

4016

**MINIMUM ADDITIVE WASTE STABILIZATION
TREATABILITY STUDY WORK PLAN**

12/29/90

USEPA/DOE-FN

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LETTER



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

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REPLY TO THE ATTENTION OF:

DEC 29 1992

Mr. Jack R. Craig
United States Department of Energy
Feed Materials Production Center
P.O. Box 398705
Cincinnati, Ohio 45239-8705

HRE-8J

RE: Minimum Additive Waste
Stabilization Treatability Study
Work Plan

Dear Mr. Craig:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of the United States Department of Energy's (U.S. DOE) Minimum Additive Waste Stabilization (MAWS) Remedial Design Bench Scale Treatability Study Work Plan. Although the Work Plan has incorporated the majority of U.S. EPA's comments submitted in September 1992, U.S. EPA has additional comments on this formal submittal.

Therefore, U.S. EPA disapproves the Work Plan pending incorporation of the enclosed comments.

Please contact me at (312/FTS) 886-0992 if you have any questions.

Sincerely,

James A. Saric
Remedial Project Manager

Enclosure

cc: Graham Mitchell, OEPA-SWDO
Pat Whitfield, U.S. DOE-HDQ
Nick Kauffman, FERMCO
Jim Theising, FERMCO
Paul Clay, FERMCO

(Warner)
PARTIAL ACTION RESPONSE
TO DOE-0415-93
(5396)

**REVIEW COMMENTS
MINIMUM ADDITIVE WASTE STABILIZATION
REMEDIAL DESIGN BENCH-SCALE TREATABILITY STUDY
WORK PLAN
FERNALD, OHIO**

General Comments

1. The document states that a key objective of this study is to determine the most appropriate set of parameters to optimize the performance of the overall integrated system, which includes soil washing (for waste volume reduction), vitrification (for waste stabilization), and ion-exchange technologies (for wastewater treatment). The document also states that this objective will be accomplished by evaluating the capability and performance of each individual technology (see Section 4.3.11, paragraph 1). If this is the case, the performance objectives for the ion-exchange technology need to be included in Section 3. In Section 6A, which presents the sampling and analysis plan, summary tables for the sampling and analysis program should be presented separately for soil washing, vitrification, and ion-exchange technologies. The tables should indicate the sample matrix, field and laboratory parameters, number of investigative and QA/QC samples, and sampling frequency. In addition, the tables in Section 6A should be consistent with overall test objectives, stated in Section 3. For example, one stated objective is to reduce the overall waste. However, the tables do not indicate specifically how this will be achieved. DOE should modify the tables accordingly.

Specific Comments

1. The title for Table 6A-1 should be changed to "Field Equipment Required for the Soil Washing."
2. Page 6A-6. The section titled "Vitrification" should be preceded by section number, such as 6A.1.2.2.
3. The titles for Table 6A-2 and Figure 6A-1 need clarification. The titles for the table and figure do not indicate that they belong to the vitrification technology.
4. Table 6A-2 is not consistent with the text in section 6A.1.2. For example, data generated during completed slurry batch sampling have not been discussed. In the table, the

presentation of quality assurance/quality control (QA/QC) samples is not clear. The number of QA/QC samples usually depends on the investigative sample number, which varies based on different laboratory parameters. DOE should revise the table accordingly.

Commenting Organization: U.S. EPA Commentor: Gene Jablonowski
Section #: 4.4.2.8 Page #: 4-21 Para #: 1 Code: C
Original Comment #: 5
Comment: It is stated that three levels of control are provided (Operations, Safety, Monitoring) and are discussed below; it seems that the monitoring control discussion has been left out.
Response:
Action:

Commenting Organization: U.S. EPA Commentor: Gene Jablonowski
Section #: 4.4.2.1 Page #: 4-10 Line #: N/A Code: C
Original Comment #: 6
Comment: The top of the page states 10 mixing tank characteristics, with characteristic number one stating a one week tank capacity. Please state the actual volume of the tank.
Response:
Action:

Commenting Organization: U.S. EPA Commentor: Gene Jablonowski
Section #: 6A.1.2.1 Page #: 6A-4 Line #: N/A Code: C
Original Comment #: 7
Comment: The text states that during the soil washing process, the collected influent and effluent samples will be analyzed as described below. The text below only explains sample splitting, routing, and methods; the actual analysis that will be performed is not stated, please clarify.
Response:
Action:

Commenting Organization: U.S. EPA Commentor: Gene Jablonowski
Section #: 6A.1.2.1 Page #: 6A-4 Line #: N/A Code: C
Original Comment #: 8
Comment: Please clarify whether soil sample characterization will include radionuclide sampling and the means used. If not, please state why such radionuclide sampling of the soil samples is not being performed.
Response:
Action:

Commenting Organization: U.S. EPA Commentor: Gene Jablonowski
Section #: 6A.1.7 Page #: 6A-12 Line #: N/A Code: C
Original Comment #: 9
Comment: Please explain why there are no analytical methods listed in this section or in Appendix B for radionuclide analysis.
Response:
Action:

Commenting Organization: U.S. EPA Commentor: Gene Jablonowski
 Section #: 6A.6 Page #: 6A-14 Line #: N/A Code: C
 Original Comment #: 10
 Comment: Please explain why there is no text for this section, Quality Assurance Reports to Management.
 Response:
 Action:

Commenting Organization: U.S. EPA Commentor: Gene Jablonowski
 Section #: 6B.1 Page #: 6B-2 Line #: N/A Code: C
 Original Comment #: 11
 Comment: For compliance with the NESHAP for radon-222 (40 CFR 61, Subpart Q), analysis should conform with the requirements of 40 CFR 61, Appendix B, Method 114, Method A-6 (method within Method 114), Radon-222 - Continuous Gas Monitor. This method requires that radon-222 be measured directly in a continuously extracted sample stream by passing the air stream through a calibrated scintillation cell. Radon measurement cannot be accomplished by simply adding a charcoal canister or other gas collection media (except for what is prescribed by Method A-6) to the isokinetic sampler immediately after the 0.45 micron filter. Use of any method other than Method A-6 (with Method 114) requires prior approval of U.S. EPA, Region 5.

Response:
 Action:

Commenting Organization: U.S. EPA Commentor: Gene Jablonowski
 Section #: Attachment 1 Page #: [A1]-8 Line #: N/A Code: C
 Original Comment #: 12
 Comment: In the discussion of Federal Permits/Notifications for Subpart Q (radon), the text states that the radon generation rate was divided by the area of Plant 9 to calculate the flux from the facility. For determining the radon generation (flux) rate from stored materials at the plant, the area for the divisor should be the area of storage at Plant 9. For determining the radon flux rate from off-gas effluent emission points/stacks, the divisor should be the cross-sectional area of the emission point/stack. Please clarify why the entire area of Plant 9 was used as the divisor to calculate the flux from the facility, both in this section and as calculated in the Radon-222 Emission Estimate section (page 8) of Attachment 1.

Response:
 Action: