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05-AMCP-0241

MAY 03 2005

Mr. Nicholas Ceto, Program Manager  
Office of Environmental Cleanup  
Hanford Project Office  
U.S. Environmental Protection Agency  
309 Bradley Blvd., Suite 115  
Mail Stop B1-46  
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RECEIVED  
MAY 10 2005

EDMC

Dear Mr. Ceto:

TRANSMITTAL OF RECOVERY PLAN FOR THE LOW-LEVEL WASTE FRACTION OF  
RETRIEVABLY STORED WASTE SAMPLING AND ANALYSIS PLAN (SAP)

Enclosed for your review and approval is a recovery plan detailing the actions planned to respond to concerns related to potential free liquids in the non-transuranic Plutonium Finishing Plant (PFP) debris stream retrieved from Low-Level Burial Ground 218-W-4C. As previously discussed with David Einan, of your staff, an examination of the characterization data generated from the certification activities conducted on the transuranic (TRU) waste fraction of the PFP debris waste stream indicates the presence of liquids that are trending up towards the 10 percent failure rate established in the "Sampling and Analysis Plan for the Low-Level Waste Fraction of Retrievably Stored Waste (SAP, HNF-21786, Revision 0)."

In response to this discovery, the PFP debris waste stream will be treated at a commercial treatment facility prior to disposal at the Environmental Restoration Disposal Facility (ERDF). The SAP and the "Data Quality Objectives Summary Report for Disposition of the Low-Level Waste Fraction of Retrievably Stored Waste (DQO, HNF-20770, Revision 0)" were reviewed to determine if the plans required updating based on the changes resulting from implementation of the recovery plan actions. Revision of the SAP and DQO reports is not recommended at this time. The changes from the SAP and DQO are described in detail in the recovery plan for the affected waste stream. However, as TRU certification activities continue to provide additional characterization data for new waste streams targeted for disposal at ERDF, the SAP and DQO reports will be reevaluated to determine if revisions to these documents are required.

## Recovery Plan for the Plutonium Finishing Plant (PFP) Debris Waste

### Overview

HNF-20770, "Data Quality Objectives Summary Report for Disposition of the Low-Level Fraction of Retrievably Stored Waste (DQO)" and "HNF-21786, Sampling and Analysis Plan (SAP) for the Low-Level Waste Fraction of Retrievably Stored Waste (RSW)" establish the regulatory and technical criteria for treating and disposing of the non-transuranic retrieved waste covered under the "Comprehensive Environmental Response, Compensation, and Liability Act Time Critical Removal Action Memorandum for Disposal at the Environmental Restoration Facility [ERDF] of Non-Transuranic [TRU] Waste Generated During the M-91 Retrieval Operations at Burial Ground 218-W-4C." The methodology and requirements for this waste project are further defined in DOE/RL-2004-65, "Removal Action Work Plan for the Disposition of Low-Level and Mixed Low-Level Waste from Burial Ground 218-W-4C (RAWP)."

On March 7, 2005, the U.S. Environmental Protection Agency provided a conditional approval of the SAP because preliminary verification data on the PFP debris waste stream indicated the presence of liquids in quantities such that SAP requirements could be exceeded. The verification activities identified several drums with liquids, both free and in internal containers.

In accordance with Section 4.2 of the SAP: "When a failure in excess of the established 10 percent rate occurs, a recovery plan shall be developed. The SAP will be reevaluated and updated as needed to address the additional information and document the path forward." This recovery plan was developed to describe the actions that will be taken and the specific changes/deviations from the SAP.

This recovery plan applies to the RSW PFP debris waste stream. The secondary waste generated by the Waste Retrieval Project is not subject to the actions identified in this recovery plan and will be processed in accordance with the SAP.

### Recovery Plan

The following actions will be taken for the RSW PFP debris waste stream.

1. The waste will be treated at a permitted, commercial treatment facility to meet land disposal restriction requirements as described in the RAWP. In accordance with the commercial facility's waste acceptance requirements, incoming waste will be inspected. Waste not eligible for macroencapsulation, such as liquids, will be removed and managed to meet applicable requirements.
2. The waste will be treated as defined in the RAWP. The final, treated waste form will be visually inspected for the presence of free liquids on the top surface and to ensure that each package has been filled to 90 percent capacity or greater. If liquids are found, appropriate absorbent materials will be added.

