

605

**FS WORK PLAN
U.S. DOE FERNALD
OH6 890 008 976**

09/10/90

**USEPA/DOE-FMPC
6
LETTER**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

230 SOUTH DEARBORN ST.

CHICAGO, ILLINOIS 60604

REPLY TO THE ATTENTION OF:

SEP 10 1990

5HR-12

Bobby J. Davis
United States Department Of Energy
Feed Materials Production Center
P.O. Box 398705
Cincinnati, Ohio 45239-8705

RE: FS Work Plan
U.S. DOE-Fernald
OH6 890 008 976

Dear Mr. Davis:

On August 10, 1990, the United States Department of Energy (U.S. DOE) submitted a Feasibility Study (FS) work plan for the remedial action at the Feed Materials Production Center in Fernald, Ohio. This document revised a 1988 version of a FS work plan that was never approved due to the change to a multiple operable unit scheme. On July 10, 1990, the United States Environmental Protection Agency (U.S. EPA) provided some general comments on the 1988 draft to provide guidance in preparation for the August 10, 1990 draft FS work plan.

The work plan was reviewed to assess its compliance with applicable U.S. EPA guidance (OSWER Directive 9355.3-01) and the National Contingency Plan (NCP) as presented.

GENERAL COMMENTS:

1. Generally, the FS work plan complies with the U.S. EPA guidance and the NCP. Most of the screening and alternative evaluation steps follow the U.S. EPA guidance. There are, however, a few areas such as the definition of operable units, establishment of remedial action objectives, and application of applicable relevant and appropriate requirements that are not consistent with the U.S. EPA FS guidance and the NCP.
2. Much of preliminary work for the FS has been completed (Task 11 Development of Alternatives Report for all operable units and Task 12 Initial Screening of Alternative Operable Units 1 and 4 Reports). Therefore, many of the specific comments in this letter relate not only to the adequacy of the FS work plan, but also provide examples where either the FS work plan or U.S. EPA guidance was not followed.

The basic non compliance with U.S. EPA guidance is that the FS work plan, Task 11, and Task 12 reports defer much of the alternative development (i.e., volumes of contaminated materials, specific remedial action

objectives, preliminary remediation goals, and screening of process options) until late in the FS process (detailed analysis of alternatives). U.S. EPA guidance and NCP require these steps be sufficiently developed early in the FS process and to the extent possible, prior to the detailed analysis of alternatives.

The insufficient alternative development, as presented in the Task 12 reports for Operable Units 1 and 4, is a result of the Task 11 report not complying with the FS work plan or U.S. EPA guidance. Unless the non-compliances with U.S. EPA guidance is corrected in the Task 12 reports, the detailed analysis of alternatives may also lack sufficient detail and documentation to adequately support the selection of a preferred alternative.

SPECIFIC COMMENTS:

3. Section 2.2.1, Page 3: The FS work plan states that soils or perched ground water may eventually be included as part of Operable Unit 1. The FS work plan should specify when this determination will be made. The applicable U.S. EPA guidance requires the volumes and areas to be included in the potential remedy be determined early in the FS process; such as in the development of alternatives step or refined in the screening of alternative steps.
4. Section 2.2.3, Page 4: The basic assumption of addressing releases, or potential releases, within Operable Unit 3 by complying with the Resource Conservation Recovery Act (RCRA) and other requirements instead of the remedial investigation/feasibility study (RI/FS) program is not consistent with Section VIII (a) and (b) of the 1990 Consent Agreement. These sections of the Consent Agreement state the intent of the activities are to achieve compliance with CERCLA and satisfy the corrective action requirements of Sections 3004 (u), 3004 (v), and 3008 (h) of RCRA. Additionally, the Consent Agreement states it is intended that remediation of releases covered by the Consent Agreement shall obviate the need for further corrective action under RCRA. Therefore, releases or potential releases from the production area (Operable Unit #3) must be addressed as part of the RI/FS program and not under separate programs. See U.S. EPA's September 10, 1990, letter for more information regarding Operable Unit #3.
5. Section 2.2.3, Page 4: The scrap metal piles are not in operable unit #3, but rather are in Operable Unit #2.
6. Section 2.2.3, Page 5: The first full sentence on this page is not consistent with the first sentence of this paragraph from the proceeding page or the 1990 Consent Agreement. All contaminated soil and ground water is subject to the RI/FS program as Operable Unit #3.
7. Section 3.3.1, Page 5: The establishment of remedial action objectives as part of Task 12 (Initial Screening of Alternatives) and Task 13 (Detailed Analysis of Alternatives) activities is not consistent with the

