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**RESPONSE TO EPA COMMENTS - REMOVAL  
ACTION WORK PLAN (RAWP) FOR IMPROVED  
STORAGE OF SOIL AND DEBRIS REMOVAL  
ACTION NO. 17**

**10/20/92**

**DOE-0384-93  
DOE-FN/EPA  
20/15  
LETTER**



R-028-208.3

**Department of Energy**  
**Fernald Environmental Management Project**  
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NOV 20 1992

DOE-0384-93

Mr. James A. Saric, Remedial Project Director  
U.S. Environmental Protection Agency  
Region V - 5HR-12  
230 South Dearborn Street  
Chicago, Illinois 60604

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

Mr. Paul Pardi, Hazardous Waste Group Leader  
Ohio EPA Southwest District Office  
Dayton, Ohio 45202-2086

Dear Messrs. Saric, Mitchell, and Pardi:

**RESPONSE TO EPA COMMENTS--REMOVAL ACTION WORK PLAN (RAWP) FOR IMPROVED STORAGE OF SOIL AND DEBRIS REMOVAL ACTION NO. 17.**

The purpose of this letter is to transmit, for your review and approval, comment responses to the final comments received from the United States Environmental Protection Agency (U.S. EPA) and Ohio Environmental Protection Agency (OEPA) and a revised strategy for incorporating the Area of Contamination (AOC) concept into the Improved Storage of Soil and Debris Removal Action. Upon your approval of these comment responses and revised strategy, Department of Energy (DOE) will issue the final revised Removal Action Work Plan to U.S. EPA and Ohio EPA.

Enclosed please find a revised Soil & Debris Management Plan Flow diagram and comment responses incorporating the revised flow diagram strategy. The DOE has modified the soil disposition strategy based on the October 22, 1992 meeting with the U.S. EPA and Ohio EPA. The previous AOC concept will be deleted from the Work Plan. The Fernald Environmental Management Project (FEMP) proposes a new concept that would allow DOE to establish individual AOCs, as necessary, for soil and debris that contain hazardous waste constituents.

In general, all soil and debris containing hazardous waste constituents will be dispositioned in a containment building. In the event that a large quantity of soil containing hazardous waste is excavated, the FEMP may elect to establish an AOC to allow the soil to be managed in a manner consistent with all requirements for contaminated soil and debris and be returned to the same excavation during the response action. Excess radiologically contaminated soil and debris will continue to be managed as delineated in the current Work Plan. Staging of soils will be done according to Phase I, i.e., placed on impermeable ground cover and covered for run-off protection pending characterization.

When required an AOC will be delineated consistent with EPA guidance and characterization information will be included in the database for soil and debris disposition tracking as well as the RI/FS database. Each Operable Unit (OU) will be responsible for the disposition and tracking of soil generated within its boundaries. OU-specific controlled stockpiles will be used to supply backfill only to the OU or origin.

The modified strategy also proposes a strategy for handling soil during "emergency maintenance actions". Emergency maintenance actions will be defined as unplanned events that require immediate action, such as ruptured steam or water lines. The proposed strategy consists of returning soil back to the excavation immediately after the repairs are performed. These actions will not require an Material Evaluation Form (MEF) unless excess soil is generated.

The DOE considers that this modified approach to soil and debris disposition is within the intent of the regulations (40 CFR 264.1100 Subpart DD). Finally, as requested, DOE has deleted the LDR waivers.

If you or your staff have any questions, please contact Robert J. Janke at FTS/Commercial 513-738-6883.

Sincerely,

FN:R.J. Janke

Jack R. Craig  
Fernald Remedial Action  
Project Manager

Enclosure: As Stated

cc w/enc.:

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**WEMCO****REVIEW COMMENT FORM**

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GENERAL COMMENTS:

1. It is still unclear as to how or when soil placed in the "controlled stockpiles" will be remediated. The Amended Consent Agreement (ACA) defines the specific operable units with some detail followed by the statement, "and soil within the operable unit (OU) boundary as approved in the RI/FS work plan addendum." The ACA suggests a "controlled stockpile" should be addressed by the specific operable unit in which boundary it lies. The Improved Storage of Soil and Debris (ISSD) RAWP suggests several possibilities. ISSD references remediation under OU-3, OU-5 and the site-wide residual risk assessment with no clear resolution. Since it is obvious the "controlled stockpiles" will contain concentrations requiring remediation, it is unacceptable to use the residual risk assessment to determine remediation. Additionally, since backfilling with or disposal of contaminated soil should not occur within an OU following the completion of its respective RI/FS and ROD, it would seem the ACA provides the best direction for remediation of "controlled stockpiles." DOE must clearly define and justify the final format for remediating the "controlled stockpiles" as well as the materials placed in the improved storage facilities.

