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RESPONSIVENESS SUMMARY FOR THE OPERABLE UNIT 4 FEASIBILITY STUDY/PROPOSED PLAN - DRAFT ENVIRONMENTAL IMPACT STATEMENT - SEPTEMBER 1994

09/09/94

DOE-FN 352 RESPONSE

EPA/STAKEHOLDER

DOE/EIS-0195F

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RESPONSIVENESS SUMMARY FOR THE OPERABLE UNIT 4 FEASIBILITY STUDY/PROPOSED PLAN - DRAFT ENVIRONMENTAL IMPACT STATEMENT

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

SEPTEMBER 1994

U.S. DEPARTMENT OF ENERGY
FERNALD FIELD OFFICE

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FERNALD ENVIRONMENTAL MANAGEMENT PROJECT
FERNALD, OHIO

SEPTEMBER 1994

U.S. DEPARTMENT OF ENERGY
FERNALD FIELD OFFICE

Documents Comprising the Feasibility Study/Proposed Plan-Final Environmental Impact Statement for Remedial Actions at Operable Unit 4, the Fernald Environmental Management Project

DOE/EIS-0195F

Responsiveness Summary for Operable Unit 4 FS/PP-DEIS, Fernald Environmental Management Project, U.S. Department of Energy, Fernald Field Office, Fernald, Ohio, August 1994.

Proposed Plan for Remedial Actions at Operable Unit 4, Fernald Environmental Management Project, U.S. Department of Energy, Fernald Field Office, Fernald, Ohio, February 1994.

Feasibility Study Report for Operable Unit 4, Fernald Environmental Management Project, Volumes I-IV, U.S. Department of Energy, Fernald Field Office, Fernald, Ohio, February 1994.

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LIST OF ACRONYMS

AEA	Atomic Energy Act
BAT	Best Available Technology
CAB	Citizen's Advisory Board
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
DOE	United States Department of Energy
DOE-FN	United States Department of Energy-Fernald Field Office
DOE-NV	United States Department of Energy-Nevada Field Office
DOT	United States Department of Transportation
EIS	Environmental Impact Statement
EPA	United States Environmental Protection Agency
FEIS	Final Environmental Impact Statement
FEMP	Fernald Environmental Management Project
FERMCO	Fernald Environmental Restoration management Company
FFCA	Federal Facility Compliance Agreement
FRESH	Fernald Residents for Environment, Safety, and Health
FS/PP-DEIS	Feasibility Study/Proposed Plan-Draft Environmental Impact Statement
FS/PP-FEIS	Feasibility Study/Proposed Plan-Final Environmental Impact Statement
HEAST	Health Effects Assessment Summary Table
MAWS	Minimum Additive Waste Stabilization
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NTS	Nevada Test Site
OAC	Ohio Administrative Code
OATP	Ohio Air Toxics Policy
OEPA	Ohio Environmental Protection Agency
OHPO	Ohio Historic Preservation Office
PEIC	Public Environmental Information Center
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
STEP	Science, Technology, the Environment, and the Public
TCLP	Toxicity Characteristic Leaching Procedure

1.0 INTRODUCTION

The U.S. Department of Energy (DOE) is responsible for cleanup activities at the Fernald Environmental Management Project (FEMP) site in southwestern Ohio. The FEMP site is a 425-hectare (1050-acre) facility located just north of Cincinnati, Ohio, near the small farm community, of Fernald, Ohio, and lies on the boundary between Hamilton and Butler counties. The site consists of a former 55-hectare (136-acre) Production Area, an adjacent Waste Storage Area and various support facilities; the areas are radioactively and chemically contaminated as a result of past processing and disposal activities. From 1952 until 1989, the FEMP's primary mission was to process uranium into metallic "feed" materials for other DOE facilities for use in the nation's defense program. During that time, various liquid, sludge and solid materials were disposed of at the Waste Storage Area and released into the environment. The FEMP site is listed on the National Priorities List (NPL) of the U.S. Environmental Protection Agency (EPA), and DOE is conducting cleanup activities at the FEMP under its Environmental Management Program.

To promote a more structured and expeditious cleanup of the FEMP site, the facility and environmental issues associated with the site are being managed as five operable units. Cleanup activities at the FEMP site are conducted in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended.

For Operable Unit 4 at the FEMP, DOE has chosen to prepare integrated CERCLA/NEPA documents. This decision was based on the longstanding interest on the part of local stakeholders to prepare an EIS on the restoration activities at the FEMP and on the recognition that the draft document was issued and public comments received. Therefore, an integrated Feasibility Study/Proposed Plan - Final Environmental Impact Statement (FS/PP-FEIS) has been completed which evaluates alternatives for the treatment and disposal of radioactive residues contained in storage silos at FEMP.

The FS/PP-FEIS consists of DOE's Responsiveness Summary on the Feasibility Proposed/Proposed Plan - Draft Environmental Impact Statement (FS/PP-DEIS), which addresses comments received during the public comment period and includes the document distribution list and errata, and the FS/PP-DEIS dated February 1994. These documents have been prepared in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, and DOE's National Environmental Policy Act (NEPA) regulations (10 CFR Part 1021), as well as the implementing regulations of the Council on Environmental Quality (40 CFR Parts 1500-1508).

Operable Unit 4 at Fernald consists of storage silos containing residues that are byproducts of the processing of uranium ore and ore concentrates, as well as the surrounding environmental media.

The FS/PP-FEIS analyzes the potential human health and environmental impacts of managing the residues contained in the silos and the contaminated soil and rubble that would be generated from demolition of the silo structures. A range of reasonable alternatives was analyzed and included in-situ containment, various combinations of treatment by vitrification, chemical extraction or cement stabilization, and both on-site and off-site disposal. In addition, the FS/PP-FEIS evaluates a no-action alternative involving no further action at the site other than completion of certain actions for which decisions have been previously finalized.

The materials present within Operable Unit 4 exhibit a wide range of properties. Most notable would be the elevated direct radiation associated with the K-65 residues versus the much lower direct radiation associated with cold metal oxides in Silo 3. Even more significant would be the much lower levels of contamination associated with the soils and building materials, like concrete, within the Operable Unit 4 Study Area. To account for these differences and for the varied cleanup alternatives applying to each waste type, Operable Unit 4 was segmented into three subunits (A, B and C). These subunits are described as follows:

Subunit A: Silos 1 and 2 contents (K-65 residues and bentonite clay) and the sludge in the decant sump tank

Subunit B: Silo 3 contents (cold metal oxides)

Subunit C: Silos 1, 2, 3, and 4 structures; contaminated soils within the Operable Unit 4 boundary, including surface and subsurface soils and the earthen berm around Silos 1 and 2; the decant sump tank; the radon treatment system; the concrete pipe trench and the miscellaneous concrete structures within Operable unit 4, any debris (i.e., concrete, piping, etc.) generated through implementing cleanup for Subunits A and B, and any perched groundwater encountered during remedial activities.

Five alternatives for remedial action of Subunit A, six alternatives for Subunit B and four alternatives for Subunit C were evaluated in detail in the FS. With the exception of the no-action alternatives for each subunit, under each of the alternatives, material would be removed from contaminated areas and treated as appropriate.

Based on the detailed analysis of the alternatives performed during the Feasibility Study, the preferred alternative for Operable Unit 4 is comprised of the preferred alternatives identified for Subunits A, B and C are as follows:

- Subunit A: Alternative 3A.1/Vit - Removal, Vitrification, Off-site Disposal - Nevada Test Site

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- Subunit B: Alternative 3B.1/Vit - Removal, Vitrification, Off-site Disposal - Nevada Test Site

- Subunit C: Alternative 2C - Demolition, Removal, On-Property Disposal

The contaminated soils and rubble from demolition of the silos, which represents less than 1 percent of the total soils and rubble at Fernald, are proposed to be placed in interim storage for subsequent disposition in accordance with future decisions on OU3 (former production area) and OU5 (environmental media).

On the basis of currently available information, the preferred alternative provides the best performance when compared with the other alternatives, with respect to the evaluation criteria. This alternative would achieve substantial risk reduction by removing the sources of contamination, treating the material for which exposures result in the highest risk, shipping the treated residues off site for disposal, and managing the remaining contaminated soils and debris consistent with the site-wide strategy. The proposed treatment alternative both reduces the mobility of the hazardous constituents and results in a significant reduction in the volume of materials requiring disposal. DOE believes the preferred alternative would be protective of human health and the environment; comply with ARARs; be cost-effective; utilize permanent solutions to the maximum extent practicable; and utilize treatment as a principal element of the response.

Comments received on the FS/PP-DEIS required DOE to modify two alternatives because of regulatory direction to evaluate a re-promulgated rule as a relevant and appropriate requirement but did not result in the development or evaluation of new alternatives. Based on the analyses in the FS/PP-FEIS, the DOE preferred alternative continues to be removal of the residues from the silos, treatment by vitrification, and disposal at the DOE Nevada Test Site.

DOE announced the availability of the FS/PP-DEIS (59 FR 10381) on March 4, 1994, and established a 45-day public comment period. A public hearing was held on March 21, 1994, in Harrison, Ohio; in addition, a public meeting with the Nevada Citizens Advisory Board was held in Las Vegas, Nevada, on May 11, 1994.

The public comment period for the FS/PP-DEIS was initially scheduled to end April 20, 1994. However, the period was extended twice by 30 days (a total of 60 days) pursuant to several requests from a concerned Nevadan citizen group. Thus, the comment period formally ended June 19, 1994.

This comment response document describes its intended purpose in Section 2.0 and summarizes the public's involvement at the FEMP and more specifically, Operable Unit 4 in Sections 3.0 and 4.0, respectively. This comment response document presents a point-by-point summary of the issues

identified in both oral and written comments regarding the proposed action and the DOE's responses to those issues; the summary of issues and responses (including those provided orally at the public hearing on March 7, 1994) is presented in Sections 5.0 and 6.0. For this summary, the specific comment letter(s) denoting the comments origin are identified in parentheses at the end of each issue. The comment letters are referred to by an alphabetical identifier assigned by the order in which they were received by the project office, except the two requests for comment review period extension; and a public hearing comment and a Nevada Test Site Citizen Advisory Board comment regarding waste characteristics, which were grouped together.

In addition, this document provides copies of the written comments received on the proposed action in Attachment I, as well as the required errata sheets and changes to the FS/PP-DEIS in Attachment II. The distribution list for the FS/PP-FEIS is provided in Attachment III, actual transcripts of the public hearings/meetings held for the FS/PP-DEIS are provided in Attachment IV, and the contributors to this comment response document are provided in Attachment V.

2.0 PURPOSE

As stated in United States Environmental Protection Agency (EPA) Guidance on Preparing Superfund Decision Documents (EPA 1989b), this comment response document serves three important purposes. First, it provides United States Department of Energy (DOE) with information about community preferences regarding both the proposed remedial alternative and general concerns about the site. Second, it demonstrates how public comments were integrated into the decision-making process. Third, it allows DOE to formally respond to public comments.

The Feasibility Study/Proposed Plan/Draft Environmental Impact Statement was conditionally approved on February 9, 1994. In May 1994, five final concerns were received from the EPA on the document. In responding to these five concerns, several pages in the document were revised and are included in Attachment II.

This comment response document has been prepared pursuant to the terms of the 1991 Amended Consent Agreement between DOE and the EPA, as well as other requirements, including:

- The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments Reauthorization Act, 42 United States Code, Sections 9601, *et. seq.*;
- National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 Code of Federal Regulations (CFR), Part 300;
- Community Relations in Superfund: A Handbook, January 1992c, EPA/540/R-92/009; and
- Guidance on Preparing Superfund Decision Documents: The Proposed Plan, The Record of Decision, Explanation of Significant Differences, The Record of Decision Amendment, Interim Final, July 1989b, EPA/540/G-89/007.

This comment response document is used as the mechanism for DOE to identify and document the public involvement with the Operable Unit 4 Feasibility Study/Proposed Plan - Draft Environmental Impact Statement. After public comments and concerns had been formally submitted to DOE, in oral and written form, the comments were summarized into issue statements and responded to accordingly. The actual comments received are included in Attachment I.

Section 3.0 of this comment response document gives an overview of public involvement for the Fernald Environmental Management Project (FEMP). Section 4.0 gives an overview of the public's involvement in the development and approval of the Operable Unit 4 Feasibility Study/Proposed Plan - Draft Environmental Impact Statement. Section 5.0 discusses the development of the issue

statements and presents the public concerns and DOE responses. Section 6.0 presents comments which did not result in issues.

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3.0 PUBLIC INVOLVEMENT FOR THE FEMP

Environmental issues at Fernald first became public in 1984 when the site reported that nearly 300 pounds of uranium oxide had been inadvertently released to the atmosphere from the Plant 9 dust-collector system. It was also disclosed during this time that three privately-owned off-property groundwater wells south of Fernald had been found to be contaminated with uranium in 1981. In 1984, the citizens group called Fernald Residents for Environment, Safety and Health (FRESH) was formed and expressed concerns over these events and lack of public notification. In response to this public concern, the FEMP initiated a community relations program in 1985 aimed at informing the community of the mission of the facility and the ongoing and planned operations.

As part of this program, four community meetings were held in 1985 to open communication channels with the members of the public residing near the FEMP. As a result of these meetings and the need to prepare a community relations plan to support the planned Remedial Investigation/ Feasibility Study (RI/FS), a community assessment was conducted in early 1986. The community assessment consisted of a series of interviews with local community members to define their informational needs, their concerns regarding the environmental issues at the site, and viable mechanisms to gain public involvement in the RI/FS decision-making process. As work on the RI/FS continued, DOE authorized the opening of an information repository called the Public Environmental Information Center (PEIC) in the JAMTEK building, 10845 Hamilton-Cleves Highway, Harrison, Ohio 45030. The administrative record, on which cleanup decisions are based, is also located at the JAMTEK building; another administrative record is maintained at EPA Region V headquarters in Chicago, Illinois.

A RI/FS Community Relations Plan was issued in January 1986 detailing the initiatives that would be undertaken by the FEMP to promote community participation in the RI/FS decision-making process. This plan has been progressively revised, as necessary, to accommodate regulatory agency input, the changing concerns of the community, and emerging concepts on improved vehicles for facilitating community participation.

On May 15, 1990, a Notice of Intent (NOI) was published [55 Fed. Reg. 20183 (May 15, 1990)] indicating the intent of DOE to prepare an Environmental Impact Statement (EIS) consistent with the National Environmental Policy Act (NEPA) to evaluate the environmental impacts associated with the cleanup actions for the lead FEMP operable unit (i.e., Operable Unit 4). The NOI further defined the intent of DOE to prepare integrated CERCLA/NEPA documents for the remaining operable units that will tier from the lead document. The public, interested organizations, and federal, state, and local agencies were invited to provide oral comments at two EIS scoping meetings held on June 12-13, 1990, and to submit written comments until the close of the scoping period on June 29, 1990.

As a result of the scoping meetings, an EIS Implementation Plan was issued by DOE. The EIS Implementation Plan includes: a description of the proposed actions and remedial alternatives; a list of environmental issues to be considered in the EIS (including those identified during the scoping period); a list of proposed agency consultations; a responsiveness summary to comments received during scoping; and a discussion on the interrelationship between the NEPA compliance process and CERCLA project planning and decision-making. Consistent with the NOI and the EIS Implementation Plan, the resulting integrated process and documentation package developed for Operable Unit 4 is termed a Feasibility Study/Proposed Plan-Draft Environmental Impact Statement (FS/PP-DEIS).

In summary, several community relations activities are and have been conducted in support of local organizations at Fernald including:

- A community assessment (June - July 1989);
- A Community Relations Plan (August 1992 version approved October 15, 1992);
- Public reading rooms and administrative record;
- Regular briefings at local township trustee meetings;
- Presentations to the local community group, FRESH;
- Community meetings held approximately each quarter;
- Workshops and roundtable discussions for interested parties;
- Press releases, fact sheets and a newsletter;
- Public comment periods for decision documents and responsiveness summaries;
- Site tours, as requested;
- Open house events;
- Annual joint emergency response exercises;
- Annual environmental monitoring reports; and
- The Fernald Citizens Task Force.

