

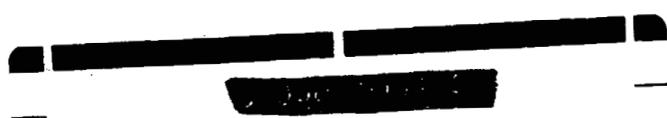
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U-006-407.2

**OHIO EPA COMMENTS - OPERABLE UNIT 4
INITIAL SCREENING OF ALTERNATIVES
REPORT**

7-6-90

**OEPA/DOE
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LETTER**



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**OHIO EPA COMMENTS - OPERABLE UNIT 4 INITIAL
SCREENING OF ALTERNATIVES REPORT**

Specific Comments

1. ES. There is no reason to have based this report solely on an oral presentation given to DOE on June 13, 1989 (over a year ago!) and attendant project and regulatory information available at that time. Since that time, new project and regulatory information (such as new NCP) has become available.
2. ES-2. Should the installation of additional monitoring equipment be covered under the no action alternative or should this be a separate alternative? Monitoring indicates some form of action is being taken.
3. Page ES-4, last paragraph: Capital costs are defined on page 6-11 in OSWER Directive 9355.3-01, not on page 6-23 as is stated in the report.
4. Page ES-5, first paragraph: The report refers to a Table ES-1 which allegedly presents the numerical scoring matrix for alternative evaluation. This table was not included in the report.
5. Page ES-5, last paragraph: A correction should be made in the statement that "the comprehensive listing [of ARARs] was completed as part of the RI/FS work plan." ARARs were identified as part of the FS work plan. The original sitewide RI/FS work plan contained no list of ARARs. It is also noted that Ohio EPA has yet to receive a final copy of the FS work plan which was to be revised based upon comments that the agency submitted to DOE on the initial draft over a year ago.
6. Page 2-2, Section 2.1.2, second paragraph: In addition to those disposal options cited in this section, another off-site disposal option is to a facility (not necessary a RCRA-permitted one) that is permitted to take radioactive materials such as the Nevada Test Site.
7. 2-5 Table 2-1: The "No-action" alternative should not include maintenance of the site. Please delete the "X" in this table.
8. Page 3-1, second paragraph: The acronym "ARAR" stands for "Applicable or Relevant and Appropriate Requirements." **1**

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9. Page 4-14, Section 4.7, second paragraph: USEPA's Minimum Technology Guidance for Final Covers on Hazardous Waste Landfills and Surface Impoundments recommends a flexible membrane liner (FML) over the clay component layer of the cap. Any capping alternative being considered by DOE should include this FML component (Also see Figure 4-7).
10. Section 5.0. It would be less confusing to present the general rating criteria at the beginning of this section instead of at the beginning of Section 6. It was very confusing trying to determine during my review of the report the relative order of the rating criteria (i.e., that a "good" rating was better than an "above average" rating and that a "below average" rating was better than a "poor" rating).
11. 5-1,3. The "No-Action" alternative should not include any maintenance which is a form of limited action. Consequently, Section 5.1.1.1 system requirements which lists groundwater and air monitoring, should be deleted. Similarly, Section 5.1.3.3, maintenance/operation, should be deleted (See page 8711 of the Federal Register/Vol. 55, No. 46/Thursday March 8, 1990 New NCP).
12. 5 - Entire Section Reference is made throughout this section to meeting only the substantive requirements of the existing NPDES Permit. The state of Ohio considers the discharge to the Great Miami River to be "off-site" (since it flows offsite) and should also require compliance with administrative aspects of the current NPDES permit.
13. Page 5-43, Section 5.10.1.5: It is not understood why for Alternative 9, DOE will not consider using LSA containers to ship off-site wastes because of the need for "waste blending" yet, Alternative 7, which also suggests waste blending, appears to support the use of LSA containers.
14. Page 5-44, Section 5.10.2.1: DOE should explain why it rates Alternative 9 as "good" for providing long-term protectiveness to human health "due to the off-site storage of the wastes", while at the same time, rates Alternative 7 as only being "above average" even though under Alternative 7, wastes will also be disposed of off-site.
15. Page A-5, second bullet: The citation for Ohio's solid and hazardous waste law is incorrect. The correct citation is ORC Chapter 3734.
16. Page A-5, third bullet: DOE's statement that "specific criteria for chemical concentrations have so far only been established for Lake Erie and the Ohio River" is not

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accurate. OEPA has surface water quality criteria for both acute and chronic effects on aquatic organisms as part of OAC 3745-1-07. Also, in this section on Ohio ARARs, the state's air pollution law should be cited (ORC 3704).

17. Page A-5, Section A.3: For accuracy, the first sentence should read as follows: "Because ARARs may not exist or may not be sufficient to protect human health and the environment at a CERCLA site, it is necessary to evaluate nonlegally binding or non-promulgated criteria, . . ."
18. Page A-6, Federal TBCs, first bullet: Under USEPA's Human Health Evaluation Manual, the term Cancer Potency Factor is no longer used. Cancer Potency Factors are now referred to as Slope Factors.
19. Page A-10, Table A-1: The citation for Ohio hazardous waste treatment, storage, or disposal facility location standards is incorrect. The correct citation is: OAC 3745-54-18.
20. Page A-11, Table A-1: An action-specific Ohio ARAR which should be listed in this table is ORC 3767 (nuisance prevention). Another action-specific state ARAR which must be included in Table A-1 is ORC 6111 (prohibits pollution of "waters of the State").
21. Page A-5. Under of Ohio ARARs the Consent Decree in State of Ohio vs. Westinghouse (civil action C-1-87-0285) sections 3.4 and 3.5 (December 1, 1988) should also be considered as an ARAR.

