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**U.S. EPA COMMENTS ON THE DRAFT SOUTH
PLUME GROUNDWATER EXTRACTION SYSTEM
OPERATION AND MAINTENANCE MANUAL**

12/09/91

USEPA/DOE-FO

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LETTER

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

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DEC 09 1991

REPLY TO ATTENTION OF:

HRE-8J

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

RE: U.S. EPA Comments on the Draft
South Plume Groundwater
Extraction System Operation
and Maintenance Manual

Dear Mr. Craig:

The United States Environmental Protection Agency (U.S. EPA) has completed its review of the Draft South Plume Groundwater Extraction System Operation and Maintenance Manual (O&M).

U.S. EPA's comments are enclosed for incorporation into the final version of the O&M. U.S. EPA's primary concerns are the failure by U.S. DOE to provide submittal dates for later documents, and a need for a more quantitative approach to making design changes in the extraction system.

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

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REVIEW OF THE SOUTH PLUME GROUND-WATER EXTRACTION SYSTEM O&M MANUAL
FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

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1. DOE states in the O&M manual that much of the information needed to describe the complete O&M program has not been included in this draft because the design has not been completed. In addition, the O&M manual lists several work plans and reports that will contain this information. This is acceptable at this time; however, DOE should specify when this information will be submitted to U.S. EPA.
2. Section 1.4, Page 1-7: DOE should specify submittal dates for the Model Validation Work Plan, Model Validation Report, and Model Recalibration Report.
3. Section 3.2, Page 3-2: Water samples obtained during the pump test should also be analyzed for inorganic and organic hazardous substance list (HSL) parameters present at the Paddy's Run Road site (PRRS).
4. Section 3.2, Page 3-2: The specific location of each monitoring well should be provided to U.S. EPA. If specific locations cannot be provided, DOE should supply the location selection criteria or rationale as well as the data needs the wells will fulfill.
5. Section 3.4, Page 3-4: DOE has not submitted an RI/FS Model Work Plan. This work plan should be submitted if DOE intends to follow procedures referenced in it.
6. Section 4.1, Page 4-1: DOE should specify when it will submit the Site-Wide Monitoring Program to U.S. EPA.
7. Section 4.3, Page 4-2: Evaluation of the extraction system as described in the manual appears to be inadequate to thoroughly evaluate system performance. The recommendations in Procedures in Performance Evaluation of Pump and Treat Remediations, EPA/540/4-89/005 (Keely, 1989), should be considered when designing the pump and treat evaluation monitoring system.
8. Section 4.3, Page 4-2: DOE should provide the specific well location and screened interval for each well to be used in the performance monitoring system.

9. Section 4.4, Page 4-3: DOE should justify selecting uranium as the only contaminant for fast-turnaround analysis. It is critical that DOE monitor the effects of the extraction system on the contaminant plume originating at PRRS. This will require fast-turnaround analysis for both HSL inorganic and organic contaminants present at PRRS.
10. Section 4.4, Page 4-3: The geochemical monitoring program should also include collecting and analyzing ground-water samples from monitoring wells downgradient of the extraction system.
11. Section 5.2, Page 5-1: The system evaluation presented is described as using "qualitative or perhaps semi-quantitative" criteria to evaluate the performance of the extraction system. Quantitative evaluation criteria should be used to evaluate extraction system performance in meeting removal action objectives. For example, a statistical approach involving a two-step procedure may be appropriate: step 1 would determine whether a significant change has occurred, and step 2 would determine whether a trend exists or corrective action should be required.
12. Section 5.2, Page 5-2: The manual states that statistical procedures will be used when appropriate. Because quantitative evaluation of system performance is needed, statistical procedures are appropriate. Specific statistical procedures to be used to determine whether the extraction system is meeting removal action objectives should be presented along with the rationale for their selection. The manual should also present criteria for determining whether the extraction system is meeting removal action objectives.
13. Section 5.2, Page 5-3: The manual should state that the system evaluation report will be prepared quarterly and submitted to U.S. EPA for review and approval.
14. Section 5.3.1, Page 5-3: The system modification report should be submitted to U.S. EPA for review and approval.
15. Section 5.3.2, Page 5-4: Detailed design activities and procurement of easements for the South Plume removal action have historically taken years to complete. It may be necessary to modify the extraction system quickly to correct an "out of control" situation and prevent further degradation of the aquifer. Therefore, DOE should demonstrate in the O&M Manual that these activities can be done quickly. DOE should present an evaluation monitoring program specifying actions to be taken depending on the data collected during the monitoring phase. This program should include specific criteria which will (1) detect that the system may not be meeting the objectives, (2) monitor the

system to determine if corrective action is necessary, and (3) verify that corrective action is successful in bringing the system back into compliance with the objectives. DOE should also present specific actions to be taken which are tied into specific timetables for implementing this type of program. DOE should also present goals for the time required for implementing corrective actions.

16. Section 5.3.3, Page 5-4: Any change to the monitoring program should be submitted to U.S. EPA for review and approval.