4.0 COMMUNITY PARTICIPATION FOR OPERABLE UNIT 4

As indicated earlier, a community assessment was conducted in early 1986 which consisted of a series of interviews with local community members to define their informational needs, their concerns regarding the environmental issues at the site, and viable mechanisms to gain public involvement in the RI/FS decision process. Significant concerns associated with Operable Unit 4 facilities identified during these interviews included:

- The significantly elevated direct penetrating radiation field in the vicinity of the silos.
- The chronic emissions of significant quantities of the radioactive gas, radon, to the atmosphere from the silos.
- The structural instability of the silos' domes and the age of the remaining portions of the structures.
- The potential for leaching of the stored residues to the underlying sole-source aquifer.

To adequately identify and address community concerns, several initiatives have been undertaken by the FEMP to ensure community involvement in the decision-making process for the remediation of Operable Unit 4.

The draft Remedial Investigation (RI) Report for Operable Unit 4 was released to the public for review and comment in April 1993. The document was made available to the public at the PEIC and the EPA offices in Chicago. The notice of availability for the RI Report for Operable Unit 4 was published in local newspapers near the FEMP site on April 19, 1993. A public comment period was conducted for the RI Report for Operable Unit 4 from April 19, 1993 through May 19, 1993. No comments were received on the RI Report for Operable Unit 4.

On September 9, 1993, the draft Feasibility Study/Proposed Plan-Draft Environmental Impact Statement was made available at the Public Environmental Information Center, and stakeholders were encouraged to provide informal comments on the preliminary documents. Encouraging public inspection and informal comment on these preliminary documents, prior to EPA approval, provided a genuine opportunity for stakeholders to identify issues, voice their concerns and learn about proposed cleanup plans for Operable Unit 4. The informal opportunity for the public to provide input enabled DOE to address some stakeholder questions and concerns in advance of the formal public comment period.

On October 14, 1993, approximately 29 stakeholders attended a public roundtable on "Proposed Plans and Technology for Operable Unit 4 Remediation." At the roundtable, attendees were invited to offer opinions on the draft final Proposed Plan and the preferred alternative for Operable Unit 4

remediation. These stakeholder comments were documented and evaluated during preparation of the final document.

In addition, a two-way information exchange on the Operable Unit 4 Risk Assessment occurred at the October 19, 1993, Science, Technology, the Environment and the Public (STEP) session on "Risk." Again, Fernald personnel addressed the stakeholders' questions and concerns presented at the meeting. Information about the Operable Unit 4 Remedial Investigation Report was also provided at DOE's October 21, 1993, RI/FS public meeting and at local township trustee meetings.

In response to stakeholder requests at the January 5, 1994, formal public hearing on the Operable Unit 3 (Production Area) Interim Record of Decision, a public roundtable to discuss integration of CERCLA and NEPA was held January 24, 1994. The roundtable included discussions on differences between environmental assessments and environmental impact statements; approximately 45 stakeholders attended.

On February 21, 1994, invitations to attend the March 21, 1994, formal public hearing on the Operable Unit 4 FS/PP-DEIS were mailed to approximately 2,000-plus Fernald stakeholders. The *Proposed Plan for Remedial Actions at Operable Unit 4* Fact Sheet was enclosed with each invitation.

On February 24, 1994, advance copies of the *Proposed Plan for Remedial Actions at Operable Unit 4* were mailed to several key stakeholders. Also on February 24, copies of the final FS/PP-DEIS and Proposed Plan fact sheets were mailed to the United States Department of Energy-Nevada Field Office (DOE-NV) and to the State of Nevada Clearinghouse. The DOE Operable Unit 4 Branch Chief personally distributed several advance copies of the Proposed Plan to attendees of the February 24, 1994, FRESH meeting. In addition, she provided an update on Operable Unit 4 activities, plans and progress, and was available for an informal question-and-answer session.

To encourage stakeholders to review and offer input on the final FS/PP-DEIS, a Notice of Availability for formal public comment was published in March 1994 in the *Federal Register* and three local newspapers: *The Cincinnati Enquirer*, the *Journal-News* and *The Harrison Press*. On March 1, 1994, the, FS/PP-DEIS became available at the PEIC.

On March 2, 1994, Ohio EPA representatives discussed the FS/PP-DEIS with members of the Fernald Citizens Task Force and FRESH.

On March 4, 1994, a Fernald site news release titled "Key Fernald Cleanup Plan Receives Conditional EPA Approval" was sent to local electronic and print media, as well as local elected officials, FRESH and the Fernald Citizens Task Force. Articles were published in local newspapers.

On March 7, 1994, the formal 45-day public comment period on the Operable Unit 4 FS/PP-DEIS officially began.

On March 8, 1994, Fernald representatives met formally with officials of the DOE-NV and the Nevada Division of Environmental Protection and provided a presentation on the Operable Unit 4 FS/PP-DEIS.

On March 15, 1994, postcard reminders about the March 21, 1994, formal public hearing were mailed to Fernald stakeholders. In addition, courtesy phone calls were made to key stakeholders, inviting them to the formal public hearing.

Display advertisements announcing the March 21, 1994, formal public hearing were published in three local newspapers: *The Cincinnati Enquirer*, March 18, 1994 and March 20, 1994; the *Cincinnati Post*, March 18, 1994; and the *Journal-News*, March 18, 1994.

On March 21, 1994, approximately 80 people attended the formal public hearing on the Operable Unit 4 FS/PP-DEIS. Formal oral public comments were documented by a court reporter and are available in a written transcript at the PEIC and in Attachment IV. In addition, several stakeholders submitted formal written comments. All formal written and oral stakeholder comments and questions asked informally during the March 21, 1994, public hearing, as well as DOE's responses, are documented in this comment response document.

During April 1994, the DOE received a request from the State of Nevada to extend the public comment period for sixty (60) days to allow a newly formed Citizen's Advisory Board (CAB) for Nevada Test Site Programs additional time to review and comment on the Operable Unit 4 FS/PP-DEIS. In accordance with the requirements of the NCP and the Amended Consent Agreement, the DOE granted a 30-day extension of the public comment period from April 20, 1994 to May 20, 1994 to accommodate this request.

On May 11, 1994, the DOE-NV conducted a public meeting in Las Vegas, Nevada. In attendance were members from the DOE, EPA (Region V), Ohio EPA, CAB and the public. The purpose of the meeting was to allow the CAB to receive two presentations by the DOE. The first presentation, furnished by the DOE-FN, discussed the Operable Unit 4 FS/PP-DEIS and summarized the proposal to transport and dispose of low-level radioactive waste, which would be generated by the cleanup and environmental restoration of the FEMP site as a whole (including Operable Unit 4), at the NTS. The second presentation was furnished by the DOE-NV which summarized the current low-level radioactive waste management program at the NTS.

Each presentation was followed by a formal question and answer session, during which the following concerns were discussed:

- Adequacy of characterization process of all FEMP waste shipped to the NTS.
- Classification of the K-65 by-product material as 11(e)(2) material.
- Availability of any alternative disposal sites for the Operable Unit 4 remedial wastes.
- 40 CFR §191 "relevance" to Operable Unit 4 remedial wastes by EPA.
- Transportation and containerization of the Operable Unit 4 remedial wastes.
- Benefits to be derived by the State of Nevada for disposing of the waste at the NTS.

The complete transcript of this meeting is included in Attachment IV.

During the meeting, the CAB noted that they had not received a copy of the Operable Unit 4 FS/PP-DEIS for review and comment. It was noted that a copy of the Operable Unit 4 FS/PP-DEIS was available in the DOE-NV Reading Room. Copies of the Proposed Plan and Proposed Plan Fact Sheet were distributed to members at the meeting. A copy of the Operable Unit 4 FS/PP-DEIS was provided to the CAB on May 12, 1994.

In addition, the CAB verbally requested in the meeting that the comment review period for the Operable Unit 4 FS/PP-DEIS be extended an additional thirty days to provide the CAB adequate time to review the document. Subsequently, on May 19, 1994, DOE submitted to EPA a second request for extension in the submittal of the Operable Unit 4 ROD. The EPA reviewed this request pursuant to Section XVIII of the 1991 ACA, which requires EPA to determine whether good cause exists for a schedule extension based upon, among other things, information submitted by DOE. In response to the CAB request, the DOE on May 20, 1994 formally granted the thirty-day extension of the public comment period from May 20, 1994 to June 19, 1994. On May 26, 1994, the EPA granted the 30-day extension for submittal of the Proposed Draft ROD from July 10, 1994, to August 9, 1994.

On August 8, 1994, DOE submitted the *Proposed Draft Record of Decision for Remedial Actions at Operable Unit 4 and the Responsiveness Summary* to the EPA.

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5.0 SUMMARY OF ISSUES AND RESPONSES

The FS/PP-DEIS for Operable Unit 4 was released for public comment in March 1994. The DOE reviewed all written and oral comments submitted during the public comment period. Upon review of these comments, it was determined that no significant changes to the remedy, as was originally identified in the Operable Unit 4 FS/PP-DEIS, were necessary.

This comment response document has focused on the formal comments submitted during the public comment period and oral comments received during the March 21, 1994 community meeting held in Harrison, Ohio and the May 11, 1994 public meeting held in Las Vegas, Nevada. Within this comment response document, oral and written comments (see Attachment I) were categorized into significant issues. For each of these issues, an issue statement has been prepared that addresses the concerns expressed by one or more of the commentors. In many instances, the issue statements are paraphrased from the original comments to succinctly represent the combined concerns of several commentors. The issues resulting from formal comments have been compared with the questions raised during the public question and answer sessions to ensure that all significant issues have been represented by the issue statements.

For the purpose of developing issue statements, a comment is considered significant if it involves:

- The definition of the preferred alternative,
- Public or state acceptance of the preferred alternative,
- The implementation or impacts of the preferred alternative,
- Conclusions drawn from evaluations or assessments provided within the document,
- Safety of the work performed, or the
- Enforceability of the decision reached.

At the end of each issue statement, the specific comment letter(s) or oral comment(s) in which the issue was raised is identified in parentheses. The comments are referred to by an alphabetic identifier. These comments are also part of the administrative record for this action. Table 5-1 provides a cross-reference of the alphabetic identifiers with the commentors.

TABLE 5-1
FORMAL ORAL AND WRITTEN COMMENTS RECEIVED

ITEM	COMMENTOR	PAGE NUMBER
	FORMAL ORAL COMMENTS	
A	Norma Nungester, resident and FRESH member	I-8
B	Vicky Dastillung, resident and FRESH Vice President	I-19
C	Lou Bogar, resident, Hamilton, Ohio	I-20
D	Edwa Yocum, resident and FRESH Secretary	I-28
	FORMAL WRITTEN COMMENTS	
E	Maud Naroll, State of Nevada, State Clearinghouse (April 18, 1994)	I-31
F	Jack and Roberta Warndorf, resident, Okeana, Ohio	I-34
G	Edwa Yocum, resident and FRESH Secretary, Harrison, Ohio	I-35
H	J. E. Walther, resident, Hamilton, Ohio	I-36
I	Martha J. Raymond, Department Head, Technical Review Services, Ohio Historic Preservation Office	I-38
J	Lisa Crawford, resident and FRESH President	I-40
K	Lawrence L. Stebbins, resident, Hamilton, Ohio	I-41
L	Maud Naroll, State of Nevada, State Clearinghouse (April 5, 1994)	I-43
M	James K. O'Steen, Director, Office of Hazardous Materials Technology, U.S. Department of Transportation	I-45
N	William L. Vasconi, Acting Chairman, Nevada Test Site Citizens Advisory Board	I-47
O	Nevada Test Site Citizens Advisory Board	I-48
P-1	Nichole Davis, [redacted]	I-49
P-2	Shellie Michael [redacted]	I-49
P-3	Lynn Rohl, [redacted]	I-50
P-4	Ted Mucha, [redacted]	I-50
P-5	Mark Michael, [redacted]	I-51
P-6	Kathleen Guise [redacted]	I-51
P-7	Jo Anne Moran, [redacted]	I-52
P-8	Catherine A. McLaughlin, [redacted]	I-52
P-9	Nancy Gott, [redacted]	I-53
P-10	Rebecca Webber, [redacted]	I-53
P-11	Tanya Carr, [redacted]	I-54
P-12	Jim Macklin, [redacted]	I-54

ITEM	COMMENTOR	PAGE NUMBER
P-13	Cindy Weatherby,	I-55
P-14	Rebecca Heider,	I-55
P-15	Troy Weatherby,	I-56
P-16	Abraham Hartman,	I-56
P-17	Vicki Cassman,	I-57
P-18	Art Goldberg,	I-57
P-19	Jillian Beth Wright,	I-58
P-20	Linda Strange,	I-58
P-21	Ronnie Strange,	I-59
P-22	Mindy Brummett,	I-59
P-23	LaLori Rossi,	I-60
P-24	Taryn Cunningham,	I-60
P-25	Tiffany Brummett,	I-61
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[a]Postcards were received by the DOE on July 5, 1994.

Issue 1 - Public Participation Process

(a) A formal request was made by Maud Naroll, State of Nevada, Department of Administration, State Clearinghouse, on the behalf of the Nevada Test Site (NTS) Citizens Advisory Board (CAB) to extend the public review period for the Operable Unit 4 FS/PP-DEIS for at least 60 days. The CAB was recently formed and held its first organizational meeting on March 8, 1994. Because of the key role the CAB will play in advising the DOE-NV about stakeholder concerns, the requested extension to the public comment period would allow the CAB adequate time to address the Operable Unit 4 document. (Commentor: L)

(b) On May 17, 1994, a formal request was made by William L. Vasconi, Acting Chairman, NTS CAB to extend the public review period for the Operable Unit 4 FS/PP-DEIS. The NTS CAB had the opportunity to meet with representatives of the Fernald Environmental Management Project on May 11, 1994. The CAB stated that this meeting was the first time it had an opportunity to receive any information about the Operable Unit 4 FS/PP-DEIS. Because the CAB had not yet reviewed the Operable Unit 4 documents and the May 20, 1994 deadline for public comments was near, the extension of time was necessary in order that the CAB may provide substantive input into the process. (Commentor: N)

Response: (a) The United States Department of Energy (DOE) considered the request for extension of the public review period to be in accordance with the provision of the National Oil and Hazardous Pollution Contingency Plan, 40 CFR 300.430(f)(3)(i)(C) as follows:

"Upon timely request, the lead agency [DOE] will extend the public comment period by a minimum of 30 additional days; . . "

The DOE recommended that a 30-day extension, as opposed to the 60-day extension, be granted in an effort to minimize schedule impacts, as well as providing adequate time for the CAB to review the Operable Unit 4 document. In accordance with Sections XVIII.B.5 and XVIII.D of the Amended Consent Agreement (1991), the DOE requested concurrence from the EPA for the 30-day schedule extension to the public review period. The EPA verbally concurred with the DOE 30-day request for schedule extension on April 18, 1994, and followed up with a written concurrence on April 29, 1994. The DOE issued formal notification of the 30-day extension to the State of Nevada on May 3, 1994. This documentation can be found in the Administrative Record.

(b) The DOE considered the CAB request for extension of the public review period to be in accordance with the provision of the National Oil and Hazardous Pollution Contingency Plan, 40 CFR 300.430(f)(3)(i)(C) as follows:

"Upon timely request, the lead agency [DOE] will extend the public comment period by a minimum of 30 additional days; . . "

On May 20, 1994, the DOE granted an additional 30-day extension to the public review period for the Operable Unit 4 FS/PP-DEIS. In accordance with Sections XVIII.B.5 and XVIII.D of the Amended Consent Agreement (1991), the DOE requested concurrence from the EPA for the 30-day schedule extension to the public review period. The EPA provided written concurrence on the DOE 30-day extension request on May 26, 1994. This documentation can be found in the Administrative Record.