General Comments

1. The Operable Unit 4 waste volume represents only a small percentage (i.e., less than 4%) of the total waste volume presently known to be located at the FMMPC. The total waste disposal costs are expected to be significant, hence will increase pressures for on-site disposal.
2. Waste Management Alternative for Operable Unit 4 - The ten (10) waste management alternatives documented in the subject Task 12 Report are listed below in brief form:
 - Alternative 0 - No action
 - Alternative 1 - Nonremoval, silo isolation - Silos, 1, 2 and 3
 - Alternative 2 - Nonremoval, in situ stabilization and cap - Silos 1, 2, and 3
 - Alternative 3 - Removal and on-site disposal - Silo 3

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- Alternative 4 - Removal of metal oxides and off-site disposal - Silo 3
- Alternative 5 - Removal and replacement in rehabilitated silo - Silo 3
- Alternative 6 - Removal, treatment, and on-site disposal K-65 Silos
- Alternative 7 - Removal, treatment, and off-site disposal K-65 Silos
- Alternative 8 - Removal, contamination separation, and on-site disposal - K-65 Silos
- Alternative 9 - Removal, contamination separation, and off-site disposal - K-65 Silos

3. Waste Management Categories - Three (3) general waste management categories are applicable to the site. They are: On-Site Temporary Storage, On-Site Permanent Disposal, and Off-site Permanent Disposal. The alternatives presented in the Task 12 report have been placed in each category as shown below:

<u>ON-SITE TEMPORARY</u> <u>Storage</u>	<u>ON-SITE PERMANENT</u> <u>Disposal</u>	<u>ON-SITE PERMANENT</u> <u>Disposal</u>
Alternative 0	Alternative 3	Alternative 4
Alternative 1	Alternative 6	Alternative 7
Alternative 2	Alternative 8	Alternative 9
Alternative 5 (deleted from further consideration)		

- **ON-SITE TEMPORARY STORAGE** - Alternatives in this category are not recommended because the on-site storage of these wastes are the source of present problems. Any temporary on-site storage will eventually require a revisitation of the problem and most certainly require extensive, hence expensive, environmental monitoring to ensure the protection of the health and safety of the public.
- **ON-SITE PERMANENT DISPOSAL** - Disposal of wastes in this category infers that all or a portion of the FMPC would become a low-level radioactive waste disposal site. Environmental problems of locating a permanent waste disposal site at FMPC include:
 - A. The FMPC lies next to Paddy's Run a tributary of the Great Miami River.
 - B. Perched water likely lies beneath the FMPC.

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- C. The FMPC lies within the New Madrid Seismic Zone and falls within Zone 2 of the seismic risk area of the U.S. The facility may experience moderate damage from earthquakes.
- D. A major aquifer underlies the FMPC.
- E. Major population areas are located near the FMPC.

OFF-SITE PERMANENT DISPOSAL - This disposal category appears to serve the best interest of the State of Ohio and the Federal government. The alternatives listed in this category also ranked highest in the alternative evaluation matrix (table 6-1 of the report). Transportation risks are inherent with this category; however, the transportation of low-level radioactive waste is currently adequately regulated by the Department of Transportation (DOT) and is being conducted in a safe manner.

- 4. **SUGGESTED DISPOSAL OPTIONS** - Ohio EPA's contractor suggests two (2) disposal options for consideration in addition to the permanent disposal at the Nevada Test Site (NTS) or other approved DOE disposal site. The suggested options are:
 - 1. Disposal in an inactive uranium mill tailings pond.
 - 2. Processing the K-65 silo residues at an active uranium mill site with eventual disposal on the mill tailings.

The suggested disposal option #1 is viable if the K-65 wastes are classified as tailings. The silo's waste volume would add only a few percent to the volume of a typical uranium mill tailings pile. The suggested disposal option #2 may also be economically viable depending on the uranium content of the waste. Based upon reported uranium content estimates, it appears that the uranium values approach 0.2 percent of the K-65 material volume which is considered to contain sufficient values as to be milling grade.

- 5. **ALTERNATIVE RANKING USING WASTE MANAGEMENT CATEGORIES** - The screened alternatives are evaluated in Table 6-1 of the report using an "Alternative Evaluation Matrix" with numerical values. These qualitative matrix values were used to assess the alternatives by category. The numerical values for costs were obtained by dividing the cost range in Table 6-2 of the report by 5 to be consistent with the matrix range (i.e., 5 increments of 23 million dollars). That is, low costs received a high rating value, whereas high costs received a low rating value. The average cost value was used wherever dual costs were presented for an alternative. Table A presents another ranking of the proposed alternatives based on ultimate waste management category versus effectiveness, implementability and cost.

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Based upon this semi-qualitative rating system off-site permanent disposal is preferred, followed by on-site permanent disposal, and on-site temporary storage received the lowest ranking.

TABLE A**ON-SITE TEMPORARY STORAGE**

	Alternative 0	Alternative 1	Alternative 2
Effectiveness	0	15	17
Implementability	17	19	12
Cost	5	5	5
TOTALS	22	39	34

ON-SITE PERMANENT DISPOSAL

	Alternatives 3 and 6	Alternatives 3 and 8
Effectiveness	30	32
Implementability	32	31
Costs	1	1
TOTALS	63	64

OFF-SITE PERMANENT DISPOSAL

	Alternatives 4 and 7	Alternatives 4 and 9
Effectiveness	32	36
Implementability	36	35
Costs	3	4
TOTALS	71	75