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**OHIO EPA'S COMMENTS ON THE REVISED O.U.  
1 REMEDIAL INVESTIGATION REPORT**

**03/15/94**

**OEPA/DOE-FN**

**8**

**COMMENTS**

**OU1**



State of Ohio Environmental Protection Agency

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George V. Voinovich  
Governor

March 15, 1994

Mr. Jack R. Craig  
Project Manager  
U.S. DOE FEMP  
P. O. Box 398705  
Cincinnati, Ohio 45239-8705

Dear Mr. Craig:

Listed below are Ohio EPA's comments on the Revised O.U. 1 Remedial Investigation Report. Ohio EPA feels that these issues need to be addressed prior to approval. If you have any questions please contact Tom Schneider or me.

1. Commenting Organization: Ohio EPA                      Commentor: DERR  
Section #: General Comment      Pg #:                      Line #:                      Code: C  
Original Comment #:

Comment: In general Ohio EPA has found DOE's use of the redline version to be of substantial help in reviewing the document. An essential part of Ohio EPA's use of this methodology is the assumption that all changes to the document have been highlighted. At least one change to the document that was not highlighted was noted by Ohio EPA. DOE must ensure that all text changes are highlighted so that we can make full use of the benefits of the redline version. In the future if substantial portions of a section are changed, it may be easier to just note in the cover letter that the section changed and not worry with highlighting.

Response:  
Action:

2. Original Comment #080:

Comment: The referenced figures (3-2 through 3-6 and 4-9, 4-17, 4-19, 4-21 and 4-23) are not fence diagrams. At the time of the June 1993 OU1 RI meeting, USEPA and Ohio EPA described in detail exactly what was expected of DOE in regard to the fence diagrams for OU1. The figures in the OU1 are not even close. The DOE has simply used basic special effects to give cross sections the vague appearance of fence diagrams. These diagrams should be discarded and proper fence diagrams included. A draft fence diagram can be found in the IT report for FERMCO dated March 1, 1993: Transmittal of the Glacial Overburden Study, Project #409195, figure 6.0a.

(Lojek (D))  
partial  
action response  
to DOE-0972-94  
(7639)

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3. Original Comment #: 009  
Comment: DOE's response and action fails to adequately address the issue of the decant lines. If DOE is going to make assumptions then the assumption should reflect the worst case scenario.
4. Original Comment #: 011  
Comment: DOE reference to the as built drawings should be included as reference material in the document.
5. Original Comment #: 016  
Comment: The reference to the word "approximate" can be applied to the narrative section on page 1-18 lines 7-18. In addition, some doubt exists as to the liner maintaining its 1 foot thickness, uniformly, throughout the bottom of the pit. DOE should provide all evidence of the liner's construction engineering diagrams along with any compaction, density, or conductivity data that may exist. If the existence of the liner cannot be documented then DOE should note the lack of certainty in the liner's integrity. Groundwater monitoring results around pit 3 indicate that the liner is leaking.
6. Original Comment #022  
Comment: The referenced section numbers do not match.
7. Original Comment #: 029  
Comment: Without absolute proof of the existence of the liner DOE should not lay claims to its presence. Evidence that a nominal layer does exist does not justify a complete, impervious liner.
8. Commenting Organization: Ohio EPA                      Commentor: DERR  
Section #:              Pg #: Line #: Table              Code: C  
Original Comment #: 129  
Comment: DOE's response to Ohio EPA's comment suggests 70% revegetation and that revegetation will continue. If revegetation has not occurred by now, it is unlikely to in the near future. There are obviously reasons vegetation has not grown on these portions of the pits (i.e., conditions are not suitable for growth).  
  
Response:  
Action:
9. Commenting Organization: Ohio EPA                      Commentor: DERR  
Section #: E.2.3.1.1 Pg #: E-2-13              Line #: 17-27 Code: c  
Original Comment #:  
Comment: DOE must provide a reference to support the use of this

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proposed method.

Response:  
Action:

- 10. Commenting Organization: Ohio EPA Commentor: DERR  
 Section #: E.2.3.1.2 Pg #: E-2-14 Line #: Code: c  
 Original Comment #:  
 Comment: The whole section has been revised and thus should have been highlighted. In order for Ohio EPA to effectively use the redlined version of the document, all text changes should be highlighted.

Response:  
Action:

- 11. Commenting Organization: Ohio EPA Commentor: DERR  
 Section #: E.2.3.1.2 Pg #: E-2-15 Line #: 1-6 Code: c  
 Original Comment #:  
 Comment: DOE has failed to provide sufficient justification to support screening criteria "H" or "I". DOE neither referenced a guidance document to support these criteria nor provided an example contaminant, as requested in Ohio EPA's comment on the previous version of this document. DOE should eliminate these two screening criteria.