Issue 2 - Characterization of Silo Residues

During the March 21, 1994 Operable Unit 4 public meeting, questions were raised by Mr. Lou Bogar, a resident of the City of Hamilton Ohio, about perceived discrepancies in the isotopic uranium data reported for some of the silo residues. He also expressed concerns about the inorganic chemical data for the silo residues. His specific concerns were as follows:

(a) Why does the analytical data on the silos presented report Uranium 235/236? Do the silos contain uranium-236 (U-236)?

(b) There seems to be a discrepancy in the ratio of U-234 to U-238. The ratio of these isotopes should be close to unity. The U-234/U-238 ratio for Silo 2 appears to be correct however, the ratio for Silo 1 does not appear to be right.

(c) Is there a full list of inorganic constituents for Operable Unit 4? Why isn't gold listed as one of the analytes? Are there other elements, for which analysis was not done, that may impact the vitrification process? In particular, what about rare earths (the lanthanide series of elements)? Could these affect vitrification?

(Commentor: C)

In addition, on June 24, 1994, DOE received significant comments from a member of the Nevada Test Site Citizens Advisory Board (CAB). The CAB expressed the following four concerns over the physical characteristics of the untreated silo residues and the treated waste form:

Based on the presence of RCRA regulated metals and organics in the waste, we are concerned that the waste contains both hazardous and radioactive constituents.

(d) Please list the radionuclide and inorganic and organic chemical constituents of the waste.

(e) Please identify the concentration of each constituent.

(f) Please identify the risk resulting from each constituent.

(g) Please describe how the proposed treatment and disposal mechanism address both the radionuclide and chemical constituents of the waste.

(Commentor: O)

Response: (a) *The Silos do not contain U-236.* U-236 is a by-product of nuclear reactor processing. The residues in the silos were generated exclusively from the chemical processing of pitchblende ores and uranium concentrates to extract uranium. Consequently, the residues in silos would not contain U-236.

The U-235 analysis was done using the standard radiochemistry technique of alpha spectroscopy. Because the energies emitted by U-235 and U-236 are very close in intensity, it is difficult for the laboratory to individually resolve between U-235 and U-236 activity concentrations. As a result it is accepted laboratory convention to report radiochemical results for these isotopes as U-235/236. The analytical data for U-235 concentrations in the silos were reported from the laboratory using this convention. This was not intended to imply that the silos contain U-236.

(b) In his comments made during the March 12, 1994 Operable Unit 4 Public Hearing, Mr. Bogar pointed out that there appeared to be some anomalies in the isotopic uranium data presented during that meeting. The data provided during the public meeting represented average activity concentrations calculated from individual sample results contained in Volume 2 of the Operable Unit 4 Remedial Investigation Report (available for review in the PEIC). Through process knowledge it is known that the K-65 Silos contain natural uranium which resulted from the processing of pitchblende ores and uranium concentrates. As such, the activity concentration ratio of U-238 to U-234 in any sample obtained from the silos should be approximately 1. In the data presented for Silo 1, however, the ratio of U-238 to U-234 is 0.8, implying that the uranium contained in Silo 1 may be enriched.

This apparent anomaly is caused by a combination of two factors: the use of average activity concentrations to represent activity concentration ratios and apparent errors in the U-234 activity concentrations reported by the laboratory for four of the Silo 1 samples. While average activity concentrations are adequate for gross

estimates of the silo contents, using activity concentration ratios calculated from these average activity concentrations is inappropriate, due to the heterogeneous nature of the silo contents (it should also be noted that averaging of the data can propagate the inherent uncertainty in the analytical data for individual samples). Instead, the activity concentration ratios of U-238 to U-234 should be addressed on a sample-by-sample basis.

Review of the individual sample data (contained in Volume 2 of the Operable Unit 4 RI Report) will indicate that the ratios of U-234 and U-238 are close to unity as expected for natural uranium (within the limits of the total propagated uncertainty) for 16 of the 20 samples taken. The remaining four samples demonstrated higher U-234 values, which yielded U-238 to U-234 ratios in the range of 0.4 to 0.6. This knowledge should have been sufficient to reject the analytical results for these four samples. The sample results, however, had already been validated using standard EPA protocols and the determination had been made to publish and use all validated analytical results. While this decision could have been overturned, it was further determined that these apparently anomalous U-234 analytical results for these four samples had no impact on the risk assessment for Operable Unit 4 and, as a result, would have no impact on the evaluation of remedial action alternatives within the Operable Unit 4 Feasibility Study.

(c) Volume 2 of the Operable Unit 4 Remedial Investigation Report presents a full listing of all analytical data collected during the remedial investigation. The data presented in the public meeting on March 21, 1994 were taken from the Operable Unit 4 Remedial Investigation Report. These data primarily provide critical information used in the risk assessment process to determine the nature and magnitude of potential chemical hazards and/or cancer risk posed by the contents of the silos. Treatability studies were conducted using actual silo residues to determine the effectiveness of the vitrification process in stabilizing these materials (the Operable Unit 4 Treatability Study Report for the Vitrification of Residues from Silos 1, 2, and 3 is available for review in the PEIC). Analysis was performed on the silo residues during the treatability studies to provide information pertinent to determining the effectiveness of vitrification.

The DOE does have historical data on the gold content of the K-65 residues. The vitrification process can be affected if there are large amounts of noble metals such as gold present. However, the gold present in the silo residues does not pose a problem as evidenced by the results of the vitrification treatability studies.

"Rare earths" or elements in the lanthanide series are known to improve the durability of glass [reference, Volf, M.B. 1984, Chemical Approach to Glass (glass Science and Technology: Vol 7), Elsevier, New York]. Analysis was conducted for some "rare earth" elements such as cerium and lanthanum during the treatability studies.

(d, e) The material contained in Silos 1 and 2 (K-65 material), and Silo 3 is by-product material or residue resulting from the processing of uranium ore and is specifically exempt from regulation as solid waste under RCRA 40 CFR §261.4(a)(4). The State of Nevada has expressed similar concerns over the regulatory classification of the Operable Unit 4 remedial wastes. A detailed discussion of these regulatory issues is presented under Issue 4 - State of Nevada Regulatory Concerns.

A complete list of radionuclide, inorganic and organic chemical constituents of the Silos 1, 2 and 3 wastes and their respective concentrations can be found in Tables A.1-1, A.1-5, A.1-6, A.1-7, A.2-1 and A.2-6 in Appendix A of the FS Report for Operable Unit 4 (FS/PP-DEIS).

(f) Appendix D, Section D.2.0 of the FS Report for Operable Unit 4 (FS/PP-DEIS) presents a summary of risk characterization results from the Operable Unit 4 Baseline Risk Assessment, as reported in the Remedial Investigation Report for Operable Unit 4. The Baseline Risk Assessment was performed, in accordance with available EPA guidance for conducting CERCLA risk assessments and methodology described in the EPA-approved Risk Assessment Work Plan Addendum for performing risk assessments at the FEMP. The complete list of radionuclide, inorganic and organic chemical constituents of the Silos 1, 2 and 3 wastes were evaluated along with information describing their toxicity, mobility and environmental persistence. The baseline risk characterization indicates that baseline conditions do not meet acceptable public health risk criteria.

Appendix D, Section D.3.0 of the FS Report for Operable Unit 4 (FS/PP-DEIS) evaluates the short-term and long-term risks associated with implementing the various remedial alternatives considered for Operable Unit 4. The detailed analysis of the Operable Unit 4 remedial action alternatives is presented in Section 4.0 of the FS Report for Operable Unit 4 (FS/PP-DEIS), where each alternative is evaluated relative to the nine criteria of the NCP. Two of these criteria are short-term effectiveness and long-term effectiveness.

The short-term effectiveness criterion addresses the effect of an alternative during the construction and implementation phase until the remedial action objectives are achieved. The evaluation considers the effects on human health and the environment posed by operations conducted during the remedial action. The long-term effectiveness criterion evaluates the extent to which an alternative achieves an overall reduction in risk to human health and the environment after the remedial action objectives have been met.

The risk assessment presented in Appendix D supports the application of these criteria through the Section 4.0 evaluation of human health risks resulting from potential short-term and long-term exposures associated with the Operable Unit 4 remedial action alternatives. This includes the preferred remedy for disposing of the treated Operable Unit 4 residues at the NTS.

(g) Appendix C, Section C.3.0 of the FS Report for Operable Unit 4 (FS/PP-DEIS) presents a summary of all the vitrification treatability study tests which were carried out in support of the Operable Unit 4 RI/FS process at the FEMP. The tests were completed as specified by the EPA-approved Operable Unit 4 Treatability Study Work Plan for the Vitrification of Residues from Silos 1, 2, and 3 (DOE 1992b). The purpose of these tests was to allow the performance of vitrification of the Silos 1, 2, and 3 residues to be compared to other remediation technologies for the silo residues. The criteria upon which this comparison was to be based were the leachability of the waste form, the waste volume reduction achieved, and the reduction in radon emanation from the waste.

The Toxicity Characteristic Leaching Procedure (TCLP) results for the vitrified wastes demonstrated the effectiveness of glass as a durable leach resistant waste form for Operable Unit 4 remedies. Leachate concentrations of hazardous metals were below regulatory limits for all of the glasses made in these tests, including the leachate concentration of lead which was reduced about 500 times less than from the untreated waste. Radionuclides (in particular, Ra-226) were found to leach from the glasses at the same rate as the major glass constituents, indicating the absence of selective leaching of radionuclides.

Appendix C, Table C.3-13 of the FS Report for Operable Unit 4 (FS/PP-DEIS) reports the specific gravity of the vitrified waste along with the calculated volume reduction. The volume reduction is based upon the difference between the volume of the final glass product (including additives) and the initial volume of the waste in its current state. The waste volume was calculated using the wet, compacted

density, which is assumed to be the most representative of the material in its current state. Significant volume reductions ranging from 50 percent to 68 percent are achieved through vitrification of the waste. In summary, the final waste volume ranged from 32 percent of the initial waste volume in the best case to only 50 percent of the initial waste volume in the worst case.

The radon emanation rate from the vitrified K-65 material ranged from 0.01 to 0.06 $pCi/m^2/s$, more than two orders of magnitude less than the EPA limit of 20 $pCi/m^2/s$ for radon emanation from uranium mill tailings. The measured radon emanation rate from the glass is approximately equal to the emanation rate from natural building materials such as brick and concrete, even though the radium content of the waste glass is 10^3 to 10^6 times greater than that of natural building materials.

The NTS has established waste acceptance criteria which consider disposal site characteristics consistent with an appropriate level of protectiveness to human health and the environment. The Operable Unit 4 remedial waste will comply with these waste acceptance criteria and the NTS will also perform evaluation to assure that the acceptance criteria are met.

Issue 3 - Public Participation During Post-RI/FS Activities

The current FEMP Community Relations Plan does not adequately define the public's role, nor its nature and extent of opportunities for participation during post-RI/FS activities. During the Operable Unit 4 formal public comment period, members of the public and the Ohio EPA requested formal definition of the public's level of participation during the Remedial Design and Remedial Action processes. Members of the community expressed a desire to continue their same level of involvement in post-RI/FS activities, as defined by the current Community Relations Plan for the RI/FS program. (Commentors: A, B, D, G, J and R)

Response: The DOE is both actively and expeditiously pursuing the revision of the current FEMP Community Relations Plan to include post-RI/FS public involvement activities throughout the Remedial Design and Remedial Action processes. Until a comprehensive Community Relations Plan is finalized by the DOE, an Interim (post-RI/FS) Community Relations Plan has been prepared as guidance to Fernald personnel on public involvement activities. A revised Community Relations Plan addressing post-RI/FS public involvement activities will be issued by September 1994.

Issue 4 - State of Nevada Regulatory Concerns

The State of Nevada and a member for the Nevada Test Site Citizen's Advisory Board have expressed concerns over the regulatory classification of the Operable Unit 4 remedial wastes, as discussed in the Operable Unit 4 Feasibility Study/Proposed Plan - Draft Environmental Impact Statement. More

specifically, the State of Nevada suggests that the Operable Unit 4 remedial wastes are "mixed wastes" [i.e., Resource Conservation and Recovery Act (RCRA) hazardous and radioactive waste] rather than "by-product material" as defined by the Atomic Energy Act (AEA), Section 11(e)(2) excluded from being a RCRA hazardous waste. The CAB stated that, "Based on the presence of RCRA regulated metals and organics in the waste, we are concerned that the waste contains both hazardous and radioactive components." Accordingly, the State of Nevada contends that the hazardous component of the Operable Unit 4 wastes are subject to regulation and control by EPA-delegated state having such authority. (Commentors: E, O)

Response: The State of Nevada's comment concerns the classification of K-65 and Silo 3 material; specifically with respect to its regulation as mixed waste. The following response first discusses in general the issue regarding the classification; secondly, the response addresses specific State of Nevada concerns described in the letter.

(a) General Discussion

The material contained in Silos 1 and 2 (K-65 material), and Silo 3 is by-product material or residue resulting from the processing of uranium ore and is specifically exempt as defined from regulation as solid waste under RCRA 40 CFR §261.4(a)(4). The referenced exclusion applies to ". . . source, special nuclear or by-product material as defined in the . . . AEA. . ." The AEA in part defines by-product as: ". . .the tailings or waste produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content" [AEA Section 11(e)(2)]. Since a material must first be a solid waste in order to be a hazardous waste, and since the material is excluded from regulation as solid waste, the subject material cannot be considered hazardous waste.

The silos contain only residues from the chemical extraction (beneficiation) of uranium from ores; no other solid or hazardous wastes were added to the silos or to the residues. Therefore, the contents of Silos 1, 2, and 3 are pure "by-product materials" by definition, and not solid wastes or hazardous wastes subject to regulation under RCRA. The heavy metals found in the material were present in the natural ore, and were unintentionally extracted from the parent ore along with the uranium during the process of beneficiation, becoming more concentrated in the residue after the uranium was removed. The presence of naturally occurring metals is expected in by-product material, and does not invalidate either the definition or the exclusion. No metals from a non-ore source were added to the stream at any point in the beneficiation process; also, no hazardous waste or waste constituent was added or created at any time during the beneficiation process. The fact that several metals in the material fail the RCRA toxicity characteristic leaching procedure (TCLP) does not cause the material to become subject to RCRA regulation due to a hazardous waste characteristic, since the metals are not from an external source, but are

associated with the parent material (whose residues, including any ancillary metals, are excluded from the definition of solid waste).

(b) Specific State of Nevada Comments and Responses

1. Comment: The comment refers to ". . .thorium mill tailing waste, which is admitted to be mixed waste. . ."

Response: The comment is unclear, since there is no reference to any admission that the material is mixed waste. The FS/PP-DEIS does not claim the material is mixed waste. Rather, the residues in the silos are by-product material from the processing of ore material for its source material, primarily uranium. The by-product material is not itself a mixed waste, nor is it mixed with a solid or hazardous waste which would cause the material to be considered a mixed waste. As stated in the document, while they are not considered applicable as ARARs for the management of this material, various sections of RCRA have been included in the Operable Unit 4 FS/PP-DEIS as relevant and appropriate requirements for the management of this material during CERCLA remediation, due to the similarity of this material to RCRA characteristic hazardous waste. The adoption of various RCRA ARARs in the CERCLA documents does not confer or waive authorities agencies may have to regulate the silo material under RCRA.

2. Comment: "In 1987, DOE promulgated regulations (10 CFR §962.1) stating that RCRA hazardous waste, mixed with by-product material falling under the category defined in the AEA [42 USC 2014(e)(1)], would be subject to regulation . . ." "However, the by-product material falling under the category given in 42 USC 2014(e)(2) that was mixed with RCRA hazardous waste, . . . would not be subject to regulations by EPA. . ." ". . .under the Federal Facility Compliance Act (FFCA), Congress defined mixed waste to mean 'waste that contains both hazardous waste and source, special nuclear, or by-product material . . .' This definition shows no distinction between the two categories of by-product material mentioned above. Hence, the attempted exemption from hazardous waste regulations of the hazardous components of mixed waste containing by-product material . . . has been invalidated."

