



State of Ohio Environmental Protection Agency

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George V. Voinovich
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July 25, 2000

Mr. Johnny Reising
U.S. Department of Energy, Fernald Area Office
P.O. Box 538705
Cincinnati, OH 45253-8705

Re: COMMENTS - SILO 3 Remedial Design Package

Dear Mr. Reising:

Ohio EPA has reviewed DOE's May 19, 2000 submittal, "Remedial Design Package for the Silo 3 Project". Attached are our comments on the document. The document does not provide sufficient definitive detail regarding transportation and disposal of treated waste. This information may be more appropriate for an Remedial Action Work Plan, but Ohio EPA is concerned that a lack of decision making on these issues will result in storage of treated material rather than treatment, transportation and disposal. DOE must make conclusions regarding the transportation and disposal of the material to ensure sufficient time for planning and timely disposal of Silo 3 wastes.

If you have any questions, please contact me at (937) 285-6466.

Sincerely,

Thomas A. Schneider
Fernald Project Manager
Office of Federal Facilities Oversight

cc: Jim Saric, U.S. EPA
Terry Hagen, FDF
Mark Shupe, HSI GeoTrans
Francie Hodge, Tetra Tech EM Inc.

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**OHIO EPA COMMENTS ON
SILO 3 REMEDIAL DESIGN PACKAGE**

1. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.0 Pg #: 2 Line #: 5 Code: C
Original Comment #:
Comment: The treated waste will be placed into 55-gallon drums. Is this the best container for the overall project, considering transportation, storage, and management of the large number of containers? Note: A large percentage of the volume reduction realized through treatment will be lost using 55-gallon drums for the waste container.

2. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.0 Pg #: 5 Line #: Code: C
Original Comment #:
Comment: The document does not address the need for "Silo 3 will be equipped with a heating, ventilation and air conditioning system..." Why heat or air condition the silo itself?

3. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.1 Pg #: 1 Line #: Code: C
Original Comment #:
Comment: The introduction section states that 55-gallon drums will be used as the disposal container. This section seems to leave the selection for a disposal container ambiguous.

4. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.1 Pg #: 4 Line #: Code: C
Original Comment #:
Comment: The document states that the Silo 3 material will be gravity fed from the Filter Receiver to the Rotary Valve and into the Processor Feed System. What provisions have been included to ensure that no blockages will occur through this passive portion of the system.

5. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.1 Pg #: 5 Line #: Code: C
Original Comment #:
Comment: Only having 2 days supply of stabilizer and reducing agent seems to be limiting. Will additional totes of material be stored nearby to allow for continuous operation? The document doesn't address the expected duration of operation but in order to run for any length of time substantial storage area for full totes will be required. Please describe the operational philosophy behind only a 2 day supply hookup and how additional materials will stored/supplied.

6. Commenting Organization: Ohio EPA Commentor: OFFO

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Section #: 2.1 Pg #: 5 Line #: Code: C

Original Comment #:

Comment: The absorbent tote feed system will not be installed unless necessary. If this system is necessary what is the estimated down time for the project to install this system and integrate it with the rest of the project?

7. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: 2.1 Pg #: 6 Line #: Code: C

Original Comment #:

Comment: How will debris that does not fit the described profile be handled? i.e. Heavy and/or larger objects. Please add a section detailing how these type of debris will be handled.

8. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: 2.1 Pg #: 7 Line #: Code: C

Original Comment #:

Comment: Will the briquettes be "washed" to remove fines prior to packaging? This procedure may help in reducing the spread of contamination.

9. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: 2.1 Pg #: 8 Line #: Code: C

Original Comment #:

Comment: The document does not describe whether the treatment process is exothermic due to chemical reaction or pressure. If any exothermic reaction is expected it might lead to high humidity conditions in the drum which would result in free water forming upon cooling. Has the effect of waste product temperature been incorporated into the packaging design?

10. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: 2.1 Pg #: 10 Line #: Code: C

Original Comment #:

Comment: The section needs to be revised to reference the sampling and analysis plan that is included as Section 3.0.

