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**TRANSMITTAL OF REVISED RESPONSES TO COMMENTS AND  
REVISED CLOSURE PLAN INFORMATION AND DATA FOR THE  
HYDROFLUORIC ACID TANK CAR**

07/27/94

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LETTER



Department of Energy  
Fernald Environmental Management Project  
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JUL 27 1994

DOE-2152-94

Mr. Thomas Crepeau  
Data Management Section  
Ohio Environmental Protection Agency  
P.O. Box 1049  
Columbus, Ohio 43266-0149

Dear Mr. Crepeau:

**TRANSMITTAL OF REVISED RESPONSES TO COMMENTS AND REVISED CLOSURE PLAN INFORMATION AND DATA FOR THE HYDROFLUORIC ACID TANK CAR**

- References:
- 1) Letter, D. R. Schregardus to R. J. Hansen, "Notice of Deficiency," subject Closure Plan U.S. Department of Energy - Fernald Environmental Management Project, dated October 4, 1993
  - 2) Letter, DOE-0278-94, J. P. Hamric to T. Crepeau, "Transmittal of Response to Comments and Revised Closure Plan Information and Data for the Hydrofluoric Acid Tank Car," dated November 10, 1993
  - 3) Letter, M. W. Metcalf to W. J. Quaider, "HF Tank Car Closure Plan Extension Request," dated May 2, 1994

Enclosed are revised responses to the October 4, 1993, Notice of Deficiency (NOD) comments and a copy of the revised Closure Plan Information and Data (CPID) for the Hydrofluoric Acid (HF) Tank Car, Hazardous Waste Management Unit No. 38, at the Fernald Environmental Management Project (FEMP). The revised comment responses and CPID document have been prepared to replace the previous CPID Revision 2, originally submitted to the Ohio Environmental Protection Agency (OEPA) on November 10, 1993.

In addition to revising the CPID in response to the NOD comments, a limited number of other changes have been incorporated in the CPID to reflect activities and refinements that have occurred since November 1993. The CPID has been revised to reflect the April 14, 1994, movement of the HF Tank to the Main Tank Farm secondary containment area. Analysis of soil samples underneath the HF Tank Car were completed in June 1994, in accordance with the CPID, and the analytical results, along with the statement that further soil remediation activities should not be necessary, has been incorporated into the document. In addition, based upon safety considerations and information obtained from the bench scale test completed on May 18, 1994, the HF Tank Car

neutralization solution spray flush has been replaced by a water spray flush. Accordingly, because use of a water spray flush will not precipitate solids, the discussion that a remote camera will be used to look for solids inside the tank car has been struck from the CPID. Lastly, as discussed in Section 3.4 of the CPID, the HF neutralization system will be maintained in operating condition for use in support of Safe Shutdown under Removal Action 12.

Presently, there are two containers of HF material being evaluated under Safe Shutdown, Removal Action 12, to determine if the contents will require treatment by the HF neutralization system. These containers are a 500 gallon portable tank (dumpster) containing an estimated 400 gallons of suspected HF residues, and a second tank car that has been declared "empty", but may contain a small amount of HF residue. Both containers have been relocated to the Main Tank Farm secondary containment area with the HF Tank Car. Sampling and analysis of the residues will be completed in August 1994.

If you have any questions regarding this resubmittal of the HF Tank Car CPID, please contact John Sattler at (513) 648-3145.

Sincerely,



Walter J. Quaidler  
Acting Associate Director  
Safety, Operations and  
Technical Support

FN:Sattler

Enclosure: As Stated

cc w/enc:

M. Metcalf, OEPA-Dayton  
J. A. Saric, USEPA Region V  
K. A. Chaney EM-423, QO

cc w/o enc:

M. McDermontt, DOJ  
J. Van Kley, Ohio AGO  
K. L. Alkema, FERMCO/65-2  
P. F. Clay, FERMCO/52-2  
D. L. Howe, FERMCO/30 RCRA Operating Record  
D. Ofte, FERMCO/1  
N. L. Redmon, FERMCO/76 RCRA Closure Files  
J. W. Thiesing, FERMCO/2

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OHIO EPA COMMENT DISPOSITION  
HF TANK CAR CPID - REVISION 2 (RESUBMITTAL)

GENERAL COMMENTS

1. **COMMENT:**

The closure plan was reviewed based upon the use of elementary neutralization (lime slurry) as the chosen neutralization process; however, the submittal letter that accompanied the closure plan indicates that three alternative methods for neutralizing the hydrofluoric acid are still under consideration. If the bench scale tests indicate that an alternate neutralization agent should be used, the U.S. DOE-FEMP must submit an amended CPID to the Ohio EPA. Changes within the amended plan would be subject to additional comment by the Agency.

**RESPONSE:**

The bench scale testing was completed in May 1994. Results of the bench scale tests confirmed that a lime slurry is the most viable alternative for the elementary neutralization process. Additionally, the results of the bench scale tests were used to develop the requirements for improved changes to the neutralization system which have been incorporated in this CPID resubmittal. Section 3.2.1, page 20 and Tables 1 and 2, pages 36 and 37, were added to the CPID to discuss the results of the bench scale testing.

The revised Section 3.2, Closure Methodology, pages 10-19, incorporates discussion of the revised neutralization system and processing procedures. A revised schedule of construction and start up of the system is provided in Section 5.0, Figure 8, page 35.