Response: The DOE Final Rule in 10 CFR §962, promulgated in the May 1, 1987 *Federal Register* (52 FR 15937) for clarification of the term "by-product material," was limited in scope by by-product material as defined under 42 USC 2014(e)(1) meaning "radioactive material . . . yielded in, or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material." An example would be reactor fuel reprocessed for its enriched uranium. This rule does not affect materials that are defined as by-product material under Section 11(e)(2) of the AEA

("tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content"). The silo material falls into this second category.

DOE Order 5400.3A further clarifies the DOE interpretive rule referenced above:

> "DOE interprets these definitions to mean that whenever any hazardous waste identified or listed in 40 CFR §261 is inadvertently mixed [emphasis added] with any source material, special nuclear material, or by-product material, the hazardous waste component is subject to regulation under Subtitle C of RCRA. The May 1, 1987 *Federal Register* notice did not affect materials that are defined as by-product material under Section 11(e)(2) of the AEA."

DOE Order 5820.2A contains definitions consistent with the above. Chapter IV, Management of Waste Containing AEA 11(e)(2) By-product Material and Naturally Occurring and Accelerator Produced Radioactive Material, specifies:

> "By-product 11(e)(2) . . . mixed [emphasis added] with the Resource Conservation and Recovery Act hazardous chemicals, shall be managed consistent with both the Resource Conservation and Recovery Act and 40 CFR Part 192."

The FFCA, DOE Order 5400.3A, and DOE Order 5820.2A are consistent in their interpretation of the definition of mixed waste. The FFCA simply reiterates that hazardous waste mixed with source, special nuclear, or by-product material is subject to dual regulation under both the AEA and RCRA, and has no bearing on Operable Unit 4 by-product material, since it is not mixed with a solid or hazardous waste (see General Discussion). The K-65 and Silo 3 material consists of only by-product material as defined under Section 11(e)(2) of the AEA, therefore, subject to the solid waste exclusion under RCRA.

3. Comment: ". . . EPA delegated to the states regulatory control over all mixed wastes without regard to specific radionuclide content . . . consistent with the expression of Congressional intent in defining mixed waste under the FFCA (see 51 FR, July 3, 1986, 24504-24505)."

Response: In the referenced July 3, 1986 *Federal Register* notice, EPA is requiring that states seeking authorization to regulate under RCRA the "hazardous component" of radioactive mixed waste revise their programs (if necessary) and demonstrate statutory authority to regulate said "hazardous component." This notice was issued prior to the DOE interpretive rule of May 1, 1987. Although "hazardous component" is not expressly defined, the notice is consistent with previous definitions, and implicitly

restates the definition of mixed waste as "wastes containing both hazardous waste and radioactive waste." Again, this Federal Register notice does not detract from the stated position, since the Operable Unit 4 silo material consists solely of by-product material, and is not mixed with a solid or hazardous waste that would be subject to state regulation.

In summary, the Operable Unit 4 silo materials are expressly by-product material excluded from RCRA regulation under 40 CFR §261.4(a)(4), on the basis of "tailings or waste produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content" [AEA Section 11(e)(2)].

NOTE: While not applicable as an ARAR for the management of this material, various sections of RCRA have been included in the FS/PP-DEIS as relevant and appropriate requirements for the management of this material during CERCLA remediation, due to the similarity of this material to RCRA characteristic hazardous waste. The proposed alternative for remediation of this material includes treatment by vitrification, which will remove the "toxicity characteristic" due to the inadvertent presence of various metals in the material. The adoption of various RCRA ARARs in the CERCLA documents does not accede the authority of RCRA to regulate the silo material; these ARARs, among others, are selected on the basis of existing regulatory standards and management practices to be followed during remediation to ensure adequate protection of human health and the environment.

Issue 5 - Off-Site Transportation of Waste to Nevada Test Site

Several members of the local community expressed concerns related to the transportation of the Operable Unit 4 treated wastes from the FEMP to the Nevada Test Site (NTS). One individual preferred rail shipments over truck transportation, citing that truck transportation is much more dangerous. Others requested more details on transportation (i.e., packaging specifications, and special handling requirements and precautions) and details related to notification when shipments will occur. (Commentors: A, F and Q)

Response: The preferred remedy for Operable Unit 4 requires a combination of rail and truck transportation for the shipment of treated silo residues off site for burial at the NTS. Currently, there are no direct rail lines into the NTS. The treated material would be transported from the FEMP by rail to either a point near Las Vegas, Nevada, or one of the areas north of Las Vegas. From either location, the waste containers carrying the treated material would be transferred to trucks for transportation over roads to NTS. Consistent with regulatory requirements, the DOE will provide proper notification to all affected parties, including emergency response teams, when off-site shipments begin.

Additionally, the DOE is engaged in a program to optimize a container design to meet specific performance requirements for a shipping/burial container and to provide additional protection to workers and the public, for the eventual transport and disposal of the treated Operable Unit 4 wastes to be conducted between the FEMP and the NTS. One of the program's goals are focussed upon the viability of utilizing recycled contaminated scrap metal and other forms of metal for the fabrication of waste containers.

The success of the container investigation will be measured on the basis of achieving a balance of key design parameters and requirements such as:

- vitrified product mixture design
- final waste form of vitrified product
- waste loading of vitrified product
- waste additives of vitrified product
- packaging design
- shielding of package
- shipping limitations
- United States Department of Transportation (DOT) requirements
- NTS Waste Acceptance Criteria
- cost

The optimized container design will be modelled in an effort to minimize the estimated short-term risks posed to public by transporting the Operable Unit 4 wastes in the container.

Issue 6 - Monitoring of Remedial Actions

Several members of the local community and the Ohio EPA expressed concerns that "real-time" monitoring should be implemented during the entire remedial action process. It was recommended that the implementation of "real-time" monitoring should be integrated into short-term remedial actions such as process controls, project specific health and safety procedures, emergency alarm systems, standard operating procedures, and emergency response procedures, as well as, long-term actions involving disposal and maintenance. Additionally, it was requested that information gained from "real-time" monitoring and related activities should be made readily available to the public. (Commentors: A, B, D, G, H, J and R)

Response: As part of the remedial design activities for the Operable Unit 4 remedial actions, a preliminary and final safety assessment will be conducted by DOE to establish the safety basis and design objectives for the construction and the operation of all remedial facilities. The safety basis includes those measures (i.e., procedures, training, monitoring equipment) necessary to ensure that facilities will be constructed and operated in a safe manner and in compliance with applicable or relevant and appropriate requirements.

It is the DOE policy in its conduct of operations to require facility operations procedures to be developed and adhered to during all remedial actions. Training of personnel to those procedures will be paramount to ensure safe conduct of all operations. The FEMP has developed and maintains the necessary emergency plans and procedures to adequately define the emergency management program, provide guidance for all emergency responders, proper notification of the public, ensure adequate monitoring and performance for critical systems, and to meet all regulatory requirements.

The use of "real-time" monitoring is an integral part of this process and will vary in degree for each system or action to be consistent with the safety assessment recommendations and comply with applicable or relevant and appropriate requirements. For example, some systems may require 24-hour "real-time" monitoring (i.e., fire protection, meteorological stations, perimeter air monitoring stations, radon treatment system) while others may only require "real-time" monitoring during normal operations (i.e., air emissions controls, waste water discharge, vitrification process controls, disposal facilities etc.). These features will all be developed and included in the remedial design and remedial action packages for review by the public, EPA, and Ohio Environmental Protection Agency (OEPA). Likewise, "real-time" monitoring data will be made available to the public through the Public Environmental Information Center.

Issue 7 - Impacts to Sites of Archeological and Historical Importance

The Ohio Historical Preservation Office (OHPO) expressed two areas of concern for the identified Operable Unit 4 remedial actions. Due to the FEMP site's proximity in an archeological sensitive area, the first area of concern is the potential for impacts to archeological sites. Secondly, under the current criteria and regulatory guidelines, the FEMP site itself is eligible for inclusion in the National Register of Historic Places, thus the proposed demolition of the silos, or any other structure or facility, could have an adverse effect on the FEMP site. The OHPO recommends the development of a programmatic agreement to address these sitewide and Operable Unit 4-specific historic preservation concerns. (Commentor: I)

Response: It is recognized that the FEMP site does lie in an archaeologically rich area and sitewide remedial activities will result in many ground disturbing and demolition activities. The DOE has effectively coordinated with the OHPO on several projects at the Fernald site in the past. Therefore, until the programmatic agreement has been developed between DOE and the OHPO, individual activities (e.g., the construction of support facilities) will continue to be coordinated with the OHPO.

In response to the second area of concern, it is further recognized that the FEMP site as a whole has recently been determined to be eligible for inclusion on the National Register of Historic Places. Therefore, appropriate steps will be taken to coordinate with the OHPO all activities involving the demolition of structures. The DOE will be pursuing a programmatic agreement with the OHPO in

the near future. However, until such an agreement can be put in place, DOE will be coordinating with the OHPO office on an individual project-by-project basis.

Appropriate coordination activities associated with the remediation of Operable Unit 4 and the demolition of structures on the site will be carried out with the OHPO.

Issue 8 - Future Land Use at the FEMP

One member of the public expressed concern over any future development of the FEMP site (i.e., industrial park) which would attract large concentrations of humans, in the event environmental problems would happen to develop in the future (i.e., similar to Love Canal). (Commentor: F)

Response: The DOE, EPA, and OEPA are closely working with the local community (i.e., FRESH) to provide technical guidance to participating community members, in an effort to logically reach a balanced decision regarding the most feasible future land use(s) for the FEMP site. The Operable Unit 4 soil remediation cleanup levels were established with the assumption that in the future, the federal government would maintain ownership of the Operable Unit 4 area.

Issue 9 - Impact to Natural Resources

Members of the public expressed concern over the potential impact from the remedial actions to natural resources surrounding the FEMP site (i.e., wetlands, migratory birds, etc.), and the mitigative measures being taken by the DOE to minimize their effect. (Commentors: B and F)

Response: The end-use of the FEMP site is currently under consideration by the Fernald Citizens Task Force. This task force, based on input from the public and various stakeholders, will make a recommendation to DOE as to what the end-use of the Fernald site should be. This comment will be forwarded to the task force for their consideration. The task force's recommendation will play a key role in determining what happens at the site after remediation.

Depending on the types of environmental impacts that occur during remediation, it is possible that habitats may need to be created as mitigative measures. The specific issue of the need for creating wetlands is currently being evaluated by DOE and Fernald Environmental Restoration Management Company (FERMCO) and will be discussed with the stakeholders and formally addressed in the Operable Unit 5 (Environmental Media) Feasibility Study Report and Record of Decision.

Issue 10 - EPA Promulgation of Residual Soil Standards for Radionuclides

One local resident inquired whether the residual soil radiation levels, which the EPA has not yet published in the *Federal Register* (originally scheduled to be published in March 1994), could possibly impact the remediation decisions in Operable Unit 4. (Commentor: C)

Response: Residual soil standards for radionuclides are currently being finalized by the EPA. The EPA has issued a draft proposal which recommends the establishment of an effective dose limit of 15 mrem/year from residual soil radiation. Until the standards are finalized and promulgated by the EPA, it is uncertain whether they will impact Operable Unit 4. Radionuclide cleanup levels have been established for Operable Unit 4 which approach background concentrations for nearly all radionuclides. When the residual soil standards for radionuclides are promulgated by the EPA, a review of their impact upon the Operable Unit 4 soil remediation will be conducted. Soil cleanup levels for Operable Unit 4 will be modified as directed by the EPA.

Issue 11 - Air Emissions from Remedial Actions

One local resident, who lives downwind of the FEMP site, expressed concerns over the particulate matter and off-gases which could be emitted through the exhausts of the Operable Unit 4 vitrification process. Specific concerns were noted related to the performance of comprehensive site-wide air modeling which includes the Operable Unit 4 vitrification facility contributions to sitewide emissions and the quantification of subsequent risks to the local "downwind" community. (Commentor: K)

Response: Air pathway monitoring focuses on the airborne pollutants that may be carried from the Fernald site as a particulate or gas and how these pollutants are distributed in the environment. Stack and building vent emissions are obvious sources of pollutants, but dust from construction and remediation activities, waste handling, and wind erosion are also important potential sources. The form and chemical makeup of pollutants influence how they are dispersed in the environment as well as how they may deliver radiation doses. Airborne pollutants are subject to whatever weather conditions exist.

The meteorological data gathered at the FEMP site are primarily used to evaluate climatic conditions at the site. Wind speed and direction, rainfall, and temperature play a role in predicting how pollutants are distributed in the environment. The Fernald Environmental Monitoring Program routinely uses atmospheric models to determine how airborne effluents mix and disperse; these models, in turn, are used to assess the impact of operations on the surrounding environment, in accordance with DOE requirements. Based upon modeling results, risks to the public are calculated based upon exposure from the pollutants emitted from the FEMP site. The *1992 Fernald Site Environmental Report* provides detailed breakdown of sitewide emissions, doses to the public, and their associated risks. This report is updated annually and may be available in the Administrative Record.

To date, computer modeling for expected radionuclide emissions from the proposed vitrification facility has not been conducted due to insufficient engineering design data. However, during remedial design, when these design data become available, this information will be entered into the appropriate air models to determine compliance with 40 CFR §61 Subpart H for radionuclides, including radium

under the Clean Air Act. In addition, Ohio Administrative Code (OAC) 3745-31-05(A)(3) requires the use of Best Available Technology (BAT) to control process emissions. Compliance with the requirement to employ BAT will be determined by evaluating, according to the Ohio Air Toxics Policy (OATP), emission data collected from performance testing of the Operable Unit 4 vitrification facility.

Modeling will be conducted on the vitrification facility both prior to startup and during operation. The preliminary modeling will provide estimates of dose levels based on engineering design and expected removal efficiencies. Corroborative modeling conducted during operation will be based on actual data collected during stack performance testing, and will verify engineering design and compliance with the regulatory standard. Risks associated with these dose levels will be evaluated and compared to the other alternatives. Upon comparison a determination will be made to implement design criteria to minimize risk associated with the vitrification facility or if necessary to amend the selected alternative to one which poses less of a risk to the surrounding community.

Air emission modelling specific to the Operable Unit 4 vitrification processing facility will be performed as part of the remedial design process, to ensure that the vitrification facility is designed to meet these air emission ARARs and pertinent DOE Orders. In addition, portable air monitors will be strategically located around the perimeter of field activities during construction of remedial facilities. The air monitors will provide real time data regarding the effectiveness of controls to mitigate fugitive dust emissions.

Issue 12 - Determination of Risk Levels

A local resident questioned the reason the CERCLA elected to use such small risk levels as 10^{-6} (one in a million). In addition, the differences in methodologies like Health Effects Assessment Summary Tables (HEAST) and Biological Effect of Ionizing Radiation result in "vast orders of magnitude" differences in estimated risks. (Commentor: C)

Response: In accordance with the NCP (40 CFR 300), Operable Unit 4 is required to comply with the requirement that the excess risk, posed to humans exposed to carcinogenic materials in Operable Unit 4, would not be greater than one in ten thousand to one in a million. The lower bound of the range, one in a million (10^{-6}) incremental risk, is the most desired level of residual risk to be posed by a cleanup action. This risk refers not to "fatal" cancer risk but the risk of the induction of incremental cancers, over and above the normal risk of contracting cancer, during one's lifetime. Operable Unit 4 is also legally required to utilize the methodologies defined by the United States Environmental Protection Agency for calculating the cancer risk posed by Operable Unit 4.

Issue 13 - Compliance with DOT Transportation Regulations

The U.S. Department of Transportation (DOT) provided two comments regarding compliance with DOT regulations.

(a) The first comment was related to classification of the materials as Low Specific Activity (LSA) and stated, "We [DOT] believe the expected physical form of the material transported will result in the radiological risk to the public being equal to or less than most LSA shipments transported in the Country. However, from Volume Two, Appendix A, Table A.1-1, it appears that the activity per gram of material for some of the package contents might exceed the limits for LSA materials in 49 CFR 173.403(n)."

