UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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LOG D-0143

2002 OCT 30 A 9:52

OCT 28 2002

FILE: SRF-5.1

REPLY TO THE ATTENTION OF:

Mr. Johnny W. Reising
United States Department of Energy
Fernald Area Office
P.O. Box 398705
Cincinnati, Ohio 45239-8705

Subject: Disapproval of Draft Revised Focused Feasibility Study / Proposed Plan for Operable Unit 4 Silo 3 Remedial Action

Dear Mr. Reising:

The United States Environmental Protection Agency (EPA) has completed its review of the above-referenced document. The document, which is dated August 26, 2002 was prepared by the U.S. Department of Energy (DOE) and received by EPA and its contractors on August 28, 2002. The document presents the proposed alternative remedy for the Operable Unit 4 Silo 3 remedial action.

The document generally requires more detail to demonstrate that not treating the Silo 3 waste will satisfy Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) threshold criteria. While untreated Silo 3 material may currently only be disposed at the Nevada Test Site, this document develops an alternative utilizing a not-yet-permitted commercial disposal facility. While this document advocates neither treating nor pre-treating Silo 3 material, DOE is now considering dispersibility conditioning of the Silo 3 to meet stakeholder concerns.

In general, the document should provide a remedy that is truly viable and one that DOE intends to implement, while considering other potential aspects or variables as contingencies for possible consideration. A revised document should reflect consensus between DOE and the regulators as to the scope of the proposed remedy, and probably reflect or address stakeholder concerns. Therefore, EPA disapproves the document. EPA's general and specific comments are enclosed. Please contact me at (312) 886-4591 if you have any questions.

Sincerely,

E Jablonowski

Gene Jablonowski
Project Manager
Federal Facilities Section
Superfund Division

Enclosure

cc: Tom Schneider, OEPA-SWDO
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ENCLOSURE

TECHNICAL REVIEW COMMENTS ON
"REVISED FOCUSED FEASIBILITY STUDY/PROPOSED PLAN FOR OPERABLE UNIT 4 SILO 3
REMEDIAL ACTION"

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

(Five Pages)

TECHNICAL REVIEW COMMENTS ON
"REVISED FOCUSED FEASIBILITY STUDY/PROPOSED PLAN FOR OPERABLE UNIT 4 SILO 3 REMEDIAL ACTION"

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

GENERAL COMMENTS

Commenting Organization: U.S. EPA Commentor: Jablonowski
Section #: Not Applicable (NA) Page #: NA Line #: NA
General Comment #: 1

The revised focused feasability study/proposed plan (PP) should be revised to provide more detail on how the proposed alternate remedy will be protective of human health and the environment. Therefore, the following information discussed below should be included in the PP:

1) The PP should be revised to explain why not treating the Silo 3 waste for toxicity characteristic metals will be protective of human health and the environment. Specifically, the PP should explain why the metal concentrations in the waste will not pose a threat to workers during on-site waste handling and to other receptors during waste transportation. Where applicable, this explanation should include a summary of remedial investigation (RI) data on metal concentrations in the waste and associated risk assessment findings.

2) The PP should clearly address the National Contingency Plans's (NCP) preference for treatment of principal threat material and why an exception should be made for the Silo 3 material.

3) The PP should be revised to explain why not treating the Silo 3 waste will not result in increased risk for on-site workers. Specifically, the PP should summarize how the remedial design (RD) for Silo 3 will be protective of on-site workers during waste handling. Where applicable, this summary should focus on use of automated versus manual waste handling techniques and other release controls.

4) The PP states that the routine transportation risk was found to be significantly less than 10^{-6} and therefore meets the requirements of the current remedy. However, Appendix B indicates that the transportation risk posed under a hypothetical accident scenario exceeds 10^{-6}. Therefore, the PP should be revised to explain why there is a very low probability of a transportation accident occurring. In addition, the PP should be revised to briefly describe emergency response procedures to be implemented in the event of an accident, including the Fernald Environmental Management Project (FEMP) transportation emergency plan and the procedures of carriers and local authorities along the transportation route.

5) The risk and dose associated with the inhalation of untreated Silo 3 material under an accident scenario should be expressed in a way that allows evaluation of realistic acute radiation exposure events. The following should be provided: 1) dose per milligram for inhaled Silo 3 material; 2) ranges for expected uptakes and associated doses for individuals at an accident scene; and 3)

comparisons to dose limits such those prescribed by DOE's administrative dose limit, NRC's occupational limit, NESHAP limits, etc. This should allow a more realistic assessment of the risks associated with the shipment of Silo 3 materials, and support a decision basis for whether the Silo 3 material should be shipped in a dispersible or non-dispersible form. While the likelihood of an accident is low, the potential radiation dose to those exposed in an accident incident should be better understood.