Response:

It is not the intention of this work plan to base remediation of the controlled stockpiles upon a residual risk assessment. Each OU will be responsible for controlled stockpiles associated with its projects within its physical boundaries. The RODs for OUs-1, 2, and 4 are expected to defer soil treatment/disposal until the ROD is issued for OU-5.

The soil in the stockpiles, as well as all soil at FEMP, will be remediated to meet the clean-up levels determined by the OU-5 ROD. OU-5 is responsible for the design and construction of a treatment facility for soils throughout the FEMP if treatment is chosen as the remediation alternative. The work plan only addresses the management of soil and debris until the implementation of the OU-5 ROD. At that point, soil and debris will be managed in accordance with the Remedial Action Work Plan of the respective OU. During the remedial action period, soil will be removed from the storage structures and the controlled stockpiles for treatment/disposal in accordance with the clean-up standards specified by the OU-5 ROD. Soil from the RA 17 controlled stockpiles will not be used as backfill during either the remedial action period (unless the specified clean-up standards are less than the pile concentrations) or for the construction of

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permanent facilities (any remaining after remediation). Soil from controlled stockpiles will be used as backfill (where applicable) prior to the remedial action period (with the exception of permanent facilities).

The remediation of debris at the site will be conducted under Operable Unit 3 since this OU contains almost all the debris requiring remediation. Any determination information of a decontamination information method will be done under OU-3. There are no controlled stockpiles for debris.

- Ohio EPA still believes as stated in previous comments that the presence of non-radiological contaminants, at concentrations below hazardous waste criteria, within stockpiled soils is a concern. The use of this material for backfill in areas not containing elevated levels of specific metals, semi-volatile organics or volatile organics may result in the addition of new contaminants to the area. It will be the responsibility of DOE to track and incorporate these potentially new contaminants into each OU RI/FS as they are deposited within the OU.

Response:

Material from the controlled stockpile is intended to be used as backfill prior to the remediation period to minimize the use of "clean" backfill (from off-site) which will likely become contaminated and require treatment/disposal when the areas are finally remediated. Soil from controlled stockpiles will not be used as backfill in uncontaminated areas or areas where the contaminant types are very different. Each OU will have a controlled stockpile (as necessary) for excess soil that is generated from that OU. In addition, soil from the OU specific controlled stockpile will only be used as backfill within that OU. This reduces the potential for cross contamination, because soils from within an OU are likely to contain similar contaminants. Furthermore, soil from the controlled stockpiles or any other area (OU) at the FEMP, will likely be treated/disposed in a similar manner, since the FEMP anticipates utilizing a single soil remediation facility if treatment is the selected remedial alternative.

The disposition of all soil from controlled stockpiles will be tracked by the use of a database. This database will ensure that, when the remediation of soil begins, information will be available as to where soil from the controlled stockpile has been dispositioned.

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SPECIFIC COMMENTS:

1 Section 3.1.1, Page 3-5, paragraph 3

The first and last sentence of this paragraph appear to be contradictory. The first sentence says off-site soils and debris are not addressed in the work plan, while the last says it will be handled in accordance with the work plan. It is important to clarify how off-property materials will be handled. The need for this direction is emphasized by the discovery of contaminated soil/debris at the outfall along the Great Miami River. The disposition of these types of materials should be addressed by this RAWP.

