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FEB 27 1998

Mr. Douglas R. Sherwood
Hanford Project Manager
U.S. Environmental Protection Agency
712 Swift Boulevard, Suite 5
Richland, Washington 99352-0539

Dear Mr. Sherwood:

TRANSMITTAL OF THE SAMPLING AND ANALYSIS PLAN FOR THE 233-S PLUTONIUM CONCENTRATION FACILITY 48554

Attached for your approval is DOE/RL-97-87, Sampling and Analysis Plan for the 233-S Plutonium Concentration Facility. Your comments have been incorporated into the document. Responses to your comments are in Attachment 2.

If you have any questions, please contact me at (509) 376-7121.

Sincerely,

J. M. Bruggeman, Project Manager
Decontamination and Decommissioning Project

DDP:JMB

Attachments

cc w/attachs:
P. S. Innis, EPA

cc w/o attachs:
A. B. Chaloupka, BHI

4 MAR 1998 RECEIVED EDMC

ATTACHMENT #2

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.

D&D activities in the 233-S Plutonium Concentration Facility are planned in a sequence that proceeds from areas of relatively low risk to areas of higher risk. Individual work packages will be used for these sequential scopes of work. Sampling and characterization hold points in these work packages will allow for appropriate decision making.

BHI recommends sending an electronic mail message to the DOE-AME 233-S Program Manager that would identify sample points, special sampling equipment and sample analyte priorities if there is not enough sample volume to run all analyses. Detection limits, precision and accuracy requirements would also be identified if they are different from those identified in the Hanford Analytical Services Quality Assurance Requirements Documents, DOE/RL-96-68, Rev. 0. Upon DOE's concurrence, the message would be electronically forwarded to the EPA for approval. Upon receipt of EPA's approval, the document would be entered into BHI Document Information System's, Docs Open System,

which would assign a document number to the approved message for future tracking.

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.
Agree with the comment. Revised this section to show that all measurements were in dpm/100 cm^2.

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.
Agree with the comment. A footnote to Table I-5 has been added to state that additional radionuclides are "flags" for potential cross contamination problems from surrounding facilities.

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.
Agree with the comment. A sentence was added identifying additional documents which are in place to prevent criticality or redistribution of materials.

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.*

Agree with the comment. Revised this section to cite the complete reference title.

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.
Agree with the comment. BHI regrets that a reminder of follow on meetings was not prompted. The footnote has been deleted.

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.
No change is recommended. BHI regrets that a reminder of follow on meetings was not prompted. BHI also believes this issue was addressed in the meeting with EPA on January

15, 1998.

<u>Section I.6.3.1, page I-13</u>. 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.
Agree with the comment. A sentence was added stating data will be validated to Level C which is the minimum level in which quality control samples are obtained and compared.

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.
Agree with the comment. BHI believes this comment was addressed in the meeting with EPA on January 15,1998. The proposed solution is addressed in the issue response to the General Comment above.

<u>Section I.6.3.2, page I-13.</u> 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.
Agree with the comment. The sentence NDA information may be used for disposition of waste packages has been deleted. NDA will be used for field screening and informational purposes. Actual physical sampling will be used for designation and disposal decisions.

<u>Section I.6.3.4, page I-14</u>. The primary disposal alternative is identified in the Action Memorandum, which is the primary authorization mechanism.
Agree with the comment. This section was revised to reference the Action Memorandum.

<u>Section I.6.3.6, page I-18</u>. 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."
Agree with the comment. This section was revised to complete the sentence and incorporate the recommended wording.

Table I-3 is not a "data" table, but a "required actions for waste designation" table. The data is necessary to make these determinations.
Agree with the comment. This section was revised to correct the table title.

<u>Section I.7.2, page I-19.</u> 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.
Agree with the comment. Revised this section to reflect CWC and TRUSAF as storage options.

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.
Agree with the comment. This section has been revised to include PCB waste.

The second bullet should be changed to "dangerous waste criteria" rather than "hazardous waste criteria."
Agree with the comment. This section has been revised to incorporate the recommended wording.

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.
Agree with the commnet. This section was revised to reflect CWC or TRUSAF as storage options.