(b) The second comment expressed concern with the sampling and analysis to be performed prior to shipment. The comment stated "After material vitrification, the external radiation dose rates will clearly be the indications of the most significant radiological hazards of the materials during transportation. However, since the identity of the radionuclides and the activity of the content in each package is required by the regulations, documentation with technical reasoning will be needed to relate the results of pre-vitrification radioassays to the contents of the packages." (Commentor M)

Response:

(a) The initial classification and container selection of the vitrified materials as LSA was used to perform cost estimates for the remedial alternatives evaluated in the FS for Operable Unit 4. These cost estimates were developed with an intended accuracy of plus 50 percent/minus 30 percent as required by CERCLA. Therefore these cost estimates were considered adequate for alternative evaluation. Since the initial distribution of the FS/PP-DEIS, the FEMP has initiated a study which will further specify the DOT classification of the vitrified material and container types required for shipment of the vitrified material. The final selection of container type is contingent upon several factors, including; the Curie content of the container, its classification under DOT regulations, the ability of the container to reduce external dose rate, and the acceptance of the container by the Nevada Test Site.

(b) Demonstration of compliance with regulations is the basis for the sampling and analysis program to be developed for Operable Unit 4 remediation. Sampling and analysis will be performed on the vitrified gems 1) to assure compliance with waste disposal requirements, 2) to demonstrate success of waste treatment, 3) to

assure compliance with DOT requirements, 4) and to complete waste characterization of the vitrified materials. Specific parameters for testing will be determined in the Project Specific Sampling and Analysis Plans to be prepared during Remedial Action. The selection of parameters for analysis will include those which will demonstrate compliance with the activity limitations for containers per DOT regulations.

Issue 14 - Consideration of Disposal Sites for the K-65 Material

On June 24, 1994, DOE received significant comments from a member of the Nevada Test Site Citizens Advisory Board (CAB). The CAB stated that the Operable Unit 4 FS/PP-DEIS documents did not discuss the full range of possible alternatives (e.g., disposal at Hanford, reprocess to recover materials, dispose of all material at the NTS). The member of the CAB further questioned "...Why were these options rejected? What is the full list of options initially considered and why was each option rejected?"
(Commentor: O)

Response: Identification, screening, and evaluation of potentially applicable technologies and process options are key steps early in the FS process. The primary objective of this phase of the FS is to develop an appropriate range of remedial technologies and process options that will be developed into preliminary remedial alternatives. The criteria for identifying potentially applicable technologies are provided in EPA guidance and in the NCP. There is strong statutory preference for remedies that will result in a permanent solution; a significant decrease in toxicity, mobility, or volume; and provide long-term protection as identified in Section 121 of CERCLA, as amended. The primary requirements for the final remedy are that it be both protective of human health and the environment and comply with applicable or relevant and appropriate regulatory requirements.

The Operable Unit 4 FS/PP-DEIS presented information to support the selection of the most appropriate remedial alternative. The broad range of alternatives considered for remediation in the FS/PP-DEIS were developed in accordance with EPA guidance by following a series of logical steps that involved developing, in succession, more specific definitions of potential remedial alternatives. The steps included the following:

- Development of contaminant- and media-specific remedial action objectives (RAOs) and preliminary remediation goals (PRGs).
- Identification of general response actions (GRAs).
- Identification of volumes and/or areas of waste media to be addressed.
- Identification and screening of remedial technologies and process options.

- Evaluation and screening of process options within each technology.
- Assemblage of a wide range of remedial alternatives using the selected process options within each remedial technology.
- Evaluation of initial screening to determine which alternatives will be analyzed more fully in the detailed analysis phase of the FS.

The detailed analysis of alternatives was performed in Section 4 of the FS on those alternatives which were retained through the preliminary screening of alternatives step described above. The detailed and comparative analysis consisted of the analysis and presentation of the relevant information needed to allow decision makers to select a remedial alternative.

The Operable Unit 4 FS/PP-DEIS considered several disposal options for each of the on-property and off-site disposal technologies evaluated for the K-65 material as follows:

<u>On-Property Disposal Technology</u>
- Engineered Disposal Facility (Below-grade)
- Above-grade Disposal Vault

<u>Off-Site Disposal Technology</u>
- New Facility within 483 km (300 mi) of the FEMP site
- New Facility Adjacent to the Site
- Permitted Commercial Disposal Site
- Nevada Test Site

In addition, in-situ and no-action alternatives were considered and evaluated as potential disposal alternatives. Sections 2.6.7.2 and 2.6.7.3 of the Operable Unit 4 FS discuss these representative options and the results of their preliminary screenings. Subsequently, repromulgation of 40 CFR Part 191 led to changes in the list of relevant and appropriate requirements affecting on-property disposal as discussed in Attachment II.

It is the DOE Defense Waste Management Policy at the Nevada Test Site, "...to approve generators and to receive, store and dispose of radioactive wastes generated by DOE defense programs in a manner consistent with DOE Order 5820.2A, "Radioactive Waste Management," and applicable federal, state, and local regulations and requirements."[1] Chapter III of DOE Order 5820.2A provides that low-level waste should go to a DOE low-level waste disposal site, such as the NTS.

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[1]U.S. Department - Nevada Field Office, June 1992, <u>Nevada Test Site Defense Waste Acceptance Criteria, Certification, and Transfer Requirements</u>, Publication NVO-325, Rev. 1, Page 1.

This policy ensures that low-level wastes will be handled properly in accordance with applicable standards and DOE guidelines. Exemptions from the DOE Order to allow shipments to commercial disposal facilities can be granted by the U.S. Department of Energy Assistant Secretary for Environmental Management on an ad hoc basis. Fernald has made shipments of waste in the past to the Nevada Test Site and to the commercial facility operated by Envirocare, Inc. in Clive, Utah.

In this case, however, the Operable Unit 4 vitrified silo wastes from Fernald do not meet the waste acceptance criteria for existing commercial facilities. The U.S. Department of Energy Office of Environmental Restoration asked for and is in the process of receiving a determination by the U.S. Department of Energy Office of Waste Management that the silo wastes constituted a small quantity of by-product material under Chapter III of DOE Order 5820.2A and therefore, may be disposed at a DOE low-level waste disposal site, such as the Nevada Test Site. Also, it has been a long-standing DOE policy that "defense related wastes" would be disposed at the Nevada Test Site and non-defense related waste disposed at Hanford.

That option, which is the preferred alternative, has been evaluated in this environmental impact statement as a potential alternative for waste disposal, along with a potential option for commercial disposal. Disposal at another DOE site, such as Hanford, was considered by DOE to be less feasible than shipment to the NTS, given past experience with shipping legacy wastes from Fernald to the NTS, which has been ongoing since 1985. In addition, an appropriate disposal facility is not currently available at Hanford to receive the Operable Unit 4 waste.

The reprocessing of silo wastes to recover radiological or inorganic constituents was determined not to be feasible due to poor treatability test results involving chemical separation techniques.

It should be noted that all of the Operable Unit 4 remedial wastes (i.e., Silos 1, 2 and 3 residues, contaminated soil and debris) were considered for disposal at the NTS. However, it was determined that only treated silo residues should be disposed at the NTS under the Operable Unit 4 FS/PP-DEIS (although disposal of contaminated soil and debris is to be determined in subsequent RODs).

The selection of the NTS for disposal of Operable Unit 4 waste is supported by a process option evaluation presented in Appendix B (Description of Technologies and Process Options) of the FS/PP-DEIS. This evaluation concluded that based on considerations such as geology, demographics, levels of precipitation, and depth to groundwater the NTS provided the best location for disposal. Also, the results of treatability studies conducted on the vitrified waste form indicate that the vitrified waste fully satisfies current NTS waste acceptance criteria and in general would provide a high level of long-term protectiveness when disposed at the NTS.

Issue 15 - FEMP Waste Disposal Program

On June 21, 1994, DOE received a package of 174 postcards from Citizen Alert. Three additional postcards were received on July 5, 1994. The majority of the postcards were from concerned citizens of Nevada expressing their comments related to the shipment and disposal of Fernald waste at the NTS. One of their comments stated that, "...the more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site." (Commentors: P1-P177)

Response: As part of the FEMP Waste Disposal Program, disposal of waste at the NTS is only one of several disposal locations being considered for waste resulting from the remediation of the Fernald site. Other disposal locations include both on-site disposal and commercial facilities.

The overall remediation of Fernald is expected to generate over 2.6 million cubic yards of waste requiring treatment and/or disposal. Of the estimated 2.6 million cubic yards, 1.4 million cubic yards are to be managed at the Fernald site, 900,000 cubic yards are to be shipped to commercial facilities, and 300,000 cubic yards may be shipped to the NTS (including approximately 5580 cubic yards of the Operable Unit 4 remedial wastes). Therefore, only about 10 percent of the waste from the remediation of Fernald might be shipped to the NTS. Additionally, these shipments would occur over a projected 30-year period.

Currently, Fernald is shipping low-level waste to the NTS at a rate of about 18,000 cubic yards of waste per year (based on the most recent 6 year average). The projected rate for disposal of the Fernald remedial waste at the NTS is estimated at a rate of approximately 10,000 cubic yards per year, with the highest estimate for a single year being approximately 16,000 cubic yards for 1995.

Furthermore, the 300,000 cubic yard estimate is a highest case estimate which, in reality, may not happen. Fernald is making an effort to minimize waste generation and to explore other disposal options, thereby minimizing waste requiring shipment to the NTS, as well as other locations. Disposal of waste at the NTS is utilized only when these options have been evaluated and determined unfeasible. These minimization efforts include recycling, decontamination for free-release of material, volume reduction through treatment, disposal of the waste on-site, and use of commercial disposal facilities.

Despite these efforts, the Operable Unit 4 FS/PP-DEIS has concluded after a detailed evaluation that approximately 5580 cubic yards of silo residues are more appropriately disposed at the NTS. This is driven by several factors, including the location of the Fernald site over a sole-source aquifer (State of Ohio regulations prevent the establishment of a disposal facility over a sole source aquifer); the close proximity of the site to large populations and agricultural land; and the lack of commercial disposal

facilities which may accept these wastes. As discussed in the Operable Unit 4 FS/PP-DEIS, these wastes include the treated residues from Silos 1, 2, and 3.

The State of Ohio recognizes that the final disposition of some Fernald wastes may be on site. In a letter written to the U.S. EPA, the State of Ohio said: "Large volumes of contaminated construction and demolition debris, soil, fly ash and bottom ash, and possibly some solid waste will have to be disposed onsite at Fernald."

The disposal of some wastes at the NTS is one part of a balanced waste management effort for the Fernald remedial activities. Although Fernald is committed to the minimization of wastes and finding alternative disposal options for its wastes, Fernald proposes to rely on the NTS for disposal of certain wastes.

Issue 16 - Evaluation of Transportation Risks

On June 21, 1994, DOE received a package of 174 postcards from Citizen Alert. Three additional postcards were received on July 5, 1994. The majority of the postcards were from concerned citizens of Nevada expressing their comments related to the shipment and disposal of Fernald waste at the NTS. One of their comments stated that, "Transportation risks need to be thoroughly evaluated". (Commentors: P1-P177)

Response: The FS/PP-DEIS for Operable Unit 4, Section 4, contains a complete detailed analysis of all the remedial alternatives evaluated for off-site transportation of wastes, which included both long-term and short-term risks. The preferred remedy for Operable Unit 4 involves the transportation of the treated silo residues to the NTS by a combination of rail and truck. The material would be shipped exclusively by use of rail from the FEMP to Las Vegas, Nevada [a distance of 3562 km (2270 mi)], then by truck from Las Vegas to the NTS [179 km (111 mi)].

The FS/PP-DEIS for Operable Unit 4, Appendix D, contains a detailed discussion of the long-term and short-term risks associated with each remedial alternative which underwent detailed analysis. The RADTRAN IV computer code was used to evaluate potential short-term risks, including risks to the public during the transportation of the vitrified Silos 1, 2 and 3 material to the Nevada Test Site.

Through Sandia National Laboratory's TRANSNET system, RADTRAN IV simulates the transportation route, the length of time members of the public are exposed to radiation, and the dose equivalent delivered for the trip. This exposure is to members of the public sharing the road with the truck, people living along the rail and truck route, and people encountering the truck at truck stops. The alternatives call for packaging the treated material in metal boxes meeting U.S. Department of Transportation packaging requirements of 49 CFR Part 173. The radiological impacts associated with the transportation of the waste to the NTS for disposal are summarized in Table 5-2.

TABLE 5-2

IMPACTS TO THE PUBLIC DURING TRANSPORTATION OF VITRIFIED SILOS 1, 2 AND 3 WASTE TO THE NTS

ESTIMATED IMPACT	Transportation to the Nevada Test Site	
	Vitrified Silos 1 and 2 Material	Vitrified Silo 3 Material
Routine Transport		
RME Individual dose (mrem)	0.0085	0.00014
Risk -ILCR[b]	8.32×10^{-10}	1.71×10^{-11}
Transportation Accidents		
Public dose from radioactive material releases following truck accident, (person - rem)	1.9×10^{-5}	3.8×10^{-6}
Public dose from radioactive material releases following train accident, (person - rem)	0.026	0.0053
Truck Associated Injuries[a]	0.013	0.0068
Truck Associated Fatalities[a]	0.0014	0.00074
Train Associated Injuries[a]	0.15	0.077
Train Associated Fatalities[a]	0.038	0.020

[a]Nonradiological impacts.
[b]ILCR - Incremental Lifetime Cancer Risk Above Background.

000048

The estimated dose exposure and subsequent risks were calculated and reported as an incremental lifetime cancer risk (ILCR) to the public from the transportation of the vitrified Silos 1, 2 and 3 material to the Nevada Test Site. Consistent with the goals of CERCLA, it is desirable to have the risks resulting from remediation to fall within all ILCR range of 1×10^{-6} to 1×10^{-4} above background. For example, if a member of the public has an additional 1 chance in 1,000,000 of contracting cancer due to exposure to radiation during transportation, the probability of developing cancer is expressed as a 1×10^{-6} (1 in 1,000,000) risk. As presented in Table 5-2, all short-term risks from exposure to radiation meet these criteria.

In addition to risks from the radiological exposure from the transportation of Silos 1, 2 and 3 material to the NTS, accidental injuries and fatalities are predicted to occur because trucks and/or trains would be used for material transportation to the Nevada Test Site. The following risk coefficients below were used to evaluate non-radiological risks to truck drivers and rail crews:

Driver/Crew	Truck	Rail
injury/mile	4.1×10^{-8}	4.6×10^{-6}
death/mile	2.1×10^{-9}	4.6×10^{-8}

Likewise, the following risk coefficients presented below were used to evaluate non-radiological risks to the public:

Public	Truck	Rail
injury/mile	1.2×10^{-7}	6.8×10^{-6}
death/mile	1.3×10^{-8}	1.8×10^{-6}

It should be noted that the risk coefficients for truck and rail transport are not strictly comparable, since far more waste is transported per mile of rail transport than per mile of truck transport. These risks parameters were used consistent with standard risk calculation methodologies as identified in the Final Risk Assessment Work Plan Addendum, (June 1992),[2] which referenced the forementioned published statistics by the U.S. Department of Transportation Federal Highway Administration[3] and U.S. Department of Transportation Federal Railroad Administration.[4]

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[2]U.S. Department of Energy, June 1992, "Risk Assessment Work Plan Addendum," U.S. Department of Energy - Fernald Field Office, Fernald, Ohio.

[3]U.S. Dept. of Transportation Federal Highway Administration, Office of Motor Carriers, 1986, Accidents of Motor Carriers of Property, Publication No. FHWA-MC-88-008, DOT, Washington, DC.

[4]U.S. Dept. of Transportation Federal Railroad Administration, Office of Safety, 1988, Accident/Incident Bulletin, Publication No. 157, DOT, Washington, DC.

As before, RADTRAN IV computer code was utilized to calculate the short-term impacts of injuries and fatalities. These impacts are also presented in Table 5-2 for the transportation of Silos 1, 2 and 3 to the Nevada Test Site.