Response:

The paragraph is correct; however, it will be clarified to ensure understanding. The Work Plan currently states that off-site contaminated material will be handled on a case-by-case basis. The plan further states that if material is brought on-site, then it will be managed in accordance with the Removal Action 17 Work Plan. The plan will be updated to say that handling the contamination information on a case-by-case basis is necessary due to the complex political and legal issues surrounding off-site contamination (such as property acquisition). Off-site contamination will be documented via Removal Site Evaluations, Best Management Practice documentation or Removal/Remedial Action Work Plans.

2. Table 3-1, Page 3-9 Controlled Stockpile:

The 5 pCi/g for thorium and radium discussed here is not coordinated with the rest of the text. Please correct.

Response:

The text will be corrected to state that the disposition activity concentration for total thorium is 50 pCi/g.

3. Section 3.3

This "build-over policy" appears different than the "build-over criteria" used in the Waste Pit Area Stormwater Runoff Control RAWP. Are these different policies or does the one discussed in the ISSD RAWP replace the "build-over criteria?" The document should state specific procedures for future build-over or reference the current SOP for build-over policy.

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Response:

The buildover policy presented in Section 3.3 supersedes the buildover criteria stated in the Waste Pit Area Stormwater Control (WPASC) RAWP as well as any other buildover policies followed at the FEMP. The buildover criteria in the WPASC RAWP was developed from the same NRC position that the original site procedure for soil management (FMPC-720) was developed. The new buildover policy is intended for future buildings constructed at the FEMP. The purpose of RA 17 is to redefine the management of soil and debris site-wide. The RA 17 buildover policy addresses permanent structures (those remaining after remediation), something that has not been addressed in Removal Action Work Plans to this date at the FEMP.

4. Figures 3-2 & 3-3, Pages 3-16 & 3-17:

The "controlled stockpile" soils must be addressed under a specific operable units(s). DOE may not put-off the assessment and remediation of these stockpiles until the site-wide residual risk assessment. The document should detail proposed locations of the "controlled stockpiles" and the specific operable unit(s) which will address them. See General Comment #1 above.

Response:

Please see response to General Comment #1 above.

Locations for proposed controlled stockpiles will be identified on Figure 4-1, entitled "Location of Improved Storage Structures." Each OU will be responsible for its controlled stockpile, if one is necessary. However, OU-5 will determine the soil remediation standards and will provide a soil treatment facility for all OUs to utilize if treatment is selected as the remedial alternative.

5. Table 3-3: The statements under Phase II are not in agreement with Figure 3-3 which references final disposition based upon the site-wide risk assessment. Additionally, the disposition of soils located within specific OUs under the OU-5 ROD is not in agreement with the ACA.

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Response:

Figures 3-2 and 3-3 will be replaced by a new Figure 3-2. This new figure modifies the approach to soil disposition at the FEMP for both Phase I and Phase II. The modifications result from the DOE/EPA meeting on October 22, 1992. A summary of the modifications is described in the response to USEPA Comment #1. The new Figure will show that soil will be remediated pursuant to the methods and standards specified by the OU-5 ROD.

Please refer to the response to General Comment #1 for the portion of comment regarding OUs and the ACA.

6. Figures 3-4 & 3-5:

DOE fails to state which operable unit will address these wastes within its ROD. This must be clarified so final responsibility for the wastes is set.

Response:

Figures 3-4 and 3-5 will be revised to show that the ROD for OU 3 will address the remediation for contaminated debris generated at the FEMP.

7. Section 3.9, Page 3-34, paragraph 3

As stated in previous OEPA Comment #24 on the 3/25/92 versions of this document, reference to the residual risk assessment should be removed. DOE's response to Comment #24 said the sentence would be removed as well as referencing a Section 3.10 which doesn't exist. The assessment and remediation of soils in controlled stockpiles must be conducted under the operable unit framework.

Response:

The section referenced should have been Section 3.9. OEPA is correct, the sentence should have been and will be deleted. The text will be modified to state that soil from controlled stockpiles will be removed and treated/disposed in accordance with the clean-up levels specified by the OU-5 ROD. Soil from a controlled stockpile that has been used as backfill will be treated/disposed along with the soils adjacent to the area of the backfill (also in accordance with the clean-up levels specified by the OU-5 ROD).