11. Commenting Organization: Ohio EPA Commentor: OFFO

Section #: 2.1 Pg #: 10 Line #: Code: C

Original Comment #:

Comment: Storage upon the Silo 3 ISA pad of drums of Silo 3 waste that fail the treatment criteria is not acceptable. These wastes will likely fail TCLP and should not be stored on

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an uncontrolled storage pad. The wastes must either be immediately reprocessed or moved to an appropriate storage facility.

12. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.2, General Pg #: Line #: Code: C
 Original Comment #:
 Comment: Numerous references are made to the use of high alarm levels for the Off-Gas Filter pressure differential requiring the change of filters. However, low alarm levels are not utilized. Low alarm levels would indicate a failure of the filter. It is very important for the operators to know if a filter failure occurs. The systems should be revised to include a low differential pressure alarm level for all filters.
13. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.2 Pg #: 3 Line #: Code: C
 Original Comment #:
 Comment: Again, is there any contingency for handling debris that may be larger than anticipated?
14. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.2 Pg #: 5 Line #: Code: C
 Original Comment #:
 Comment: A camera will be on the robot forearm. How will this camera be kept clean and useable for the operators to use during waste retrieval?
15. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.2 Pg #: 7 Line #: Code: E
 Original Comment #:
 Comment: The description for Exhibit 4.1-4 says "Kraft Save Arm...". "Save" should be "Slave".
16. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.2 Pg #: 15 Line #: Code: C
 Original Comment #:
 Comment: Will the Raptor arm and Mast be capable of sustaining a cave-in of silo material?
17. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.2 Pg #: 16 Line #: 6 Code: E
 Original Comment #:

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Comment: Change spelling from "masks" to "masts".

18. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.2 Pg #: 16 Line #: 11 - 17 Code: C
 Original Comment #:
 Comment: The second method to change tooling on the ReTrieveR is by retracting it into the confinement enclosure. Will lengths greater than 3 masts actually fit into the enclosure?
19. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.2 Pg #: 16 Line #: Code: C
 Original Comment #:
 Comment: How will debris larger than the auxiliary ports be managed?
20. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.3 Pg #: 8 of 70 Line #: Code: C
 Original Comment #:
 Comment: The range and set point for the "Emissions from Stack" alarm *must* be determined and evaluated for appropriateness.
21. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.3 Pg #: 10 of 70 Line #: Code: C
 Original Comment #:
 Comment: PT-001 is redundant with section 1.4.1 and that section has range, set point, and alarm values assigned.
22. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.3 Pg #: 10 of 70 Line #: Code: C
 Original Comment #:
 Comment: WR-303, Response "-Clean up mess" This makes it clear that the alarm point is not sufficiently protective. The alarm point must be lowered to ensure that there is no "mess" to clean up.
23. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.3 Pg #: 15 of 70 Line #: Code: C
 Original Comment #:
 Comment: Throughout the document reference is made to the use of knife valves. Problems have occurred on other Fernald projects with knife valves becoming blocked with sediment thus preventing full closure. It would seem the valves are even more likely to

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become blocked under a particulate vacuum system. Evaluate the appropriateness of knife valves and describe similar projects where they have been successfully used.

24. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.3 Pg #: 24 of 70 Line #: Code: C
 Original Comment #:
 Comment: The sentence "The emergency shutdown sequence will be initiated by exceeding regulatory limits for in ensure operator safety" needs to be revised.
25. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.3 Pg #: 32 of 70 Line #: Code: C
 Original Comment #:
 Comment: During removal operations the silo pressure will be maintained between -2.0 and +0.5 inches WG differential. Why would pressurization of the Silo 3 to +0.5" WG be allowed?
26. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.3 Pg #: 33 of 70 Line #: Code: C
 Original Comment #:
 Comment: Throughout the document reference is made to monitoring an alarm for 5 or 7 minutes prior to taking action. This seems like a very long time. Provide estimates for the amount of material that may escape or overflow for each instance where such a waiting period is employed. Provide justification for waiting prior to initiating corrective action to any alarm.
27. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.3 Pg #: 36 of 70 Line #: Code: C
 Original Comment #:
 Comment: Is system shut down required for removal of debris?
28. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.3 Pg #: 50 of 70 Line #: Code: C
 Original Comment #:
 Comment: Rather than smear every container twice, why not incorporate a container wash down with one verification smear? This would seem to limit contamination and decrease worker exposure.
29. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.3 Pg #: 56 of 70 Line #: Code: C