6) The PP indicates that the alternate remedy will meet the waste acceptance criteria (WAC) for either the Nevada Test Site (NTS) or a permitted commercial disposal facility (PCDF). However, a more detailed discussion of compliance with the WAC for NTS and a representative PCDF should be provided. Specifically, the PP should summarize the elements of the NTS WAC and representative PCDF WAC that are most relevant to the Silo 3 waste, such as concentrations of site-specific radionuclides and metals as well as physical properties such as free liquid content.

Commenting Organization: U.S. EPA Commentor: Jablonowski
Section #: NA Page #: NA Line #: NA
General Comment #: 2

As it stands currently, only NTS could possibly accept untreated Silo 3 material. It is evident that DOE does not want to perform on-site treatment of Silo 3 material regardless of disposal options available. This PP and its cost comparison (Appendix C) emphasize rail transport and disposal at a PCDF, while it is not clearly evident that a PCDF could currently accept untreated Silo 3 material for disposal. It would seem appropriate that the alternative "no-treatment" remedy should be comprised of what is currently permissible, and that is shipment by truck to NTS. Other potential disposal options, such as a PCDF or another DOE site for example, could be discussed and should be regarded as contingencies (subject to EPA approval) if they become available, as well as the transportation modes associated with those disposal sites.

Commenting Organization: U.S. EPA Commentor: Jablonowski
Section #: NA Page #: NA Line #: NA
General Comment #: 3

The PP should be revised to provide more detail on how the proposed alternate remedy will comply with applicable or relevant and appropriate requirements (ARAR). Specifically, the PP should briefly identify the ARAR compliance strategies for the Silo 3 RD.

Commenting Organization: U.S. EPA Commentor: Jablonowski
Section #: NA Page #: NA Line #: NA
General Comment #: 4

Important information presented in Appendix B and used in the associated RADTRAN5 calculations is not documented. For example, sources are not provided for the proposed package-specific and vehicle-specific parameters (Table 1), including package dimensions and the average distance from the crew to the package. Similarly, Table 2 presents radionuclide contents for transportation options, but the list of radionuclides assumed to be present in the waste, the activity of each radionuclide, and the basis for the radionuclide-specific curies per overpack container are all undocumented. Finally, the proposed accident releases fractions for rail and truck transportation presented in Tables 5 and 6, respectively, are undocumented. Appendix B should be revised

to clearly document the sources and bases of all parameter values used in the RADTRAN5 calculations.

Commenting Organization: U.S. EPA Commentor: Barwick
Section #: NA Page #: NA Line #: NA
General Comment #: 5

The draft proposed plan proposes off-site disposal either at NTS or a permitted commercial disposal facility (PCDF) with the exact location to be determined later. Each option has certain advantages but also may have different implications for transportation or waste treatment issues. DOE should in a focused manner identify the factors it will consider when selecting the disposal site, what it will do to address any transportation or treatment issues, and describe how it will involve the public in that process. This focused discussion must have enough detail so that members of the public can fairly evaluate the elements of each disposal scenario.

Commenting Organization: U.S. EPA Commentor: Barwick
Section #: NA Page #: NA Line #: NA
General Comment #: 6

DOE identifies RCRA requirements as ARARs. More specifically, DOE states that RCRA is applicable to any non-exempt material and, impliedly, relevant and appropriate as to the 11(e)(2) material. Under CERCLA, off-site actions need comply only with applicable ARARs. RCRA was listed as a relevant and appropriate ARAR for 11(e)(2) material in prior Silo 3 documents because on-site treatment of 11(e)(2) material was part of the proposed remedy.

Commenting Organization: U.S. EPA Commentor: Barwick
Section #: NA Page #: NA Line #: NA
General Comment #: 7

Under the draft proposed plan, on-site treatment of 11(e)(2) material is proposed only if necessary to meet transportation requirements. If the 11(e)(2) material is treated on-site, RCRA requirements may be relevant and appropriate ARARs for that treatment. Therefore, any on-site treatment may have to meet RCRA requirements (e.g., TCLP). If the 11(e)(2) material is shipped for off-site treatment and/or disposal without any on-site treatment, RCRA requirements are not applicable and, therefore, not ARARs. (Note: DOE is correct that RCRA requirements are ARARs for any non-11(e)(2) materials that are determined to be hazardous waste).

