



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
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CHICAGO, IL 60604-3590

4385

FERNALD _____
LOG # 16031

JUL 26 2002

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REPLY TO THE ATTENTION OF:

LIBRARY: _____

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 Remedial Design Package for the Silos
1 & 2 Accelerated Waste Retrieval Project

Dear Mr. Reising:

The United States Environmental Protection Agency (EPA) has completed its review of the above-referenced document. The document, which is dated May 31, 2002 was prepared by the U.S. Department of Energy (DOE) and received by EPA and its contractors on June 3, 2002. The document incorporates (1) Changes to the Radon Control System (RCS) and Transfer Tank Area (TTA) designs resulting from the due diligence review of the Foster Wheeler Environmental Corporation (FWENC) design and (2) changes to the waste retrieval design resulting from the Accelerated Waste Retrieval (AWR) Design Optimization review.

While the AWR Project Sampling Plan addresses the collection and analysis of wastewater and air emission samples, it does not address the collection of Silo 1 and 2 material samples that would be expected for waste characterization to support treatment for meeting transportation and disposal requirements. Somewhere in the AWR RD Package, integration between AWR and Silo 1 & 2 treatment projects should be clearly discussed. Adequate waste characterization to support the production of treated Silo 1 & 2 material meeting transportation and disposal requirements should be addressed in this sampling plan. Additional specific review comments are enclosed. Therefore, EPA disapproves the document. Please contact me at (312) 886-4591 if you have any questions.

Sincerely,

Gene Jablonowski
Project Manager
Federal Facilities Section
Superfund Division

cc: Tom Schneider, OEPA-SWDO
Sally Robinson, U.S. DOE-HDQ
Jamie Jameson, Fluor Fernald
Terry Hagen, Fluor Fernald
Tim Poff, Fluor Fernald

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bcc: Mary Wojciechowski, Tetra Tech
Brian Barwick, ORC
Gene Jablonowski, SRF-5J
James Saric, SRF-5J

ENCLOSURE

TECHNICAL REVIEW COMMENTS ON
"DRAFT REMEDIAL DESIGN PACKAGE FOR THE SILOS 1 AND 2 ACCELERATED WASTE
RETRIEVAL PROJECT, REVISION 2"

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

(13 Pages)

Commenting Organization: U.S. EPA
Section #: 3.1.5 Page #: 3-7
Original Specific Comment #: 9

Commentor: Jablonowski
Line #: NA

Comment: The text states that pressure gauges will be installed along the slurry transfer piping to locate potential pipeline blockages and that clean-out areas will be installed at approximately 80-foot intervals. It is not clear how these pressure gauges and clean-out areas will be installed without compromising the integrity of the "pipe-in-pipe" system. The text should be revised to address this issue. Additionally, if clean-out areas can be installed without compromising the integrity of "pipe-in-pipe" system, high pressure flushing connections should be considered at each clean-out area to flush out the blocked section of pipeline without physical pipe intrusion using a "snake."

Commenting Organization: U.S. EPA
Section #: 3.1.5 Page #: 3-7
Original Specific Comment #: 10

Commentor: Jablonowski
Line #: NA

Comment: The text states that the slurry pump will be equipped with an inlet screen plate to minimize the size of debris in order to reduce clogging of the slurry pipeline. Sometimes the pump's inlet velocity will not be high enough to prevent clogging of the screen. It may be better not to use an inlet screen plate but to use an inlet deflector plate instead to prevent large chunks from being sucked into the pump intake. The deflector plate acts as a sump bottom and moves up or down with the pump to maintain proper distance between the pump inlet and the movable plate. If a deflector plate is not used, the design should be reviewed to ensure that the slurry pipeline is large enough to pass the largest debris particles expected to pass through the pump. The slurry pump design should be reviewed and revised as needed to address these issues.

Commenting Organization: U.S. EPA
Section #: 3.3 Page #: 3-9
Original Specific Comment #: 11

Commentor: Jablonowski
Line #: NA

Comment: The text states that the purpose of the TTA system is to store residues received from Silos 1 and 2 until waste materials are processed for final disposal in the "Remediation Facility." However, the text does not specify the length of time that these materials will be stored in the TTA tanks or the location of this new "Remediation Facility." The text should be revised to provide this information.

Commenting Organization: U.S. EPA
Section #: 3.3.1 Page #: 3-10
Original Specific Comment #: 12

Commentor: Jablonowski
Line #: NA

Comment: The text states that the transfer storage tank's headspace pressure will be maintained at -2 to +5 inches of water column (WC). It may be very difficult to maintain pressure within this range. Rising liquid level and daily heating and cooling of the tank's shell will contribute to greater pressure variations inside the tank. The text should be revised to address this issue.

procedure or protocol to ensure that the nitrate sample holding time will be met despite the radionuclide criteria evaluation.

Commenting Organization: U.S. EPA

Commentor: Jablonowski

Section #: 4.1 Page #: 7

Line #: NA

Original Specific Comment #: 5

Comment: The text states that representative samples from each batch of RCS condensate wastewater and filtrate wastewater are needed. However, the text does not provide a detailed protocol or description of minimum requirements before and after sampling. Specifically, during and after wastewater sampling, no wastewater should be allowed to enter the tank being sampled and no wastewater should be allowed to discharge until analytical results are available. Once analytical results demonstrate that the contents in the sampled tank meet the discharge criteria, the tank contents can be transferred to the AWWT facility. The text should be revised to address this issue.

Commenting Organization: U.S. EPA

Commentor: Jablonowski

Table #: 20 Page #: 26

Line #: NA

Original Specific Comment #: 3

Comment: Table 20 presents input parameters for the SCREEN3 air dispersion model used to predict ambient air radon concentrations based on discharges from the RCS stack. Several of the input parameters listed are not consistent with the values presented early in the RCS performance calculations and other sections of the AWR RD package. These inconsistencies include the stack inside diameter, which is listed in Table 20 as 0.6096 meter and on Page 4 as 3 feet (0.9150 meter). The stack inside diameter and stack exit velocity result in a stack gas flow rate of 0.986 cubic meter per second, or 2,090 cubic feet per minute. This value is generally consistent with the RCS design flow (2,000 cfm) listed in Section 3.6.2 of the process description document. However, Section 4.2.1 of the sampling plan suggests that a stack flow rate of 10,300 cfm was used for modeling, and page 4 lists a flow rate of 9,310 cfm. The text should be reviewed and revised as needed to resolve these inconsistencies.