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8. Table 6-3, Pages 6-8, Class Enrichment Code, Additional Information...:

Additional information logged in must include the concentration of all hazardous substances. The risk from these constituents is cumulative and must be assessed. Additionally, it will be important to know what new contaminants DOE will be adding to an area when the stockpiled soil is used for backfill.

Response:

Concentrations of identified hazardous substances for a given quantity of soil will be recorded. Hazardous substances that are anticipated to be contained in soil and debris will be assessed and sampled/analyzed (if necessary). The FEMP does not consider that full HSL analysis is warranted if sufficient historical process knowledge, RI/FS analytical results, and other sampling results are available. This removal action does not consider the risk from material storage. Risk is not considered because the storage will be temporary with the intent to remediate the material in accordance with the future RODs. However, the Industrial Hygiene group and the Radiation Safety group are typically involved in hazard determination activities. The FEMP will add to the data base the contaminants and concentrations of the soil adjacent to an area where soil from a controlled stockpile will be used as backfill. This information will be specified in the destination section of the FEMP Lot Marking system (Table 6-3).

9. Section 7, Page 7-1, paragraph 1

When will data gathered during the removal action sampling be input and added to the MEF? It will be essential to include this data as it will likely provide more detail and information concerning the contaminants present in the stockpiled soil.

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Response:

The MEF will be completed prior to material disposition, generally after excess soil is generated. The FEMP will gather as much information as available to assess the contaminants that are contained within soil and debris. This information will include historical site and process data, RI/FS sampling data, and other sampling information. If sufficient information exists to complete the MEF, then additional sampling and analysis will not be performed. If the MEF cannot be completed with existing information, then sampling and analysis will be conducted to complete the MEF. Therefore, any necessary sampling and analysis will be performed before the material is dispositioned for storage. Historical records review, pre-activity field surveys, sampling and analysis (if required), and construction radiation surveys will be performed prior to and during activities to prepare and implement project specific Health and Safety plans. Industrial Hygiene and Radiation Safety specialists are involved during excavation activities to ensure worker protection. This information will be available to assess contamination and assist in the preparation of the MEF. During construction/excavation, soil will be temporarily staged near the excavation so that it can be returned to the point of excavation (if possible). During staging, the pile will be tarped and fenced/roped off in a manner similar to the Phase I activities. Excess soil that can not be returned to the point of excavation will remain in the tarped staging pile until disposition to a controlled stockpile or an improved storage facility. If excess soil requires sampling and analysis to complete the MEF, then the soil will remain in the temporary staging pile until the analysis and MEF are completed.

The new Figure 3-2 specifies a strategy for handling soil during "Emergency Maintenance Actions". Emergency Maintenance Actions will be defined in the RAWP as unplanned events that require immediate action, (ruptured stream/water lines, and problem with underground electrical lines, etc). The proposed strategy consists of returning soil back in the excavation immediately after repairs are performed. These actions will not require an MEF unless excess soil generated. The exceptions to this is that soil containing PCB or petroleum contaminants will not be returned to the excavation, in the unlikely event that these contaminants are encountered.

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10 Section 7.2.2, Page 7-3, paragraph 2

Is this the same procedure for field assessment of radionuclides as was used during the Sewage Treatment Plant Incinerator Contaminated Soils Removal Action? Sampling conducted under that removal action suggests the procedure used therein is the only reliable field assessment for the 100 pCi/g limit. If these are not the same, DOE should use the methods described in that removal action for all future field measurements.

Response:

The procedure for field assessment of radionuclides is the same as that used for the Sewage Treatment Plant Incinerator Contaminated Soils Removal Action. This fact will be incorporated into the text of the work plan.

11 Section 7.3, Page 7-6, paragraph 4

Averaging over a 100 square meter area will potentially over or under estimate the action soil concentration, if the area to be excavated is actually smaller than 100 square meters. DOE should only average over the area to be excavated when the area is smaller than 100 square meters.

Response:

The FEMP agrees with the comment. If an area is less than 100 square meters, then the actual area of excavation will be surveyed. The work plan will be modified to specify this special case.

12 Attachment B:

The table should include Ohio Solid Waste ARARs, since soils contaminated with hazardous substances at levels below hazardous waste concentrations are considered solid waste. Please include OAC 3745-27-01(UU); OAC 3745-27-05; ORC 3734.03; ORC 3734.01(I).