RADTRAN IV also assesses the impacts from accidental releases of the radioactive material in the transport containers. The code assesses the total impacts for eight accident severity categories. It assesses collective radiological impacts to the public from direct radiation exposure from contamination on the ground, inhalation of contaminants in a plume and resuspended from the ground, direct radiation exposure from contaminants in a plume, and ingestion of food grown in the contaminated area. The impacts from a single truck and train accident are included in Table 5-2.

Issue 17 - Socioeconomic Impacts to the Waste Receptor Community

On June 21, 1994, DOE received a package of 174 postcards from Citizen Alert. Three additional postcards were received on July 5, 1994. The majority of the postcards were from concerned citizens of Nevada expressing their comments related to the shipment and disposal of Fernald waste at the NTS. One of their comments stated that, "Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste." (Commentors: P1-P177)

Response: The importance of evaluating the socioeconomic impacts of the Operable Unit 4 Remedial Action Alternatives on affected off-site locations is recognized by DOE. It is DOE's view that this issue has been adequately evaluated in the Operable Unit 4 FS/PP-DEIS.

Section 4.0 of the Operable Unit 4 FS/PP-DEIS provides a thorough discussion of the alternatives. For the alternatives that consider disposal at the NTS, impacts on socioeconomics were evaluated. Population demographics, land use of areas adjacent to the site, and potential risks to the surrounding population are discussed. In addition, impacts on groundwater, soil and geology, biotic resources, etc., are also presented.

Additional discussion of the NTS is also provided in Appendix B of the Operable Unit 4 FS/PP-DEIS, Description of Process Options and Technologies. This discussion provides additional detail on the natural and socioeconomic characteristics of the NTS and the surrounding area. This information formed the basis for the impacts presented in Section 4.0 of the Operable Unit 4 FS/PP-DEIS.

Additionally, on August 10, 1994, DOE published a Notice of Intent to prepare a site-wide EIS for NTS (59 FR 40897). This notice invites the public to participate in the scoping process for the NTS EIS.

Issue 18 - Disposal of DOE Waste at the Nevada Test Site

On June 24, 1994, DOE received comments from a member of the Citizens Advisory Board for Nevada Test Site Programs which expressed concerns over the current decision process for considering DOE waste for disposal at the NTS. More specifically, the comment stated as follows:

"The shipments of waste from Fernald are the first of potentially many other shipments to the NTS. Rather than making decisions on a piecemeal basis, we want to see the full picture before we are asked to make decisions on individual pieces. That is, we want to first consider the total impact of all of the waste that is being considered for disposal at the NTS. Following that, we want to consider each individual piece." (Commentor: O)

Response: A Notice of Intent to prepare a site-wide EIS for the NTS was published on August 8, 1994. The purpose of this Notice is to invite the participation of federal, state and local agencies, affected Indian tribes, and other interested persons in the process DOE will follow to solicit public comments on the proposed scope and content of the NTS EIS. The site-wide EIS will address the impacts of all waste disposal activities at the NTS. Shipments of waste generated from the cleanup of Operable Unit 4 are not proposed to begin until after the expected completion of the NTS site-wide EIS.

Issue 19 - Funding for Technical Oversight and Impact Mitigation

On June 24, 1994, DOE received comments from the Citizens Advisory Board for Nevada Test Site Programs which expressed their belief that:

(a) funds should be provided for technical oversight of waste management activities.

(b) the State of Nevada and affected Counties are entitled to impact mitigation payments as compensation for costs arising from management of this material.

(Commentor: O)

Response: (a) The first issue regards funding for technical oversight. DOE currently has a program established for providing such funds. This program is detailed in an "Agreement in Principle, with the State of Nevada, one of several such agreements between DOE and the states in which DOE facilities are located. This agreement includes the provision of funding for technical oversight by the State of Nevada for waste management activities at the NTS.

(b) The second issue is related to providing impact mitigation payments for management of waste in Nevada to the State of Nevada and affected counties. Mitigation payments are associated with actions whose implementation will have significant impact on human health

and the environment. Since no significant impacts are expected to result from the transportation and disposal of the vitrified Operable Unit 4 waste at the Nevada Test Site, no mitigation payments for management of the waste in Nevada are anticipated at this time.

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6.0 SUMMARY OF COMMENTS NOT RESULTING IN ISSUES

Commentors A, B, D, G, H, and J inquired as to the possibility of covering the silos and ensuring pollution prevention measures are implemented during remediation. Through the remedial design process, appropriate measures will be evaluated, utilized, and monitored to maintain air emissions resulting from all remedial actions at or below the regulatory requirements.

Commentors A and H wanted assurance that waste from other sites would not be brought to Fernald's vitrification facility to be treated nor stored at the FEMP for future disposition. At this time, no plans have been made to treat waste from other DOE sites through the Operable Unit 4 Vitrification Facility or store materials at the FEMP. However, as part of a treatability study under the Uranium Soils Integrated Demonstration program, DOE is considering a program that would involve importation of uranium-contaminated soil samples from Portsmouth, Ohio to be tested at Fernald and returned to the point of origin. This study would be conducted as an extension of the current Minimum Additive Waste Stabilization (MAWS) program, which is part of Operable Unit 4 remediation program. These tests are an essential component of FEMP's ability to conduct necessary research in support of DOE technology development.

The purpose of doing this test work is to make use of the investment which DOE has already made in equipment and experience at Fernald; to produce valuable remediation information for a nearby Ohio site; and to avoid duplication of the resources already available at Fernald.

The pilot-scale soil decontamination work at the FEMP is part of DOE's Uranium Soils Integrated Demonstration, a DOE Office of Technology Development program aimed at developing and applying new and enhanced technologies by demonstrating them at one test site.

Currently, a proposed test plan is being circulated for review within DOE and FERMCO management to solicit comments on approach, feasibility and acceptability. <u>No action has been taken or will be taken without stakeholder input.</u>

Commentors D and G wanted to suggest the possibility of setting up a trust fund for monitoring and maintenance of the on-property disposal facilities. A trust fund would not be a viable option due to the manner in which money is budgeted and allocated to the FEMP cleanup. The United States Congress annually reviews and approves the funding that the FEMP will receive through the DOE for remediation activities. A trust fund which would cover the cost of future routine operations and maintenance would not be viable under the current budgetary process.

Commentor A asked how the vitrified silo residue waste form could emanate radon at the same rate as building materials, when the waste itself is much more radioactive. She also requested clarification

on the interim storage process. The glass matrix of the vitrified Operable Unit 4 waste form retains radon much more efficiently than porous building materials such as concrete and masonry. Therefore, the Operable Unit 4 vitrified material releases radon at a similar rate of building materials despite the greater quantity of radon emanating radionuclides contained within the vitrified waste form.

Contaminated soil and debris would either be processed in accordance with the selected Operable Unit 5 (Environmental Media) and Operable Unit 3 (Production Area) remedy identified in the Operable Unit 5 and Operable Unit 3 ROD or placed in an interim storage facility to await the finalization of the disposal decisions for soils and debris under Operable Unit 5 and Operable Unit 3. The interim storage would be managed pursuant to the approved work plan for Removal Action 17 - (Improved Storage of Soil and Debris).

The decision regarding the final disposition of the remaining Operable Unit 4 contaminated soil and debris has been placed in abeyance to take full advantage of planned and in-progress waste minimization treatment processes. Further, this FEMP remedial management strategy enables the proper integration of disposal decisions on a sitewide basis. As planned treatment facilities become available under Operable Units 3 and 5 remedial actions, full consideration would be given to applying these systems to the inventoried contaminated materials from Operable Unit 4. Following the application of available waste minimization processes, the remaining Operable Unit 4 contaminated soil and debris would be disposed consistent with the selected remedies for Operable Units 5 and 3, respectively.

Commentor D wanted to know if the 250 acres calculated to be disturbed during the implementation of the preferred alternative for Subunit 2C included loss of habitat. The 250 acres discussed in the *Feasibility Study Report for Operable Unit 4* represents the cumulative sitewide acreage of land that will be disturbed as a result of the implementation of all five operable unit's preferred remedial actions. An estimated 220 acres out of the total 250 acres would be lost in the long term, with the remaining 30 acres only rendered temporarily unusable during the implementation of the sitewide remedial actions. Therefore, only 220 acres would be permanently committed as a result of implementing these remedial alternatives.

The State of Nevada (Commentor E) noted that, ". . . the cost estimates of long-term storage/disposal of mixed waste at the NTS were not properly accounted for in the Draft EIS. The assumptions, for example, under which storage/disposal of mixed waste at the NTS could be considered "free" when compared to a commercial facility, were not presented in the document." The cost for disposal of FEMP waste at the NTS <u>are</u> incurred by the FEMP. NVO-325 (Nevada Test Site Defense Waste Acceptance Criteria, Certification, and Transfer Requirements), Section 3.5 discusses the methods of payment which generators will use to cover the cost of disposal operations for their waste at the NTS.

Specifically, NVO-325 states ". . .disposal charges are based upon the estimated volumes listed on their (generator's) 'Three-Year Waste Shipment Forecast' multiplied by the corresponding disposal charge per cubic foot. . ."

The "Three-Year Waste Shipment Forecast" is prepared annually by the generator and it estimates the quantity of waste to be shipped to NTS by that generator each year for the next three years. These forecasts are then used by the NTS to project operating costs for operations related to disposal of the waste for the upcoming years. Therefore, although the NTS disposal site is a non-commercial, non-profit government facility, the cost for operations is funded by the generators and is not provided "free-of-charge." It should be noted that, as stated in the response to Issue 4, the Operable Unit 4 by-product material for disposal at the NTS is not mixed waste.

Commentor B questioned how NEPA was being addressed within these documents. More specifically, how NEPA values were being integrated into the CERCLA process for the Operable Unit 4 FS/PP-DEIS. When the Operable Unit 4 EIS process was initiated, it was DOE's policy to integrate the NEPA requirements into the procedural and documentation requirements of CERCLA whenever practicable.

For Operable Unit 4 at the FEMP, DOE has chosen to prepare integrated CERCLA/NEPA documents. This decision was based on the longstanding interest on the part of local stakeholders to prepare an EIS on the restoration activities at the FEMP and on the recognition that the draft document was issued and public comments received. Therefore, an integrated Feasibility Study/Proposed Plan - Final Environmental Impact Statement (FS/PP-FEIS) has been completed which evaluates alternatives for the treatment and disposal of radioactive residues contained in storage silos at FEMP.

In accordance with both CERCLA and NEPA processes, these documents are made available to the public for comment. Public involvement is an important factor in the decision-making process for site remediation. Public comments will be considered in the selection of remedy for each operable unit, which will be presented in a ROD. Applying the integrated approach for CERCLA and NEPA, DOE plans to prepare and issue a single ROD to be signed by both DOE and EPA. The contents of the documents prepared for the remedial actions at the FEMP are not intended to represent a statement on the legal applicability of NEPA to remedial actions conducted under CERCLA.

Commentor Q provided twenty comments on the Proposed Plan. Some of these comments were addressed in the issue discussions presented in Section 5.0 of this document. The remaining comments were basically requests for clarification of the technical content of the document and did not have significant impact on the document. The comments are distinguished by the letter and the response to the comments immediately follows.

(a,l) Comment: The responses to Comments "a" and "l" were similar in content and, therefore, have been combined. The comments are related to the differences in cost and implementation between alternatives with the same treatment technologies. The commentor stated that "...there are variances in the capital cost for the same treatment alternatives with the only difference being on-site versus off-site disposal. What is the source of this variance?" Furthermore the commentor stated: "...comparison of remedial alternatives, state differences in implementing identical treatments with different disposal options. Is this difference related to transportation issues for off-site rather than on-site? Please explain these differences. Also Subunit C lists no treatment for all alternatives; please demonstrate why no treatment is acceptable."

Response: The variances of the capital costs are primarily due to the difference in the disposal methods. The on-site disposal alternative includes the capital costs associated with the construction of a disposal vault. The off-site alternative has no capital cost associated with the construction of the disposal vault, but does include capital costs associated with the transportation and disposal of the waste at the off-site disposal facility. The implementation of these alternatives is also affected by the same factors.

No treatment response actions were utilized in the development of alternatives for Subunit C waste (i.e., soils and debris). This decision is consistent with the FEMP site-wide waste management strategy. This strategy is designed to coordinate the disposal of similar waste between operable units. From a site-wide perspective, the estimated quantity of soils and debris requiring management by Operable Unit 4 in comparison with the total estimated quantity of soils and debris to be managed by Operable Units 5 and 3 respectively, is quite small. Therefore, as opposed to Operable Unit 4 developing its own treatments methods for soils and debris, the disposition of these wastes will be integrated with the disposal methods and any treatment methods developed by Operable Units 3 and 5.

(b,d) Comment: The responses to Comments "b" and "d" were similar in content and, therefore, have been combined. These comments are related to post-remediation monitoring and site reviews for alternatives which include on-property disposal. The commentor asked: "...EPA would review on-property disposal every five years in accordance with CERCLA requirements. Who and how often would a review be performed in other years?" and also asked: "Post remediation O&M cost are estimated over a thirty year period. What about the remaining years for which this material will require monitoring?"

Response: The EPA requires a five-year review under the CERCLA as follows "...if a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after initiation of the selected remedial action." The final details regarding the extent, frequency, duration, and responsibility for conducting post-remediation monitoring and site reviews is being developed by Operable Unit 5 for the entire site as a whole, including the Operable Unit 4 area. Similarly, the Operable Unit 4 selected remedy has adopted preliminary soil cleanup levels with exhumed soils being placed into on-property storage, pending the establishment of final remediation levels and a disposition strategy through the Operable Unit 5 Record of Decision (ROD). Since this soil disposition strategy has been adopted, it is not considered appropriate to specify in the Operable Unit 4 ROD the long-term operation, maintenance and monitoring requirements for any residual concentrations of hazardous substances in soils in the Operable Unit 4 footprint. The Operable Unit 5 ROD will establish final remediation levels for soil and the associated long-term operation, maintenance, monitoring and institutional requirements for the site. The scope and duration of these requirements will be consistent with the contemplated future land use for the FEMP property and the final remediation levels documented in the Operable Unit 5 ROD. Active operation, maintenance and monitoring for the soils staged in the interim storage facility are contemplated as part of the Operable Unit 4 remedy.

(c) Comment: "There is no mention of retri[e]vability of the materials which would be disposed of in the on-site disposal vault. Is this option being considered, and if not, why?"

Response: The on-property disposal facility is designed with an intruder barrier and permanent markings to inhibit purposeful or inadvertent human intrusion of the facility's engineered protective features and to eliminate water infiltration. This design is utilized to provide permanent disposal of the wastes and does not include a means to readily retrieve the waste. Designing a means to easily retrieve the waste would compromise the integrity of the cap and would present an easier access for intrusion into the disposal facility.

(e) Comment: "Alternative 2B and 4B have an identical post remediation cost, with Alternative 4B being untreated. Please explain how cost can be the same for treated versus untreated materials disposed in an on-site vault?"

Response: Post-remediation cost cover the costs associated with the monitoring and maintenance of the disposal facility. The monitoring and maintenance requirements and the disposal facilities for both alternatives are the same. Therefore, the post-remediation cost associated with these activities are also the same.

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(f) Comment: "There is discussions of interim storage. What is the estimated time for this interim storage?"

Response: The use of interim storage is identified for Subunit C alternatives waste only. Interim storage would be utilized only if the waste could not immediately be managed by the remedial alternatives selected for Operable Units 3 and 5. If interim storage is required, the duration of the storage would be contingent upon the schedule for implementation of the preferred remedy identified in the Operable Units 3 and 5 ROD. The interim storage would not exceed the date for final remediation of the FEMP site which is currently estimated to be completed in 30 years.

(g) Comment: "Alternative 2C states that the contaminated materials would be placed in bulk (without packaging) into the on-site disposal vault. Please expand on why this material would not be packaged and state the advantages/disadvantages of packaged versus unpackaged."