SPECIFIC COMMENTS

1. **COMMENT:**

Section 3.2, page 9 - The closure plan fails to provide detailed information regarding the transportation of the tank car to the secondary containment area. The following information must be provided in accordance with OAC 3745-66-12(B)(3):

- a) Detailed procedures for moving the tank car.
- b) Precautions taken to avoid leaks or spills.
- c) Safety equipment available in case of a leak or spill.

**RESPONSE:**

A new Attachment D, HF Tank Car Transportation Safety Plan, was added. Attachment D describes the specific steps taken prior to, and during, movement of the tank car. References to Attachment D were added in the text in Section 2.1, page 7 and Section 3.2, Item 1, page 11.

Consistent with discussions between the FEMP and Ohio EPA, the HF Tank Car was moved to secondary containment, without incident, on April 14, 1994. To reflect this change in site conditions, text changes were made in the following locations: Section 1.1, page 1; Section 2.1, page 6; and Section 3.2, page 10.

2. **COMMENT:**

Section 3.1.1, page 9 - The closure plan indicates that the clean levels for soil will be 2.0 to 12.5. Please revise the closure plan to indicate that the clean level for soils will be 4.7 to 9.0 as per the Closure Plan Review Guidance Document (page 33). This information must be provided in accordance with OAC 3745-66-12(B)(4).

**RESPONSE:**

CPID page 10, Section 3.1.1, has been revised to reflect the pH range 4.7 to 9.0 and reference the Closure Plan Review Guidance Document.

On June 27, 1994, soil sampling and analyses were completed in the area where the HF Tank Car had been located prior to being moved to secondary containment. The sampling and analyses were conducted in accordance with the SAP provided in the CPID, Attachment A. The analytical results verified that the soil pH is within the clean level criteria of 4.7 to 9.0. Table 3, Summary of Soil Sampling, was added to the CPID. In addition, text changes were made in the following locations to reflect the updated information from soil sampling and analyses: Section 1.3, page 4; Section 3.3.2., page 21.

3. **COMMENT:**

Section 3.1.1, page 10 - The closure plan fails to provide the bench scale test results that confirm that the proposed design will safely achieve the required neutralization. Please amend the closure plan to include a copy of the appropriate bench scale test results. This information must be provided in accordance with OAC 3745-66-12(B)(3).

**RESPONSE:**

Bench scale testing was completed May 18, 1994 and the CPID has been revised accordingly. A new Section 3.2.1, page 20, was added to discuss the results of the bench scale testing. The schedule in Section 5.0, Figure 8, page 35, was revised to indicate completion of bench scale testing before Ohio EPA approval of the CPID. Text changes were made in the following locations to incorporate the updated information: Section 3.2, Item 3, page 11; Section 3.2, Item 3 A, page 12; and Section 3.2, Item 4, page 14.

The final bench scale test report which includes discussion of all testing done, a review of processing equipment options evaluated, and discussion concerning the basis for selecting the preferred alternative process system equipment has been included in the FEMP RCRA Operating Record.

4. **COMMENT:**

Section 3.2, page 12, number 7 - The closure plan states that the filter cake will be tested to determine if it fails TCLP for metals; however, the plan does not indicate how it will be managed if the results of the TCLP exceed the regulatory limits. Please amend the closure plan to include provisions for dealing with the filter cake if it is determined to be a hazardous waste. This information must be provided in accordance with OAC 3745-66-12(B)(4).

**RESPONSE:**

Section 3.2, Item 5, page 15, has been revised to incorporate provisions for on-site storage in one of the active RCRA container storage areas identified in the RCRA Permit Application in the event that the filter cake fails the TCLP for the RCRA metals. The revision also identifies that bench scale testing results indicate the filter cake should not exceed the TCLP regulatory limits.

5. **COMMENT:**

Sampling and Analysis Plan, Section 2.5, page A-7 - The closure plan describes the methods for decontamination of the sampling and decontamination equipment but fails to indicate that the equipment used in the neutralization process (i.e., Reactor A and B, ancillary equipment, etc.) will also be decontaminated when neutralization is completed. Revise the closure plan to indicate that the equipment used in the neutralization process will be decontaminated in a manner consistent with Section 2.5 of the Sampling and Analysis Plan. This information must be provided in accordance with OAC 3745-66-12(B)(4).

**RESPONSE:**

Section 2.5 of the Sampling and Analysis Plan was meant to be specific to the sampling equipment. The word "sampling" was inserted at the beginning of the Section 2.5 heading, at the beginning of the last sentence in the first paragraph on page A-7, and between "reusable" and "equipment" in the first sentence in Section 2.5.2 on page A-7. A discussion of decontamination of the neutralization process equipment was added to Section 3.4, page 23. The neutralization system piping, ancillary equipment, and tank will be rinsed, in place, by pumping water through them. Rinse waters will be collected, tested to confirm pH is above 2 and below 12.5 and within the range of Plant 8 acceptance criteria. The rinse waters will be transferred to Plant 8 for routine lime slurry precipitation used to process contaminated rain water prior to discharge to the FEMP Waste Water Treatment System (WWTS). The decontaminated process equipment will be maintained in operating condition for possible future use in support of removal of process residues under Removal Action 12, Safe Shutdown.