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Original Comment #:

Comment: How many totes of bulk feed material fit into the hoppers and how many totes can be stored ahead of time?

30. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.4 Pg #: General Comment Line #: Code: C
Original Comment #:
Comment: A preferred site and mode of transportation need to be selected and sufficient detail for rail and the PCDF included as appropriate.
31. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.4 Pg #: 2-3 Line #: 36 - 38 Code: C
Original Comment #:
Comment: "Impacts to the local community" should also be included in the criteria for selecting the mode of transportation.
32. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.4 Pg #: 2-4 Line #: Code: C
Original Comment #:
Comment: Provide map and detail for the most likely PCDF as was provided for NTS option.
33. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.4 Pg #: 2-5 Line #: Code: C
Original Comment #:
Comment: Additional detail on rail transportation to the most likely PCDF needs to be included.
34. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.4 Pg #: 3-2 Line #: 6-24 Code: C
Original Comment #:
Comment: The document lists the substantive requirements for RCRA container management but does not provide detail on how these requirements will be met. Provide information on how these requirements will be met.
35. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.4 Pg #: 3-3 Line #: Code: C
Original Comment #:
Comment: Provide a container storage plan detailing how the drums will be stored on the

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ISA pad and the maximum number of drums that can be stored.

36. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 2.4 Pg #: 6-2 Line #: 2-3 Code: C
 Original Comment #:
 Comment: How much volume will actually be reduced when voids from the briquettes and voids from the 55-gallon drums are factored in?
37. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 3.0 Pg #: General Comment Line #: Code: C
 Original Comment #:
 Comment: The PCDF is referred to as PCDF throughout the entire document except this section where a specific PCDF (Envirocare) is identified. Update the document to be consistent.
38. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 4.0 Pg #: 2 of 3 Line #: 13-16 Code: C
 Original Comment #:
 Comment: Why is scabbling of the interior surfaces not being considered for removal of fixed contamination?
39. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 5.0 Pg #: General Comment Line #: Code: C
 Original Comment #:
 Comment: The section lacks sufficient detail on how IEMP will be integrated with this project. Is there a need for supplemental monitoring?
40. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 5.0 Pg #: General Comment Line #: Code: C
 Original Comment #:
 Comment: The section also need to include isopleths of modeled air plumes for radon and particulate.
41. Commenting Organization: Ohio EPA Commentor: OFFO
 Section #: 5.0 Pg #: General Comment Line #: Code: C
 Original Comment #:
 Comment: Stack limits for radionuclides including radon need to be established.
42. Commenting Organization: Ohio EPA Commentor: OFFO

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Section #: 5.0 Pg #: 3 of 17 Line #: 3-15 Code: C

Original Comment #:

Comment: The initial establishment of air flow that will result in an unabated release of radon from the headspace of Silo 3 should be modeled with an appropriate short-term model to estimate any off-site impacts that may arise.

43. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 5.0 Pg #: 5 of 17 Line #: 28-38 Code: C

Original Comment #:

Comment: What suite of radionuclides were used for the dose estimate?

44. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 5.0 Pg #: 6 of 17 Line #: 1 - 4 Code: E

Original Comment #:

Comment: These lines were repeated from the previous page.

45. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 5.0 App. A Pg #: 10 Line #: Code: C

Original Comment #:

Comment: Some of submicron particulate present in Silo 3 will pass through the stack filter system and into the atmosphere. Will the filters for the isokinetic sampler be able to capture the submicron filters?