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**REQUEST FOR CONCURRENCE ON THE  
FERNALD ENVIRONMENTAL MANAGEMENT  
PROJECT STRATEGY FOR ASSESSING  
ECOLOGICAL RISK**

**07/29/93**

**DOE-FN/EPA**

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**LETTER**

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**Department of Energy**  
**Fernald Environmental Management Project**  
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Cincinnati, Ohio 45239-8705  
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JUL 29 1993  
DOE-2584-93

Mr. James A. Saric, Remedial Project Director  
U.S. Environmental Protection Agency  
Region V - 5HRE-8J  
77 W. Jackson Boulevard  
Chicago, Illinois 60604-3590

Mr. Graham E. Mitchell, Project Manager  
Ohio Environmental Protection Agency  
40 South Main Street  
Dayton, Ohio 45402-2086

Dear Mr. Saric and Mr. Mitchell:

**REQUEST FOR CONCURRENCE ON THE FERNALD ENVIRONMENTAL MANAGEMENT PROJECT  
STRATEGY FOR ASSESSING ECOLOGICAL RISK**

The Department of Energy, Fernald Field Office (DOE-FN) is requesting your concurrence with the Fernald Environmental Management Project (FEMP) strategy for assessing ecological risk. The enclosed strategy document presents information on the development of the strategy and the FEMP's proposed actions to ensure that ecological risk is properly addressed in Remedial Investigation/Feasibility Study documentation.

As stipulated in the Amended Consent Agreement (September 1991) between DOE and the United States Environmental Protection Agency (U.S. EPA), Operable Unit (OU) 5 must prepare the Site-Wide Ecological Risk Assessment (SWERA) as part of the OU 5 Remedial Investigation Report. OU 5 representatives from Fernald Environmental Restoration Management Corporation and DOE-FN discussed their responsibilities and strategies for preparing the SWERA with a representative from U.S. EPA Region V's Biological Technical Assistance Group during a meeting at the FEMP on February 17, 1993. The Ohio Environmental Protection Agency representative was not able to attend the meeting, but was provided copies of the meeting notes and the presentation.

The FEMP developed this strategy based on applicable guidance and the understandings reached at the February meeting. If you agree with the strategy, please provide the DOE-FN with written notice of concurrence.

If you or your staff have any questions, please contact Jack R. Craig at (513) 648-3107 or Pete Yerace at (513) 648-3161.

Sincerely,



Jack R. Craig  
Fernald Remedial Action  
Project Manager

FN:Yerace

Enclosure: As Stated

cc w/enc:

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## FEMP Site Strategy for Assessing Ecological Risk

As stipulated in the Amended Consent Agreement between the Department of Energy and U.S. EPA (September 1991), Operable Unit 5 must prepare the Sitewide Ecological Risk Assessment as part of the OU5 Remedial Investigation Report. Operable Unit 5 representatives from FERMCO and DOE-FN discussed their responsibilities and strategies for preparing the Sitewide Ecological Risk Assessment with a representative of U.S. EPA Region V's Biological Technical Assistance Group (BTAG) during a meeting at the FEMP on February 17, 1993. Participants at the meeting came to the following understanding:

- Operable Unit 5 would follow the approach described in U.S. EPA Region V guidance for conducting an ecological assessment;
- Operable Unit 5 would evaluate the possible risks from current concentrations of site contaminants to ecological receptors inhabiting onsite and offsite areas not likely to be remediated based on human-health concerns;
- The areas targeted for remediation based on human-health concerns would include significant — if not all — areas within Operable Units 1-4; and
- Operable Units 1-4 will not be evaluated in the Sitewide Ecological Risk Assessment.

While this strategy relieves Operable Units 1-4 from the need to incorporate ecological risk information in their respective baseline risk assessments, CERCLA still requires OUs 1-4 to complete an evaluation in their FS reports of the potential impacts to ecological receptors associated with each remedial action alternative under consideration. The FEMP has prepared this strategy to ensure that information on ecological risk presented in Operable Units 1-4 RI/FS documents is consistent with CERCLA and NCP guidance, as well as with the Sitewide Ecological Risk Assessment being prepared by Operable Unit 5. Furthermore, if the strategy presented in this paper is acceptable, the FEMP requests U.S. EPA and Ohio EPA to signify their concurrence by signature at the end of the document.

