analytical requirements for NDA measurements. Objectives and requirements are established, and instrumentation procured to a set of specifications that satisfies the objectives and requirements.

Table I-5, Page I-23 to I-25. The "detection limit" is not defined (i.e., LLD, MDA, MDC, etc.). It should be defined in conventional terms and a reference provided to ensure laboratory methods are consistent with requirements. It is important that analytical results be analyzed and reported consistent with DQOs. For example, all results shall include a quoted error and the MDC at the specified confidence levels, and methods implemented to ensure that specified confidence intervals will be maintained if sample weights/volumes are changed. Also, it is important to review with the laboratory the sample and analytical requirements, and the associated validation process prior to sampling and submission of samples.

Table I-5 is confusing in that COCs are repeated and information is missing. The term "above" is used and not defined. If it means the above value in the column, it appears that some sorting of Table COCs has occurred, and "above" has no reference. Specific value entries should be stated in each column element.

Section I.7.6, page I-22. See comment provided for Section I.7.5.1.1, page I-21.

Section I.7.7.1 page I-26. Table I-5 lists the analytical technique, not the specific method. A number of methods can utilize the same analytical technique. A SAP generally specifies the method.

Section II.1.2, page II-1. BHI Solid Waste Management should be listed in the responsibilities section. Waste designation is an integral part of the action.

Section II.2.1, page II-4. This section states that precision and accuracy requirements for each of the analyses are summarized in Table I-5. Detection limits (term not defined; see earlier comment) are provided in the Table. This information does not relate to accuracy and precision requirements, nor is it an adequate substitute.

Section II.2.1, page II-5. Decision levels for radiological surveys present surface contamination limits. What about volume/weight concentration limits (for example, contaminated soil, D&D rubble, etc.)?

Section II.2.3, page II-5. The term "should" is used in place of "shall." If this is intended, it should be qualified and exceptions discussed. This occurs in other sections (e.g., III.1.6) relative to performance to specified procedures. This must be avoided in a SAP or QAPjP.

Section II.2.5, page II-6. This section states that method requirements are identified in Table I-5. Table I-5 identifies techniques, not methods.

Section II.4.1, page II-8. Reference is made to the sampling and analysis instruction that contains the data quality requirements. The sampling and analysis instruction is an important element of the SAP and it is not discussed to a level of detail to satisfy basic SAP requirements, nor are all the principal data quality requirements summarized in the SAP.

Section III.1.8, page III-2. A summary shall be provided concerning handling, storage, and disposal of investigation derived.

Delete the reference to 40 CFR 300.440. Samples shall be handled per laboratory agreements and DOE protocol.