Response: The soils and debris considered for disposal into the disposal vault would be contaminated with relatively low levels of contamination. The disposal facility for the contaminated material from Alternative 2C would be designed to be protective of the environment without the use of packaging. The use of bulk disposal eliminates the unnecessary cost of the packaging and also reduces the cost of construction by requiring a much smaller disposal facility.

(h) Comment: "It is stated that non-porous materials will be released from the site as uncontaminated per DOE Order 5400.5. Will this material be checked for contamination prior to release or just assumed to be uncontaminated and release?"

Response: As per DOE Order 5400.5, any material which has been used or stored in a radiation area is to be considered potentially contaminated. Prior to free-release of any potentially contaminated material, the material will be surveyed to determine whether the removable or total surface contamination is within specific limits as established in DOE Order 5400.5, NRC Regulatory Guide 1.86, and FEMP site procedures. The establishment of these limits is based on the primary objective to prevent an effective dose equivalent to the public in excess of 100 mrem per year. This standard is considered protective of public health and the environment.

(i) Comment: "Will wastewater generated during remediation be treated for non-radioactive contaminates prior to discharge in the Great Miami River? To what extent will radioactive and non-radioactive elements be removed prior to discharge?"

Response: All waste water generated at the FEMP, including waste water generated during Operable Unit 4 remedial activities, is subject to compliance with the FEMP National Pollution Discharge Elimination System (NPDES) permit. The NPDES permit limits the amount of contaminants, both radioactive and non-radioactive, which may be discharged through waste water effluent into the environment. In compliance with the NPDES permit, all waste water generated from the remedial activities for Operable Unit 4 will be treated to comply with the FEMP NPDES permit standards.

(j) Comment: "A material variance in the cost associated with Subunit C exist between 3C.1 and 3C.2 with the only apparent difference being 3C.1 disposal at NTS and 3C.2 at Envirocare in Utah. Please explain this variance and if this is partially due to more stringent requirements at NTS, should these more stringent requirements also be required at a commercial facility? Which requirements is more protective? It is also stated that an exemption from DOE Order 5820.2A (this is transposed as 5280.2A in document, page 56) is needed to dispose at a commercial facility; has this been granted?"

Response: The variance in the cost between Alternative 3C.1 and 3C.2 is primarily due to the elimination of packaging for the Permitted Commercial Disposal Facility as opposed to the use of packaging for the NTS. The elimination of the purchase cost of the packaging and the reduction of required transportation significantly decreases the costs of Alternative 3C.2 as opposed to 3C.1. The NTS currently does not accept waste in bulk form (i.e., unpackaged railcar) and therefore, the disposal alternative for the NTS does not recognize the same cost savings. Because both disposal facilities operate within their permits, and the environments in which they are located are similar, both disposal facilities are considered equally protective.

An exemption from DOE Order 5820.2A, which excludes the use of commercial disposal facilities for DOE waste, has not been specifically pursued for the disposal of Operable Unit 4 remedial wastes. The evaluation of the alternatives in the FS/PP-DEIS, indicated that other alternatives were preferred over the alternatives which included the Permitted Commercial Disposal Facility. Therefore, a request to grant an exemption from this DOE Order was not required. However, exemptions from this order have been granted and commercial disposal facilities have been utilized for other FEMP wastes.

(k) Comment: "Will notification of these shipments be given to the areas involved in the transportation routes for both rail and truck, and what precautions for protection will be employed?"

Response: Response to this comment is provided in Issue 5.

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(m) Comment: "Is there a potential for failure of the vitrified material has the radionuclides trap[p]ed continue to decay, and if so, what is that risk?"

Response: The weathering behavior of volcanic glass (a natural analog to the Operable Unit 4 vitrified product) can provide some measure of the long-term stability and durability of the vitrified product. Only very thin weathering rinds develop on volcanic glass over a period of several million years. The slowness in the overall degradation of a glass grain suggests that the diffusion coefficient or leachability index would remain relatively unchanged over time. Data on the long-term stability of vitrified material are not available, and the life expectancy of the vitrified product is difficult to estimate from short-term leach rates. However, on the basis of the longevity of volcanic glass and diffusion calculations, the vitrified product would be expected to withstand direct environmental exposure for thousands of years. Furthermore, past studies have shown that the decay of radioactive materials do not affect the durability of the vitrified product.

(n) Comment: "It states that the capital cost associated with the on-site disposal facility has been removed. Where is (will) this cost be accounted for?"

Response: This comment refers to a sentence in the Proposed Plan (page 67, line 6) which was erroneous and scheduled to be deleted from the text. However, this deletion was inadvertently overlooked and the sentence was left in the text. The capitol cost of the on-site disposal facility is included in the total estimated cost of the preferred remedy.

(o) Comment: "Line 14, page 67 reads ". . . results in significant a reduction in the volume...," this would read better if the "a", preceded significant/rather than follow."

Response: This comment is duly noted. However, it has no significant impact on the document.

(p) Comment: "Please define the following statement (line 16, page 67) utilize permanent solutions to the maximum extent practical. What viable permanent solutions presently exist?"

Response: The intent of the statement "... permanent solutions to the maximum extent practical..." alludes to the fact that, based on available technology, this remedy provides the most feasible and permanent solution for the remediation of Operable Unit 4. A potential remedial alternative's ability to achieve long term permanence is one of nine criteria used to evaluate a remedy in terms of the risk remaining at the site after response objectives have been met. The primary focus of this evaluation is the extent and

effectiveness of the controls that may be required to manage the risk posed by treatment wastes.

As discussed in the Operable Unit 4 Feasibility Study and Proposed Plan, the preferred remedy (removal, vitrification of the waste and offsite disposal at the Nevada Test Site) would be the most effective based on treatability studies conducted on the silo residues which demonstrated that vitrification would be effective in reducing radon emanation, radionuclide leachability, and significantly reducing the residue volume by approximately 50 percent. Off-site disposal at the NTS would provide a greater certainty than on-property disposal over the long term that the treated residues would not affect human health and the environment.

(q) Comment: "Basis for stating long-term environmental impacts of permanent disposal at NTS are minor and no long-term impacts of biota expected from disposal activities at NTS. It is stated that to reduce U-238 to essentially background is not feasible; it also states that it is assumed that the federal government retain ownership of the FEMP site to consider cleanup protective. While I do not have a problem with these statements, it does bother me that no formal statement has been made publicly concerning this. These two statements present future land use constraints which must be addressed. Why hasn't the DOE adopted a formal position concerning this issue and communicated this to both the Fernald Citizens Task Force and the community?"

Response: The DOE and the EPA recognize that future land use for the FEMP site is currently under consideration by the Fernald Citizens Task Force and is actively involved in and supports this effort. However, due to the stipulations of the Amended Consent Agreement, Operable Unit 4 is required to put forth a remedy for cleanup of soils within the operable unit boundary prior to completion of the Fernald Citizens Task Force effort.

As discussed in the Proposed Plan, Section 5.4.1, the preferred remedy for Operable Unit 4 requires cleanup of contaminated soils to the proposed remediation levels presented in Table 5-2. In addition to this, it is indicated that these cleanup levels for soils may be adjusted to lower values, if necessary, to insure protectiveness of human health and the environment. The level of protectiveness required by the soils will be dictated by the final land use selected for the entire FEMP site, including that for Operable Unit 4, by the Citizens Task Force, and the ongoing feasibility study modelling efforts being performed by Operable Unit 5. Factoring in the Fernald Citizens Task Force recommendations, Operable Unit 5 will evaluate and determine the final cleanup levels required for soils on a site-wide basis. Accordingly, the Operable Unit 4 FS/PP-DEIS recommends that the decision for final disposition of the contaminated soils be put in abeyance until the Record

of Decision for Operable Unit 5 is issued, at which time the final soils cleanup levels will be established.

(r) Comment: "Line 13, page 76 reads"...would bot be...", should that read "...would not be..."?

Response: This comment is duly noted. However, it has no significant impact on the document.

(s) Comment: "It states the on-site, above-grade disposal facility would be designed for a 1000 year life with no active maintenance. What is the half-lives or duration for which the radionuclide and chemical contaminants are a threat to the environment; do they exceed 1000 years? Also explain why no active maintenance is assumed for 1000 years?

Response: The half-lives of the radioactive constituents in the Operable Unit 4 waste range from 3 to 4 days for Radon-222 to over 1.4×10^{10} years for Thorium-232 well in excess of 1000 years.

On-site disposal of contaminated soils and debris in an above-grade disposal facility was evaluated in the Operable Unit 4 Feasibility Study (FS) and also presented in the Proposed Plan (PP). For purposes of the FS/PP, this disposal facility would be designed for a life of 1000 years. This vault would be designed to preclude the need for long-term active maintenance for the duration of its design life of 1000 years. An assessment of the risks to human health, presented in Appendix D of the Operable Unit 4 FS, indicates that for the extended trespasser the residual risk from soil remaining in Operable Unit 4 in addition to risks posed by disposal of contaminated soils and debris in this facility would be well within the required risk range of 1×10^{-4} to 1×10^{-6}. However, it should be noted that the final disposition of soil and debris will be determined by the Records of Decision (RODs) for Operable Units 3 and 5. In accordance with the requirements of CERCLA, the Operable Units 3 and 5 RODs will define the appropriate level of protectiveness required for final disposition of Operable Unit 4 debris and contaminated soil respectively.

(t) Comment: "Has an exemption to the Ohio solid waste facility requirement been requested, and if not when will such a request be made? Also line 28, page 79, would read better if "the" or "a" were added to precede disposal. (For disposal facility on the FEMP site.)

Response: Operable Unit 4 will not be creating a new solid waste disposal unit for management of Operable Unit 4 remediation waste as part of the Operable Unit 4 preferred remedy. Rather, the decision to treat/dispose of Operable Unit 4 wastes on site will be

part of the Operable Units 3 and 5 RODs, since the disposition of Operable Unit 4 demolition debris and soils for remediation will be deferred to those respective operable units. Therefore, compliance with the Ohio siting requirement is not germane to the Operable Unit 4 FS/PP-DEIS.

Discussions with the EPA and OEPA have taken place regarding exemptions and possible waiver to this requirement. At this time, the issue of technical exemption under Ohio statute, versus ARAR waiver by EPA has not been resolved.

The editorial comment on the text contained in Line 28, Page 79, has been noted. However, it does not have any impact on the document.

The Ohio EPA (Commentor R) noted that DOE should attempt to incorporate pollution prevention activities whenever possible during the design and operation of the OU4 remedial action system. In addition, the Ohio EPA commented that all available methods to reduce or eliminate discharges from the treatment system should be considered during the design of the system. It is DOE policy, in accordance with Executive Order 12856, whenever feasible to apply pollution prevention and waste minimization principles into the design and operation of all its facilities. The DOE is committed to employing all available methods and techniques to minimize waste and/or eliminate discharges from remedial treatment systems in a manner protective of human health and the environment.

The Ohio EPA (Commentor R) stated that, ... "The OU4 Proposed Plan is the culmination of efforts by U.S. DOE, Ohio EPA, and U.S. EPA to understand and develop a plan for mitigating releases to the environment from OU4. The alternative selected in the Proposed Plan will address potential and actual releases in a manner protective of human health and the environment."

The DOE acknowledges the Ohio EPA comment and believes that the implementation of the preferred alternative identified in the Proposed Plan will address the remediation of the Operable Unit 4 area in a manner protective of human health and the environment.

The US EPA, Planning and Management Division (Commentor S) stated that, ... "the only comments on the record from our agency are those previously supplied to you by our Waste Management Division. At this point in time, given the requirements of NEPA and its implementing regulations, those comments will have to suffice as our agency's comments. Provided that the comments previously provided by our Waste Management Division are complied with, and further provided that facility in question is subsequently operated in full accordance with applicable local, State, and Federal requirements, it

appears unlikely at this time that any significant adverse impacts on the environment can reasonably be foreseen." The DOE previously addressed the US EPA Region 5, Waste Management comments on the Operable Unit 4 FS/PP-DEIS in May 1994. These comments were satisfactorily resolved with the US EPA Waste Management Division at that time. Attachment II of this responsiveness summary details the significant changes required by the resolution of the US EPA Waste Management Division comments.

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ATTACHMENT I

WRITTEN AND ORAL COMMENTS

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I WRITTEN AND ORAL COMMENTS

I.1 INTRODUCTION

The written comments received on the Operable Unit 4 FS/PP-DEIS during the March 7, 1994 - June 19, 1994 comment period and the verbal comments received during the March 21, 1994 public meeting at The Plantation in Harrison, Ohio are contained in this appendix. In addition, all late comments received as of July 5, 1994 are included in this appendix. Each specific comment letter, oral statement, and submitted attachments are referenced by an alphabetic identifier as noted in Table I.1-1. These comments are a formal part of the Administrative Record for this action.

TABLE I.1-1
FORMAL ORAL AND WRITTEN COMMENTS RECEIVED

ITEM	COMMENTOR	PAGE NUMBER
	FORMAL ORAL COMMENTS	
A	Norma Nungester, resident and FRESH member	I-8
B	Vicky Dastillung, resident and FRESH Vice President	I-19
C	Lou Bogar, resident, Hamilton, Ohio	I-20
D	Edwa Yocum, resident and FRESH Secretary	I-28
	FORMAL WRITTEN COMMENTS	
E	Maud Naroll, State of Nevada, State Clearinghouse (April 18, 1994)	I-31
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[a]Postcards were received by the DOE on July 5, 1994.

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Commentor A

Norma Nungester: (Questions & formal oral, March 21, 1994)

a few more of us from Ohio EPA. We're hiring some more staff, so hopefully that will be a little more proactive to your needs and help you out as far as information you might need. So like I said, feel free to contact me outside of this at the office or wherever. Thanks.

MR. STEGNER: Thank you. What we'll do now is, we'll have an informal question and answer session. It might be best if you use a microphone back there. If you don't feel comfortable, just stand up and shout it. We have a recorder here tonight. Please just state your name and the question, and we'll let the panel pick it up. So whoever wants to be first, feel free.

MS. NUNGESTER: I'm Norma Nungester. I'm a Fernald resident, and a member of Fresh. I have a question of Dennis Nixon. He made the statement that I don't agree with, and I wondered if he could clarify for me. He said that when you vitrify waste, it reduces radon emanation to that of building materials. To my understanding, when you vitrify radionuclides, that they still are very, very hot.

MR. NIXON: That's correct. The

concentrate, due that reduction, is the radon generation from the treated waste itself that is significantly reduce. The radon is actually held up, and the surface area is significantly reduced. Did you get every other word?

You're exactly right, that due to that fact that there's a significant volume reduction, you actually concentrate the radionuclides, so you have a higher concentration of say uranium in a set volume, but the radon itself is much less. The generation or the emanation from the vitrified waste is much less than in its natural form.

MS. NUNGESTER: Okay, thank you.

MS. YOCUM: Edwa Yocum, Fresh member and a resident of the Fernald area. I was asking a question, this concerns Subunit C2 on your preferred alternative demolition removal on property disposal. When you were talking about the OU4 NEPA compliance with the substantive cumulative impact up to 250 acres of surface disturbance, does that mean that would be what would be part of where the waste will be put?

MR. WOODS: Yeah. Again, we looked

Commentor A (Cont.)

at an LRA and assumed on-site disposal.

MS. YOCUM: Okay.

MR. WOODS: And that acreage would incur areas where waste would be disposed of.

MS. YOCUM: Okay. Then, you also are talking about the loss of 220 acres of habitat. Is that included in the 250 acres?

MR. WOODS: Yeah. That 250 would be a total that would occur during the short term, in other words, during excavation activities. Once remediation is completed, we would look at approximately 220 acres being permanently committed, so yes, that's correct.

MS. YOCUM: Okay, all right, that's what I wanted to know.

MS. NUNGESTER: Can you expand on that permanently committed? I missed something. Permanently committed for what, waste disposal facility?

MR. WOODS: Yeah, correct.

MS. NUNGESTER: Not for the waste itself but for the --

MR. WOODS: For the facilities that would house the waste.

