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**APPROVAL OF REMOVAL ACTION 18-CONTROL  
OF EXPOSED MATERIAL IN WASTE PIT 5 WORK  
PLAN**

08-17-92



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD

CHICAGO, IL 60604-3591

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AUG 17 1992

REPLY TO THE ATTENTION OF:

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

AUG 21 1992

HRE-8J

RE: Approval of Removal Action 18-  
Control of Exposed Material in  
Waste Pit 5 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) revised Removal Action 18-Control of Exposed Material in Waste Pit 5 Work Plan. This Work Plan is much improved over the previous draft of the Work Plan. However, a few concerns still exist.

Therefore, U.S. EPA hereby approves 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  
Dennis Carr, WMCO

AUG 26 1992

## US DOE Fernald Environmental Management Project (FEMP)

Control Exposed Material in Waste Pit 5:  
Removal Action Number 18 Work Plan  
Dated July 1992Comments by  
US EPA, Region 5, Radiation Section

## SPECIFIC COMMENTS

1. Section 2.3, p. 2-2

Please specify how the rate of water flow from the 1.5-inch hose into the waste pit will be controlled. In addition, it should be stated here that the water level will be inspected daily (as specified in Section 6.5 and in Section 7).

2. Section 7.2.5, p. 7-7, paragraph 1

More detail should be provided on how the composition of the slurry will be maintained at a ratio of 60% water to 40% fines and sand. If this is the composition of the existing material without any modifications, then the field studies showing this should be cited. Otherwise, it should be specified what methods will be needed to maintain the correct ratio of water to sand in order to provide even distribution of the waste.

3. Section 11.1, p. 11-1

Because of the Amended Consent Agreement cited in Section 10, the Department of Energy (DOE) is not required to submit Health and Safety Plans to the US EPA for review. However, there are a number of issues that should be addressed in this work plan which are also relevant to the Health and Safety Plans to be developed. A major concern is that the sample collection and analysis plan for the air monitoring stations (AMS) is not comprehensive enough to provide adequate protection of worker or public health at the site nor to provide sufficient documentation that the removal action accomplishes its objectives.

While it is stated that a constant spray of water will be maintained over the exposed surface of the waste pit during the removal action to control airborne emissions, the effectiveness of this strategy should be confirmed by taking frequent air samples and analyzing them promptly. If samples are collected weekly from the AMS array, it is possible that actionable deviations in air concentrations of radionuclides could be missed. Samples should be collected daily and screening measurements should be performed daily to demonstrate that airborne hazards are not endangering workers at the site. In this way, actions can be taken expeditiously when criteria are exceeded. A subset of samples should receive more thorough analysis. If this is not practical with the existing AMS system, DOE should consider installing temporary monitoring stations for the duration of activities at Waste Pit 5.

Because a number of alpha emitters have been identified in the waste pit in high concentrations, gross alpha should be added to the list of laboratory analyses performed on AMS samples. In addition to screening measurements on these air samples, more detailed isotopic analysis should be performed routinely on a select number of the samples taken during the removal action. In the case of unusually high concentrations, such detailed analysis will provide a means of estimating doses to workers and the public; otherwise,

used to provide more assurance that the removal action is remediating the specific hazards posed by the waste pit. Because the Characterization Investigation Study identified the main constituents in the waste pit (see Table 1-1), it should be a relatively straightforward matter to determine which specific radionuclides should be included in a more detailed analysis of air samples.

4. Section 11.2, p. 11-4

In the 1991 Federal Facilities Agreement between US EPA and DOE, DOE agreed that, in addition to providing estimates of radon flux from potential radon sources at FEMP, it would directly measure radon flux from several of the waste pits, including Waste Pit 5. This paragraph should be corrected to include all the commitments made in the FFA.

5. Appendix B, p. B-6, Air Discharges - Radon

In the 1991 Federal Facilities Agreement between US EPA and DOE, DOE agreed that, in addition to providing estimates of radon flux from potential radon sources at FEMP, it would directly measure radon flux from several of the waste pits, including Waste Pit 5. The implementation strategy for limiting air discharges from radon should be corrected to include all the commitments made in the FFA.