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.
No change is recommended. BHI realizes there is a potential for classifying waste at a higher hazard level. However, this is a conservative approach since some of the data will be used for worker protection. Also, field screening during D&D activities will minimize overclassification.

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.
Agree with the comment. The fifth sentence has been revised to: "If the remaining soil is contaminated, with DOE and EPA concurrence, further remediation will become the responsibility of a future remedial action."

Section I.7.5.2, page I-22. This section should summarize the basis for nonradiological decision levels.
Agree with the comment. The following sentence was added to the end of the first paragraph: "The waste decision criteria in Table I-5 are based on the required actions for waste designation listed in Table I-3."

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.
Agree with the comment. The last paragraph in this section was deleted.

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.
Agree with the comment. Table I-5 was revised to identify the detection limit.

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.
Agree with the comment. Table I-5 was revised to eleminate confusion and add missing information.

Section I.7.6, page I-22. See comment provided for Section I.7.5.1.1, page I-21.
No change is recommended. We realize this and are taking a conservative approach.

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.
Agree with the comment. A column has been added to Table I-5 to specify the analytical method. It should be noted that BHI always attempts to follow SW-846 guidelines unless prevented by other conditions. Identification of a radiochemical analysis method is not always possible until laboratory selection is made. The level of suspect alpha contamination could exceed a laboratory's license limit.

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.
Agree with the comment. BHI Waste Management has been added to this section.

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.

Agree with the comment. BHI follows the Hanford Analytical Services Quality Assurance Requirements Documents. Table I-5 has been revised to show this fact.

<u>Section II.2.1, page II-5</u>. Decision levels for radiological surveys present surface contamination limits. What about volume/weight concentration limits (for example, contaminated soil, D&D rubble, etc.)?
No change is recommended. BHI does not plan to unconditionally release suspect volumetrically contaminated materials. Soil release limits for the 200 Area have not yet been established and this SAP specifically excludes soil.

<u>Section II.2.3, page II-5</u>. 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.
Agree with the comment. The word "should" has been replaced with "shall".

<u>Section II.2.5, page II-6</u>. This section states that method requirements are identified in Table I-5. Table I-5 identifies techniques, not methods.
Agree with the comment. Table I-5 has been revised to agree with the wording in the section.

<u>Section II.4.1, page II-8</u>. 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.
Agree with the comment. The word "instruction" has been changed to "plan". BHI believes this comment was addressed in the meeting with EPA on January 15, 1998 and in the issue response to the General Comment above.

<u>Section III.1.8, page III-2</u>. 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.
Agree with the comment. The paragraph has been revised to: "Investigation-derived waste generated by characterization activities will be managed in accordance with BHI-EE-10, *Waste Management Plan*. As investigation derived waste, it shall be handled, stored and disposed in accordance with the Action Memorandum – Removal Action at the 233-S Plutonium Concentration Facility (EPA, 1997) and applicable portions of 40CFR260, WAC-173-303-330 and the 233-S Facility Waste Storage Inspection Plan, (BHI, 1997b)."

ATTACHMENT 3

056373

Mr. Douglas R. Sherwood
Hanford Project Manager
U.S. Environmental Protection Agency
712 Swift Boulevard, Suite 5
Richland, Washington 99352-0539

Dear Mr. Sherwood:

TRANSMITTAL OF THE SAMPLING AND ANALYSIS PLAN FOR THE 233-S PLUTONIUM CONCENTRATION FACILITY

Attached for your approval is DOE/RL-97-87, *Sampling and Analysis Plan for the 233-S Plutonium Concentration Facility*. Your comments have been incorporated into the document. Responses to your comments are in Attachment 2.

If you have any questions, please contact the undersigned at (509) 376-7121.

Sincerely,

J. M. Bruggeman, Project Manager
Restoration Projects Division

Attachments: (1) DOE/RL-97-87, Rev. 0, Sampling and Analysis Plan for the 233-S Plutonium Concentration Facility

(2) BHI's responses to EPA's comments on DOE/RL-97-87 Draft A

cc w/att:
P.S. Innis, EPA

cc w/o att:
A.B. Chaloupka, BHI