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Response:

OAC 3745-27-01 (UU) is the definition for "public water supply well." Prior to several recent revisions of this rule, (April 1990, May 1991, August 1991, and January 1992) (UU) was the definition for "solid waste". The current citation for solid waste is 3745-27-01 (III). It is the FEMP's assumption that this is what Ohio EPA was referring to in this comment. This definition is currently included in Section 1.3 of the RAWP and will not be included as an ARAR because solid waste disposal will not occur and there are no regulatory requirements for solid waste storage facilities.

OAC 3745-27-05, entitled Authorized, limited, and prohibited solid waste disposal methods, will not be included as an ARAR because disposal of solid waste will not occur. The stockpiling and disposition of soil does not constitute disposal by definition (e.g. per ORC 3734.01(F), disposition constituting storage is not disposal). The controlled stockpiles will provide storage for soil until remediation/disposal alternatives are selected and implemented.

ORC 3734.03, entitled Open dumping and burning, will not be included as an ARAR because disposal of solid waste will not occur under Removal Action #17.

ORC 3734.01(I) is the definition of "open dumping". This will not be included as an ARAR because disposal through open dumping will not occur at the FEMP. The controlled stockpiles do not constitute disposal by definition (e.g. per ORC 3734.01(F), disposition constituting storage is not disposal). The controlled stockpiles will provide storage for soil until remediation/disposal alternatives are selected and implemented.

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- 1 The revised DOE removal action (RA) work plan uses the concept of an AOC which would require EPA to provide waivers from LDR requirements. As discussed in the September 21, 1992 meeting with DOE, EPA believes that the upcoming final regulation for containment buildings makes DOE's use of this approach unnecessary. DOE should remove the AOC concept from the report and should instead assure that containment buildings used to store hazardous and potentially hazardous soil and debris meet containment building design criteria.

**Response:**

The waiver request from the LDR storage prohibition will be removed, as it was included only to clarify allowing storage beyond one year. The work plan will be updated to state that storage beyond one year is necessary.

The FEMP agrees that the EPA's recent final rule on containment buildings negates the need for a waiver from the LDR disposal prohibition. This is due to the fact that storage of materials containing hazardous waste in a containment building is not considered land disposal. Therefore, the LDR disposal waiver is unnecessary and will be removed.

The previous AOC concept will be removed from the report. The FEMP proposes a new concept (based upon the October 22, 1992 meeting between DOE and EPA) that allows the FEMP to establish individual AOCs or HWMUs for soil that contains hazardous waste. In general, all excavated soil containing hazardous waste will be dispositioned in an improved storage facility. In the unlikely event that a large quantity of soil containing hazardous waste is excavated, the FEMP may establish an AOC (or HWMU if not presently classified as an HWMU), to allow the soil to be returned to the excavation. Excess soil will either be containerized for storage (Phase I) or dispositioned to an improved storage facility (Phase II).

An AOC will be delineated consistent with EPA guidance and characterization information will be included in the database for soil disposition tracking as well as the RI/FS database. Controlled stockpiles will be utilized for backfill within its OU of generation.

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- 2      DOE has not adequately addressed previous General Comment Number 3. This comment requested that DOE provide a mechanism for reporting planned removals and details for the disposition of removed soils. The letter accompanying the RA work plan indicates that a yearly update report will be provided, but this information is not included in the RA work plan. The document should be revised to include reports that indicate schedules for planned removals and information on the disposition of soil and debris. At a minimum, the reports should indicate the location of planned and completed removals, information on the types and volumes of waste, and analytical data used to support soil and debris classification.

**Response:**

Section 3.9 of the RA work plan described the information that would be provided to the US EPA on a yearly basis. The plan currently states that, "A yearly update report will be submitted by January 15 for all soil and debris dispositioned in the previous fiscal year. The report will document the activity concentrations, chemical concentrations, quantities, and the disposition of soil and debris." The work plan can be updated to state that planned removals will be documented on a yearly basis in conjunction with the yearly documentation for that identifies new Removal Actions (as required by Section IX.F.3 of the Amended Consent Agreement).