## Proposed Actions for Addressing Ecological Risk

The major elements of the proposed approach for addressing ecological risk at the FEMP include the following:

- **Preparation of a Screening Level Ecological Risk Assessment:** The *Screening Level Ecological Risk Assessment* will be prepared by OU5 and submitted to U.S. EPA. This document will use available site-related data, information from the literature, U.S. EPA or State Ambient Water Quality Criteria, and other pertinent sources of information to establish reference concentrations — referred to as benchmark criteria — to evaluate the relative risk to ecological receptors from contaminants in OU5. The information in the screening document will narrow the focus of the ecological risk assessment by enabling OU5 to determine if there is a need for additional examination of constituents of concern which present the most significant potential risk to ecological receptors at the site.
- **Treatment of Ecological Risks in Operable Unit RI Reports:** Within their RI Reports, OUs 1-4 will note that the Sitewide Ecological Risk Assessment is being prepared by OU5 according to CERCLA guidance and the understanding reached with the U.S. EPA Region V/BTAG representative at the February 17, 1993 meeting; that is, OUs 1-4 will not be required to prepare baseline ecological risk assessments for their RI Reports. Operable Unit 5 will prepare, as part of its RI Report, a Sitewide Ecological Risk Assessment which will evaluate potential risks from current concentrations of site contaminants to ecological receptors inhabiting onsite and offsite areas not likely to be remediated based upon human-health concerns. This approach will fulfill the requirements of the Amended Consent Agreement and CERCLA pertaining to the completion of Sitewide Ecological Risk Assessment.
- **Treatment of Ecological Risks in Operable Unit FS Reports:** Within their Feasibility Studies, OUs 1-5 will derive and tabulate preliminary remediation goals (PRG) based upon risk, ARAR, health-based, or other technical considerations. One of the technical considerations in PRG development for the respective OUs' constituents of concern will be the benchmark criteria developed for

the screening document and the Sitewide Ecological Risk Assessment. The tabulation of PRGs will be carried through the FS to the detailed analysis of alternatives. Within the detailed analysis, each alternative will be evaluated — in a quantitative manner where practical — for its ability to attain these PRGs (which include the benchmark criteria). The FEMP recognizes that balancing considerations such as volume of affected material, cost, and technical implementability will influence the ultimate proposed media-specific cleanup level. As part of the detailed analysis, a qualitative evaluation will be presented of the potential ecological risk for each alternative that leaves residual contaminant levels in place that exceed benchmark criteria. The FEMP expects that reducing contaminant levels in OUs 1-5 to concentrations low enough to protect human health will protect ecological receptors as well. Any contaminants identified that may impact ecological receptors and which were not evaluated in the screening document will be evaluated by developing appropriate criteria in a manner consistent with the methods used to establish benchmark criteria in the screening document. Due to the timing of the submittal of the draft OU4 FS and the *Screening Level Ecological Risk Assessment*, the OU4 FS will incorporate benchmark criteria, when available, from the draft screening level document.

- **Treatment of Ecological Risks in the Comprehensive Response Action Risk Evaluations for the Operable Units:** The CRAREs for the operable units will examine only potential cumulative human health risks across the operable units, and will not address potential cumulative risks to ecological receptors.
- **Preparation of the Sitewide Ecological Risk Assessment:** As stipulated in the Amended Consent Agreement between DOE and U.S. EPA, OU5 must prepare the Sitewide Ecological Risk Assessment as part of its RI Report.

## 465 2 Summary

Consistent with the Amended Consent Agreement, the OU5 RI Report will include the Sitewide Ecological Risk Assessment. This assessment will follow CERCLA and U.S. EPA Region V guidelines and the understanding reached with the U.S. EPA/BTAG representative at the February 1993 meeting at the FEMP. Because the areas of Operable Units 1-4 will be extensively remediated based on stringent human health criteria, the Sitewide Ecological Risk Assessment will evaluate risk to ecological receptors in the remaining areas of the FEMP (this will be more than 80% of the total FEMP acreage). In their RI Reports, OUs 1-4 will note that OU5 is completing the Sitewide Ecological Risk Assessment as part of its baseline risk assessment. Within the FS reports, each operable unit will consider ecological benchmark criteria as a technical consideration in its development and evaluation of PRGs. Each FS report will include a qualitative analysis of the potential impacts to ecological receptors associated with each remedial alternative under consideration. The evaluation of ecological risk should be kept in perspective because of the substantial remedial activities planned at the FEMP to protect human health.