Response:  
Action:

- 12. Commenting Organization: Ohio EPA Commentor: DERR  
 Section #: Table E.2-2 Pg #: E-2-19 Line #: Code: c  
 Original Comment #:  
 Comment: The representative concentrations for Pu-238 and Pu-239/240 are not correct. The correct concentrations should be 0.7 and 0.6 respectively. DOE must correct the table and all subsequent calculations.

Response:  
Action:

- 13. Commenting Organization: Ohio EPA Commentor: DERR  
 Section #: Tables E.2-2 thru E.2-13 Pg #: Line #: Code: c  
 Original Comment #:  
 Comment: The tables should be revised based on Ohio EPA comments on Section E.II.

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14. Commenting Organization: Ohio EPA Commentor: DERR  
Section #: Table E.2-5 Pg #: E-2-24 Line #: Code: c  
Original Comment #:  
Comment: The representative concentration for thallium is not correct. The correct concentration is 12000. DOE must correct the table and all subsequent calculations.

Response:  
Action:

15. Commenting Organization: Ohio EPA Commentor: DERR  
Section #: Table E.2-9 Pg #: E-2-31 Line #: Code: c  
Original Comment #:  
Comment: The representative concentration for U-235/236 is not correct. The correct concentration is 1750. DOE must correct the table and all subsequent calculations.

Response:  
Action:

16. Commenting Organization: Ohio EPA Commentor: DERR  
Section #: Table E.2-12 Pg #: E-2-35 Line #: Code: c  
Original Comment #:  
Comment: The representative concentration for lead is not correct. The correct concentration is 417504. DOE must correct the table and all subsequent calculations.

Response:  
Action:

17. Commenting Organization: Ohio EPA Commentor: DERR  
Section #: Table E.3-4 Pg #: E-3-78 Line #: Code: c  
Original Comment #:  
Comment: The exposure point concentrations for Pu-238 and Pu-239/240 are not correct. The correct concentrations are 7.00E-01 and 6.00E-01 respectively. DOE must correct the table and all subsequent calculations.

Response:  
Action:

18. Commenting Organization: Ohio EPA Commentor: DERR  
Section #: Table E.3-5 Pg #: E-3-79 Line #: Code: c  
Original Comment #:  
Comment: a) The assumption under footnote "b" is unacceptable. When the assumption is made that since the contaminant is not a CPC the concentration is zero, the exposure point concentration is biased low. Additionally, if a contaminant was not sampled for in all four areas, assuming the concentration is zero when in fact it was not sampled for

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is unacceptable. DOE should consider the following: 1) If a contaminant was sampled for and detected the representative concentration should be used whether its a CPC or not; 2) If the contaminant was not sampled for in an area leave that area out of the calculation of the weighted average; 3) If the contaminant was not detected in an area then use the 1/2 the sample quantitation limit. For example, based upon these assumptions the weighted average for silver is 1.28+E01. It appears this was the methodology used in the previous version of the document, see Table E.3-4.

b) What is the basis for substantially decreasing the surface area of Pit 3 used in the calculations from what was used in the previous version (6,720 current vs. 2.24+E04)?

Response:  
Action:

20. Commenting Organization: Ohio EPA Commentor: DERR  
Section #: Table E.3-6 Pg #: E-3-81 Line #: Code: c  
Original Comment #:  
Comment: The reference to this table in the text was not found. It is unclear what the basis is for only considering radionuclides in the future source term for Pit 4.

Response:  
Action:

21. Commenting Organization: Ohio EPA Commentor: DERR  
Section #: Table E.5-7 Pg #: E-5-36 Line #: Code: c  
Original Comment #:  
Comment: It appears the total risk and the chemical subtotal risk for the on-property RME farmer using perched groundwater are not correct. The correct subtotal chemical carcinogenic risk should be 1.0 (i.e., .13 + .89 > 1.0). The table should be revised.

Response:  
Action:

22. Commenting Organization: Ohio EPA Commentor: DERR  
Section #: E.6.3.1 Pg #: E.6-17 Line #: Code: c  
Original Comment #:  
Comment: DOE should discuss within the section the basis for not just including the additional data within the baseline risk assessment. Obviously substantial effort was required to complete the sensitivity analysis and substantial changes were already being made to the data base. Questions will remain with regard to whether the appropriate exposure receptor and pathways were used for the sensitivity analysis. In the future if additional data is obtained between revisions of the RI, Ohio EPA believes DOE's efforts should be aimed at incorporation of the data rather than developing reasons for not incorporating the

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data.

Response:  
Action:

23. Commenting Organization: Ohio EPA Commentor: DERR  
Section #: E.6.3.1 Pg #: E.6-20 Line #: Code: c  
Original Comment #:  
Comment: DOE should have considered the potential impact of new data on decision making with regard to which exposure pathway to analyze. The previous version of the risk assessment showed that remediation was necessary to protect an on-property resident thus that decision was unlikely to change. The risk to the off-property receptor would seem to be more appropriate due to the potential impacts on decision making as well as the likely public interest in off-property receptors. As stated previously, it would seem a better use of resources on DOE's part to work toward data inclusion rather than justifications for exclusion.