## Recovery Plan for the Plutonium Finishing Plant (PFP) Debris Waste

3. Waste information to demonstrate compliance to the ERDF acceptance criteria and profile will be determined for each final, treated waste package. Physical contents, radiological inventories, and the waste designation will be compiled from the data on the debris drums that constitute the final waste package. As part of this information, the determination will also be made that each final waste package does not exceed the U. S. Nuclear Regulatory Commission's (NRC) Class C limit.
4. The commercial treatment facility's activities will be periodically assessed against the treatment requirements as specified in their contract to provide a level of assurance that activities are being performed in accordance with the treatment requirements of the RAWP.

### **Deviations from DQO/SAP Requirements**

Sections of the DQO and SAP are impacted by this recovery plan. The deviations to the impacted sections for the PFP debris waste stream are as follows.

#### DQO, Section 5.4 ERDF Restricted Waste Determination

This section states that NRC Class C calculation will be done for each drum. For waste being treated at a commercial treatment facility, the calculation will be performed for each final, treated waste package.

#### DQO, Section 7.2.2 Initial Confirmation and Section 7.2.3 Periodic Confirmation

These sections are not applicable to waste being sent to a commercial treatment facility. The following requirements apply.

In accordance with the commercial treatment facility's waste acceptance requirements, incoming waste will be inspected. Waste not eligible for macroencapsulation, such as liquids, will be removed and managed to meet applicable requirements. The final, treated waste form will be visually inspected for the presence of free liquids on the top surface and to ensure that each package has been filled to 90 percent capacity or greater. The allowable decision error of a false negative (i.e., failing to produce a land disposal restriction compliant waste form that meets the ERDF profile) is 0 percent. If a final waste package fails the final inspection, it will not be eligible for disposal until the identified problem has been corrected.

The commercial treatment facility's activities will be periodically assessed against the treatment requirements as specified in their contract to provide a level of assurance that activities are being performed in accordance with the SAP requirements for the retrievably stored waste. An assessment will be completed at least once per calendar quarter during any calendar quarter in which retrievably stored waste is being treated by the commercial facility. The content of the assessment could include a physical inspection of the treated waste form, an onsite evaluation of elements of the facility's program such as treatment processes, quality assurance, or waste

Recovery Plan for the Plutonium Finishing Plant (PFP) Debris Waste

traceability; or review of third-party audits (e.g., the U.S. Department of Energy's Consolidated Audit Program) that have been performed on the commercial facility.

SAP, Section 3.6.2 Verification Tolerable Decision Errors

This section summarizes Section 7.2 of the SAP. The third paragraph beginning with "The AK designation for each waste stream will be confirmed. ...." and the fourth paragraph beginning with "The results of ongoing WIPP certification activities..." do not apply. The requirements described above for the DQO, Sections 7.2.2 and 7.2.3, are applicable instead to waste being sent to the commercial treatment facility.

SAP, Section 4.1 Verification Process Design and Section 4.2 Verification Methods

The requirements for one hundred percent visual inspection continue to apply. The methodology and requirements related to physical verification do not apply to waste being sent to the commercial treatment facility. Instead, the process and method described in this recovery plan will be used. The requirements described above for the DQO, Sections 7.2.2 and 7.2.3, are applicable.

SAP, Section 9.4 Reconciliation With User Requirements

Shipments of treated waste will be sent directly to ERDF from the commercial treatment facility. The treatment contractor may perform some of the reconciliation required under this section under the direction of the Mixed Waste Treatment Project as defined in the contract.

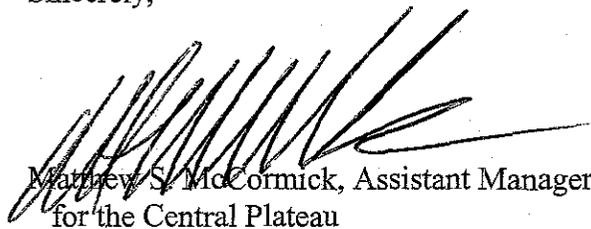
Mr. Nicholas Ceto  
05-AMCP-0241

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If you have questions, please contact me, or your staff may contact Greg Sinton, of my office, on (509) 373-9971.

Sincerely,



Matthew S. McCormick, Assistant Manager  
for the Central Plateau

AMCP:GLS

Enclosure

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