NCP or U.S. EPA guidance. The NCP states the first step in the FS process involves developing remedial action objectives and preliminary remediation goals. These should specify contaminants and media of concern and potential exposure pathways. In accordance with the NCP (page 8713), remediation goals should set performance standards to be met during implementation as well as the points of compliance for attaining these remediation levels.

The remedial action objectives set in the Task 12 reports for Operable Units 1 and 4 were not contaminant or pathway specific nor did they establish points of compliance for attaining the remediation levels.

Establishing remedial actions objectives or preliminary remediation goals (which are initially set as ARARs) in the detailed analysis is not consistent with the U.S. EPA guidance, which states that compliance with ARARs evaluation in the detailed analysis uses "ARARs that have been identified in previous stages of the RI/FS process."

8. Section 3.3.2, Page 5: Although the FS work plan lists the types of response actions which should be considered, these were not considered in the Task 11 report (Development of Alternatives). The three general response actions considered in the Task 11 report were too narrow in scope and did not include the six general response actions specified in the original feasibility work plan or U.S. EPA guidance. Because only three general response actions were developed, the discussion on technologies and process options in the Task 11 reports is confusing and is not adequate to meet the screening requirements of U.S. EPA guidance. Furthermore, the development and subsequent screening of alternatives (Task 12 reports for Operable Units 1 and 4) is not well supported.
9. Section 3.3.5, Page 7: The evaluation of process options as presented in the FS work plan is in compliance with the U.S. EPA guidance. However, the evaluation of process options was not followed in the Task 11 report or Task 12 report for Operable Units #1 and #4. The Task 11 report discusses two removal technologies: hydraulic/pneumatic (with three associated process options) mechanical (with three associated process options). However, the Task 11 report does not screen the process options associated with these removal technologies for Operable Unit #4 with respect to effectiveness, implementability or cost. Furthermore, the Task 12 report for Operable Unit #4 uses three removal process options (mechanical auger, hydraulic dredge, and pneumatic dredge) which were not described or screened in the Task 11 report.
10. Section 3.3.5, Page 8: The evaluation of effectiveness as described in the FS work plan complies with U.S. EPA guidance. However, it was not followed in the Task 11 report. The effectiveness evaluation of process options was not specific to operable units.
11. Section 3.3.5, Page 8: The evaluation of cost as described in the FS work plan complies with U.S. EPA guidance. However, it was not followed in the Task 11 or Task 12 reports for Operable Unit #4. The cost evaluations did not include operation and maintenance costs.

12. Section 3.3.6, Page 8: The assembly of alternatives as described in the FS work plan complies with U.S. EPA guidance. However, it was not followed in the Task 11 report for all operable units or Task 12 report for Operable Units #1 and #4. For example, the Task 11 report includes the technologies of waste stabilization and treatment of water as part of several assembled alternatives for Operable Unit 1. Specific process options representative of technology types were not assembled into alternatives in the Task 11 report. Furthermore, at the end of the Task 12 report for Operable Unit 1, specific process options representative of technology types were still not combined into remedial alternatives.
13. Section 3.3.6, Page 9: If an alternative is carried through to the detailed analysis of alternatives (Task 13) it is not usually appropriate to further evaluate between process options within a technology. If necessary, additional definition of process option is to be conducted during the Alternative Screening Process (Task 12) as outlined in Section 4.3 of the U.S. EPA guidance. After this additional alternative definition and screening it is appropriate to select one or two process options representative of a technology type for an alternative to be carried to the Detailed Analysis of Alternatives.
14. Section 3.4.2, Page 10: The definition of volumes and areas of media of interest as described in the FS work plan complies with U.S. EPA guidance. However, the Task 12 report for Operable Unit #1 did not accurately define the volume of materials to be remediated (it excluded the 5 feet of soil surrounding and underlying the waste pits). In addition, the Task 12 report did not present specific definition on where Operable Unit 1 ended and its interrelationship with Operable Unit #5.
15. Section 3.4.2, Page 11: The description of cost evaluation in the FS work plan complies with the U.S. EPA guidance; however, the Task 12 report for Operable Unit #4 did not include operation and maintenance cost.
16. Section 3.5.1, Page 14: This step in the FS process is intended to define alternatives where appropriate so the evaluation criteria can be applied consistently and to develop a plus 50, minus 30 percent cost. However, it appears from the Task 12 reports for Operable Units #1 and #4 this step in the detailed analysis of alternatives is being used to further evaluate (not further define) process options. Additional alternative definition is appropriate when the assumed sizing of the process option (note singular use of process option) must be revised. Therefore, the guidance document implies that process options have been screened in the development and screening of alternatives steps and that process options representative of technologies have already been assembled into alternatives carried forward into the detailed analysis.
17. Section 3.6, Page 18: While the relative weighing of the five balancing criteria is acceptable; it should be noted that the NCP (page 8731) places special emphasis on long term effectiveness and permanence, and reduction