Commenting Organization: U.S. EPA Commentor: Barwick
Section #: NA Page #: NA Line #: NA
General Comment #: 8

In Section 7.1.2.2, DOE should more fully explain why the Section 121(b) of CERCLA preference for remedies employing treatment will not be met in this case. Relevant considerations, such as risk to on-site workers (among other things), are included elsewhere in the draft proposed plan but are not presented in a focused discussion of the Section 121(b) preference. DOE should include consideration of whether any on-site risk is simply being shifted off-site versus being entirely avoided.

Commenting Organization: U.S. EPA Commentor: Jablonowski
Section #: Appendix C Page #: C-1 Lines #: N/A
General Comment #: 9

Appendix C provides a cost comparison for the "Current Remedy (Treatment Off-Site)" versus the "Alternative Remedy (Non-Treatment)." Off-site

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treatment may have been considered in the OU3 Explanation of Significant Difference, but it was never something that was aggressively pursued. The last time anyone was really trying to do anything with the Silo 3 material, it was on-site treatment. What should probably be compared is an "on-site treatment remedy" versus a "no-treatment remedy" versus a "conditioning for dispersibility remedy," considering the current open discussion with stakeholders on dispersion control.

SPECIFIC COMMENTS

Commenting Organization: U.S. EPA Commentor: Barwick
Section #: 1.0 Page #: 1-2 Line #: 2
Specific Comment #: 1

Listing on the NPL reflects the degree of risk to human health and the environment posed by conditions at the FEMP and, concomitantly, the relative importance placed by the Federal government on the site.

Commenting Organization: U.S. EPA Commentor: Barwick
Section #: 2.1.2 Page #: 2-7 Line #: 11
Specific Comment #: 2

What is meant by "following completion of the NTS waste approval process?" Is this a reference to the NTS WAC procedure or does it indicate that the NTS revision to its WAC is pending?

Commenting Organization: U.S. EPA Commentor: Jablonowski
Section #: 2.1.2 Page #: 2-7 Lines #: 13 to 22
Specific Comment #: 3

The text should be revised to state whether FEMP has received or will receive written confirmations of acceptance of untreated Silo 3 waste (similar to the letters received regarding NTS acceptance of Silo 3 waste) from prospective PCDFs and their regulating states.

Commenting Organization: U.S. EPA Commentor: Barwick
Section #: 2.2.4 Page #: 2-14 Line #: 21
Specific Comment #: 4

Should "successfully completing" read "failing to complete?"

Commenting Organization: U.S. EPA Commentor: Barwick
Section #: 2.2.4 Page #: 2-15 Line #: 13
Specific Comment #: 5

Insert "or to ensure safe transport" after "facility."

Commenting Organization: U.S. EPA Commentor: Jablonowski
Section #: 2.2.4 Page #: 2-16 Lines #: 1 to 2
Specific Comment #: 6

The text states that "treatment, above the level, if any, that is required to achieve WAC which have been demonstrated to be protective, results in negative impacts on the balancing criteria." The text should be revised to clarify whether level being referred to is the toxicity characteristic leaching procedure regulatory level or another level.

Commenting Organization: U.S. EPA Commentor: Jablonowski
Section #: 6.2 & 6.2.3 Page #: 6-4 Lines #: 19-20
General Comment #: 7

The text states that estimated costs have been developed for both on-site and off-site treatment in Appendix C; only off-site treatment is developed in Appendix C. Off-site treatment costs described in Section

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6.2.3 are inconsistent with off-site treatment costs developed in Appendix C, like off by $2-million.

Commenting Organization: U.S. EPA Commentor: Jablonowski
Section #: 6.2.1.1 Page #: 6-5 Lines #: 1 to 14
Specific Comment #: 8

The risk and dose associated with the inhalation of untreated Silo 3 material under an accident scenario should be expressed in a way that allows evaluation of realistic acute radiation exposure events. The following should be provided: 1) dose per milligram for inhaled Silo 3 material; 2) ranges for expected uptakes and associated doses for individuals at an accident scene; and 3) comparisons to dose limits such those prescribed by DOE's administrative dose limit, NRC's occupational limit, NESHAP limits, etc. This should allow a more realistic assessment of the risks associated with the shipment of Silo 3 materials, and support a decision basis for whether the Silo 3 material should shipped in a dispersible or non-dispersible form.

Commenting Organization: U.S. EPA Commentor: Jablonowski
Section #: 6.3.1.1 Page #: 6-7 Lines #: 12 to 14
Specific Comment #: 9

The text summarizes the results of the transportation risk evaluation presented in Appendix B. The text should be revised to specify that the risk evaluation in Appendix B does not include pretreatment of waste prior to its packaging.

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