Response:  
Action:

24. Commenting Organization: Ohio EPA Commentor: DERR  
Section #: E.6.3.1 Pg #: E-6-20 Line #: 19-20 Code: c  
Original Comment #:  
Comment: The statement that only two chemicals were detected in 1993 but not in the RI would seem to be in error. Table 6-1 suggests several detects that were not detected in the previous data bases.

Response:  
Action:

25. Commenting Organization: Ohio EPA Commentor: DERR  
Section #: Table E.7-7 Pg #: E-7-12 Line #: Code: c  
Original Comment #:  
Comment: The risks for the on-property farmer using perched ground water appear to be incorrect. Table E.II-25 suggests the radionuclide risk should be 5.8-E01 and the chemical risk is 1.0. The table should be revised to agree with Table E.II-25.

Response:  
Action:

26. Commenting Organization: Ohio EPA Commentor: DERR  
Section #: Table E.I-4 Pg #: Line #: Code: c  
Original Comment #:  
Comment: DOE should define within the document which of the upper 95% confidence limits were used in making the "A" determination in Attachment E.II. The text should state what concentration from Table

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E.I-4 was used to complete the "95th Percentile Test" defined in Section E.2.3.1.1 which determined the "A" screening criteria.

Response:  
Action:

- 27. Commenting Organization: Ohio EPA                      Commentor: DERR  
 Section #: Table E.II-1 Pg #:                      Line #:                      Code: c  
 Original Comment #:  
 Comment: a) The following contaminants were screened out based on the "A" criteria within this document but were retained as CPCs within the previous version of the RI: arsenic, cobalt, manganese, mercury, nickel, thallium, vanadium, zinc, Tc-99. All of these contaminants fail the 95% UCL test and should be included as CPCs.  
 b) A designation of "G" is given to Pu-239/240 in this table but not in Table E.II-2. DOE should revise the table to be consistent.  
 c) 1,4 Dioxane was shown as detected twice within Table E.II-1 of the previous submittal of the RI yet it is not included here. DOE should include 1,4 Dioxane and review tables from the previous RI submittal to ensure that no additional contaminants have been inadvertently deleted.

Response:  
Action:

- 28. Commenting Organization: Ohio EPA                      Commentor: DERR  
 Section #: Table E.II-3 Pg #:                      Line #:                      Code: c  
 Original Comment #:  
 Comment: Sr-90 was screened out based upon the "A" criteria but was retained in the original RI. The contaminant should be retained as a CPC since the concentration exceeds the background 95 %UCL.

Response:  
Action:

- 29. Commenting Organization: Ohio EPA                      Commentor: DERR  
 Section #: Table E.II-4 Pg #:                      Line #:                      Code: c  
 Original Comment #:  
 Comment: The following contaminants were screened out based on the "A" criteria within this document but were retained as CPCs within the previous version of the RI: arsenic, cobalt, nickel, vanadium, and zinc. All of these contaminants fail the 95% UCL test and should be retained as CPCs.

Response:  
Action:

- 30. Commenting Organization: Ohio EPA                      Commentor: DERR  
 Section #: Table E.II-6 Pg #:                      Line #:                      Code: c

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Original Comment #:

Comment: The following contaminant was screened out based on the "A" criteria within this document but were retained as CPCs within the previous version of the RI: Th-232. This contaminant fails the 95% UCL test and should be retained as a CPC.

Response:  
Action:

31. Commenting Organization: Ohio EPA Commentor: DERR  
Section #: Table E.II-7 Pg #: Line #: Code: c  
Original Comment #:

Comment: The following contaminants were screened out based on the "A" criteria within this document but were retained as CPCs within the previous version of the RI: arsenic, barium, chromium, cobalt, lead, manganese, vanadium, Ra-226, Ra-228, Tc-99, Th-228, and Th-232. All of these contaminants fail the 95% UCL test and should be retained as CPCs.

Response:  
Action:

32. Commenting Organization: Ohio EPA Commentor: DERR  
Section #: Table E.II-8 Pg #: Line #: Code: c  
Original Comment #:

Comment: The following contaminants were screened out based on the "A" criteria within this document but were retained as CPCs within the previous version of the RI: boron and manganese. All of these contaminants fail the 95% UCL test and should be retained as CPCs.

Response:  
Action:

Sincerely,



Graham E. Mitchell  
Chief, Office of Federal  
Facility Oversight

GEM/bjb

cc: Jenifer Kwasniewski, DERR  
Tom Schneider, DERR  
Mike Proffitt, DDAGW  
Kurt Kollar, DERR  
Jim Saric, U.S. EPA  
Lisa August, GeoTrans

Jean Michaels, PRC  
Robert Owen, ODH