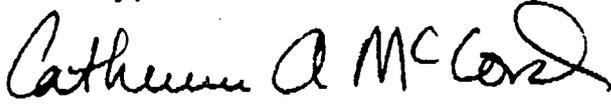
of toxicity, mobility, or volume through treatment, during the remedy selection process.

- 18. Section 4.1, Page 3: This section of the work plan omits the method of alternative definition. The level of alternative development in the Task 12 reports for Operable Units #1 and #4 is not sufficient to adequately evaluate the alternatives against the two threshold and five balancing criteria in the detailed analysis of alternatives. Therefore, extensive alternative definition, (or more appropriately in the alternative screening as outlined in Section 4.3 of U.S. EPA FS guidance) needs to be more completely addressed. For example, the Task 12 report for Operable Units #1 and #4 states this portion of the FS (Task 13) will be used to further screen out process options and more accurately define remedial action objectives and preliminary remediation goals. However, at this stage of the FS process, alternatives should already be assembled from process options representative of technology types. The U.S. EPA guidance states the definition step of the FS process should focus on incorporating treatability study data, sizing of a specific process option, or providing sufficient development of an alternative to provide a consistent level of detail to allow the evaluation criteria to be applied consistently.
- 19. Section 4.4.1, Page 6: The second and third paragraphs on this page need further clarification. Both paragraphs present assumptions which are critical in the evaluation of alternatives and the interrelation between Operable Units. U.S. EPA guidance recommends that the interrelationship between media (in this case Operable Units #1 and #5) be evaluated early in the FS process (i.e., Alternative Screening Process).
- 20. Section 4.8.1, Page 16: Expenses associated with implementing a remedy (capital costs) do not include the costs incurred by temporary or permanent suspension of site operations. However, economic impact to the community is typically evaluated under community acceptance.
- 21. Section 5.6.1, Page 18: ARARs are also applicable to contamination at the source as well as remote receptor and therefore are required to be evaluated.
- 22. Section 5.6.2, Page 18: Specific references for U.S. DOE and U.S. EPA technical guidance must be cited.
- 23. Section 5.6.2, Page 19: The statement "U.S. EPA guidance would typically establish the most critical receptor at the controlled boundary of the site..." is not accurate. The NCP (page 8710) uses the concept of the reasonable maximum exposure scenario applied to both current and future use conditions. Current land use scenarios presented in the base line risk assessment should consider both actual risk due to current conditions and potential risks assuming no remedial action. Future use scenarios are classified into one of these areas, (1) residential, (2) commercial/industrial, (3) recreational, as well as ecological use of the property such as agricultural. Future land use assumptions generally should consider the highest (most significant and therefore usually residential) risk to be protective.

Based on the deficiencies identified above, U.S. EPA is disapproving the FS work plan. A revised FS work plan must be submitted within thirty (30) days of the date of this letter.

Please contact me at (312) or FTS 886-4436, if there are any questions.

Sincerely,



Catherine A. McCord
Remedial Project Manager

Enclosure

- cc: Richard Shank, OEPA
- Graham Mitchell, OEPA-SWDO
- Leo Duffy, U.S. DOE - HDQ
- Joe LaGrone, U.S. DOE - ORO