Commentor A (Cont.)

MS. NUNGESTER: That's the inground facility, the upgrade vault, as you so say?

MR. WOODS: Correct.

MS. NUNGESTER: Now can you give me an explanation of what is in an upgrade vault?

MR. WOODS: The alternatives that we used for the evaluation utilized the vault concept, which would be a portion of the waste being disposed of below grade, and, you know, basically a portion above. There would be facilities that the waste could be retrieved from, and what we used was the calculation of the area.

MS. NUNGESTER: Disposal means permanent?

MR. WOODS: Yes.

MS. NUNGESTER: But now you're talking interim?

MR. WOODS: Well, what I'm saying is the design of the facility wasn't as important as the area that the facility could include. Designs are going to be finalized as we go through the remedial process.

MS. NUNGESTER: Well, this is another thing, when you go through the RA and

Commentor A (Cont.)

that's where the final decision and designs are actually made --

MR. WOODS: Correct.

MS. NUNGESTER: -- how can you come out with a Record of Decision before you actually know what the vault is going to look like and if it is really going to do the job?

MR. WOODS: No, you cannot reach a Record of Decision until, you know, we've gone through the full analysis of what the vault will be designed like and how it will work. What we did is utilize the alternatives that were available at that time for the purpose of the evaluation, which is really the best we can do. We can't foresee.

MS. NUNGESTER: Okay. As of today?

MR. WOODS: That's correct, that's correct. As we go through the various operable units and decisions are made as to the final design of the vaults and changes are made to the area, that may be required. We'll update the analysis and provide it in the future integrated documents for the other operable units.

MS. NUNGESTER: Okay. So then our decisions of the -- So your alternatives for the

Commentor A (Cont.)

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1 Unit 4 can change by the time after arriving at a
2 decision?
3 MR. NIXON: We were specific with
4 the subunit wastes the Record of Decision. For
5 Operable Unit 4, specifically the Record of
6 Decision, the proposed plan in the future Record of
7 Decision will be that the Subunit C waste is -- you
8 remember us talking about being held in abeyance or
9 delayed operable units, the Subunit C waste will be
10 handled in accordance with the Records of Decisions
11 for Operable Unit 3 and Operable Unit 5,
12 respectively. Okay.
13 So as far as our Record of Decision,
14 essentially we carry it through the removal of the
15 soil, interim storage of that soil in accordance
16 with Removal Action 17, which is the management of
17 those soils, demolition of the structures and
18 storage of that debris in interim until OU3 comes
19 up with a final decision for the debris.
20 OU5 will have a final decision on how
21 the soils will be treated, and those all integrate
22 very well. When we start that remediation process,
23 when we have those soils excavated and stored, at
24 that time Operable Unit 3 and 5 Records of

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Decisions will be in place, and we'll have very good integration.

At that point we'll be able to deliver -- Theoretically, we'll be able to take the soils out and take those to a Operable Unit 5 facility for treatment. They'll be disposed of in accordance with their Record of Decision, and that may or may not be on-site disposal.

MS. NUNGESTER: Okay. You're saying, you're taking the debris, the structure, the equipment, the surface soil, you're putting them all in the underground vaults?

MR. NIXON: Operable Unit 4 is delaying that decision. That's going to be actually be stored in an interim fashion --

MS. NUNGESTER: Okay

MR. NIXON: -- until OU5 and OU3 have records of decision. Now, their Record of Decision may very well be that we will treat soil by washing it and disposing of that on site.

MS. NUNGESTER: Right, but it doesn't say that, that it's going to be interim until Unit 5 is considered.

MR. NIXON: The proposed plan does

Commentor A (Cont.)

clearly state, as well as the Record of Decision will clearly state those, that integration.

MS. NUNGESTER: It does?

MR. NIXON: Yes, it does.

MS. NUNGESTER: Okay. Well, I know on the proposed plan booklet on page 43 talks about that specific issue.

MR. NIXON: Right.

MS. NUNGESTER: If anybody has that book, and they want to look at it, they can, but I don't believe it says -- It says something about that it will be combined with 5, Unit 5, but it does not say that would be interim disposal until 5.

MR. NIXON: Disposal, it is interim storage.

MS. NUNGESTER: Or storage, but they use "disposal" as the word throughout the whole --

MR. NIXON: In the proposed plan, the proposed plan has, for Subunit C waste, it has a selected or preferred alternative which is on-site disposal identified, and the reason that's in there is because on-site and off-site disposal was so close we had to select the one for the sake

Commentor A (Cont.)

evaluating the full alternative from start to finish. Okay.

Later in the document it talks about the integration effort that will occur with OU3 and OU5, and puts -- holds that decision in abeyance for final disposal of those debris and soil until OU3 and OU5 have their Records of Decision.

MS. ALLEN: The confusion could be the fact sheet on page 12 states that the soil debris will be disposed of on site.

MR. NIXON: There is an ~~area~~ error in the fact sheet on page 12, the last paragraph I believe.

MS. NUNGESTER: Then, this shows more of a reason why the public should have a comment period before -- after -- in between the ROD's and even during the remedial, the RA, then, to understand it. Thank you.

MR. STEGNER: Other questions?

UNIDENTIFIED SPEAKER: I have one, and it goes to back to when you were talking about, Randi about, the community and stake holders or public or whatever we're called these days, plays a part in this process. I'll echo what Edwa just

Commentor A (Cont.)

MR. STEGNER: Is Lee Bolver still here?

UNIDENTIFIED SPEAKER: He left.

MR. STEGNER: Bob, do you have something to say?

UNIDENTIFIED SPEAKER: I'll turn it in later.

MR. STEGNER: Bob Gessel -- Godsel, I'm sorry? Going very well so far. Tom Wagner, Citizens Task Force? Okay. We have an open mike, folks, if anyone wants to make a comment.

MS. NUNGESTER: You want my address, too?

MR. STEGNER: Not necessary, as long as we have your name.

MS. NUNGESTER: Norma Nungester, Fernald resident and Fresh group. I have several comments. First of all, I want to cover again what was stated in the question and answer period. I think between the draft ROD and the final ROD we need a public comment official time, and you need to formalize this. On down here below you say the public involvement, public involvement, that means nothing to us. You need to formalize that.

Commentor A (Cont.)

And you also need more details on your RD/RA work plan. We want to know more details on transportation. We want to be notified when you're transporting this stuff and talk about the materials that are actually in the K-65 when they're vitrified and when you start to ship them out to Nevada.

Also this stuff that stays on site, I'd like to know how they will be monitored, and for how long of a period they're going to be monitored. I guess I just want to express that we want a guarantee that real-time monitoring will be used.

Also a suggestion, how about covering those silos when you start working on them? I think this is one of the most important things you could do for the community. I think that's about it. I'm trying to read my notes that are chicken scratch here.

Oh, one more thing. I'd like to be diligent on referring large quantities of waste from other sites. We don't want anything brought in here from other plants to vitrify with our material or to be put under the storage areas.

Commentor B

Vicky Dastillung: (Formal oral, documented by Johnny Reising, DOE, March 4,1994)

What capabilities do we have to do "real-time monitoring?"

Who has the authority to "shut down" the operation if the "monitoring" levels are high?

FRESH wants more public input on the RD/RA process (real "nitty gritty" of how things will be done).

How has NEPA been addressed? Where and how do we bring this out in the document (Proposed Plan)?

Vicky does not believe the last bullet on page 12 of the Proposed Plan fact sheet is correct. (Her point is that we cannot pre-suppose that on-property disposal will be the result; it must be evaluated with Operable Units 3 and 5.)

Commentor C

Lou Bogar: (Formal oral, March 21, 1994)

unit, then.

UNIDENTIFIED SPEAKER: Okay. I'll discuss it with you.

UNIDENTIFIED SPEAKER: I'm Lou Bogart. I'm a resident of Ross. I have some technical questions. In looking at data tables for Operable Unit 4, one of the things that strikes me is that you always report uranium 254/236. Does that mean there's U-236 there? If so, I don't believe it because U-236 doesn't exist in nature.

Secondly, the ratio of U-234 to U-238 in many cases look very odd, odd in the sense that in nature and in this ore and in the raffinate the 234, 238 ratio ought to be very close to unit. For example, when in the table that you've given a handout, the Silo 1 number looks pretty wrong. The Silo 2 number is more acceptable.

And the reason I think that's important is because you're going to focus the clean-up levels on U-238. I don't quite know how you're going to do that without doing some very sophisticated isotopic analysis. But in any case those numbers don't look right, and you see that in many, many tables.

Commentor C (Cont.)

On the inorganic chemicals, is there somewhere in all the OU4 documentation a list of all of the inorganic constituents? For example, I note that in most of the recent documents you don't list gold. Now you can. There is about, about four times as much gold in this material as silver.

Just as a side light for my own amusement, I calculated this afternoon. There's about $2.3 million worth of gold in those two silos, and that may not be important, but what other elements are not reported which may have some impact on the processing of the material by vitrification?

For example, there should be a fair burden of rare earths, the whole lamprophyllite series should be in these ores, and I don't see any of that being reported. Anybody have an answer for that one?

MR. NIXON: Well, you had about five questions, so I'll start in the beginning. One was 235 to 236, those are analyzed and reported the same. You are correct. We don't feel there is any uranium-236 in the residues. It's a good point.

Commentor C (Cont.)

1 Whether the ratio between U-234 and U-238 is
2 correct, I do not have the answer to that, but we
3 can discuss that and get back with you within the
4 next couple of days.
5 MR. BOGART: How about a complete
6 list of --
7 MR. NIXON: Complete list, the
8 remedial investigation did do a complete list of
9 the organics, inorganics. Whether gold was
10 evaluated, I'm not sure. I'm looking at my team.
11 MR. BOGART: You were supplied gold
12 by TLCP.
13 MR. NIXON: But we also do a full
14 HSL, Hazardous Substance List, which gold would not
15 be part of. So I'm not sure whether gold was
16 particularly reported in the RI.
17 MR. BOGART: How about rare earths?
18 MR. NIXON: I couldn't answer that,
19 either. We've got a copy of the remedial
20 investigation here. Whether these fellows can
21 quickly find answers to those questions or again we
22 can get back with you.
23 Amy Engler I know is sitting out here
24 somewhere taking very good notes, and we'll respond

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to any of the questions which we don't have answers to tonight. We've committed to have answers back within 48 hours from this evening.

MR. BOGART: Well, I -- not so much for myself, but I think for the general public.

MR. NIXON: Any question that is raised even in the informal conference will be addressed in the responsiveness.

UNIDENTIFIED SPEAKER: Can we use that gold as collateral, can we use that? You said there's like $2 million worth of gold. Can we use that as collateral somehow?

MR. BOGART: It's going to cost 90 million bucks, maybe we can make it 88 million bucks. On page 21 or whatever this thing is called, the proposed plan, the spiral-bound thing, on page 12 about the middle of the page is an initiation of a discussion about risk.

And this is the area that concerns me the greatest, because although you point out that -- And I presume in all cases you're talking about fatal cancers because there are, of course, nonfatal cancers also. And that's not terribly clear in anything that's written.

Commentor C (Cont.)

1 Risk from exposure, the radiation
2 naturally occurring in the environment is about 1
3 in 100 primarily from radon; however, incremental
4 risks targeted by the upper end of EPA range means
5 if all persons within a population of 10,000, 1
6 person might get cancer from the exposure, and
7 cancer is expected from all other causes. I think
8 the whole business of risk assessment needs to be
9 put into some kind of context.
10 If you look at the latest NCRP
11 guidance, 115 and I guess 116, you can talk about
12 risk in terms of about 4 or 5 times 10 to the minus
13 10 and you do the hocus-pocus chemists like to do.
14 And that turns out the average resident from
15 natural radon, that risk becomes about one half
16 times 10 to the minus 2 and the range is 0 to 90
17 years old. And when 90 years old, I guess cancer
18 is the last thing I'm going to worry about.
19 But in any event, you make the
20 statement that the normal cancer risk is about 10
21 to the minus 2, and then you proceed to march down
22 the road of things that are 2 to 4 to 5 orders of
23 magnitude smaller, and it's never put in context.
24 And I think these documents need to discuss what

Commentor C (Cont.)

are we paying for, and that becomes a real problem. I don't know how many people feel comfortable with a 10 to the minus 6 risk, and I'm not real sure that that's a fatal cancer risk.

There is a problem with the methodology of using the health effect summary table slope factor thing as opposed to methodology that's used by people who do the beer studies and the NCRP studies because we're talking about vast orders of magnitude differences.

Now, the last comment I guess, I'd like to see something in these documents that more clearly explains why the CERCLA process has elected to use such abominably small risk estimates.

My last comment perhaps goes to EPA back in 1986, was a bad year for me, EPA published a notice of intent that they were going to promulgate residual regulation standards. It is now 1994, and, to the best of my knowledge, residual radiation level standards have not been promulgated.

In 1993 in a GAO report to Congress somebody in EPA said that in March of 1994 they were going to finally publish residual radiation

Commentor C (Cont.)

standards, not publish them, but they would take them to OMB, which would be the fist step in getting them published -- well, not the first step, but a key step in getting them published in the Federal Register.

March 1994 is now. My concern is, is there one part of EPA working on residual radiation level standards which may very well impact on the clean-up levels that are being talked about here for the clean-up of OU4?

MR. NIXON: Was there any response?

MR. SARCA: Yeah, I can answer that from my understanding. One of the people involved from the EPA perspective that works with me, he's been commenting that he's involved in working on some of those standards. Will they directly impact this investigation, I don't know. I don't think so. Hearing some of the numbers, I think they may even be moving towards the side of being equally as conservative, could be more conservative.

I don't know what the final will come out with. When they do come out of the numbers, they'll go to budget and move forward from there. I do know that they are being worked on. One of

the people from my office is doing that right now. I don't know the exact state.

UNIDENTIFIED SPEAKER: If memory serves, I think that the gold Lou was talking about was contained in the pitch blend or whatever it was that came over from Africa that the United States bought and dumped into the K-65 silos. I heard or read that somewhere. You might want to check that out.

MR. NIXON: It is in the K-65 material, yes.

MR. BOGART: It all came from one mine.

UNIDENTIFIED SPEAKER: The reason they took that pitch was they wanted to strike gold?

MR. BOGART: No, radium and gold.

UNIDENTIFIED SPEAKER: As far as I'm concerned, it can be vitrified.

MR. BOGART: The question was, what else is there?

UNIDENTIFIED SPEAKER: Okay. I just have another question. When you said they were filling the silos, especially 1 and 2, did they

Commentor D

Edwa Yocum: (Formal oral, March 21, 1994)

concentrate, due that reduction, is the radon generation from the treated waste itself that is significantly reduce. The radon is actually held up, and the surface area is significantly reduced. Did you get every other word?

You're exactly right, that due to that fact that there's a significant volume reduction, you actually concentrate the radionuclides, so you have a higher concentration of say uranium in a set volume, but the radon itself is much less. The generation or the emanation from the vitrified waste is much less than in its natural form.

MS. NUNGESTER: Okay, thank you.

MS. YOCUM: Edwa Yocum, Fresh member and a resident of the Fernald area. I was asking a question, this concerns Subunit C2 on your preferred alternative demolition removal on property disposal. When you were talking about the OU4 NEPA compliance with the substantive cumulative impact up to 250 acres of surface disturbance, does that mean that would be what would be part of where the waste will be put?

MR. WOODS: Yeah. Again, we looked

at an LRA and assumed on-site disposal.

MS. YOCUM: Okay.

MR. WOODS: And that acreage would incur areas where waste would be disposed of.

MS. YOCUM: Okay. Then, you also are talking about the loss of 220 acres of habitat. Is that included in the 250 acres?

MR. WOODS: Yeah. That 250 would be a total that would occur during the short term, in other words, during excavation activities. Once remediation is completed, we would look at approximately 220 acres being permanently committed, so yes, that's correct.

MS. YOCUM: Okay, all right, that's what I wanted to know.

MS. NUNGESTER: Can you expand on that permanently committed? I missed something. Permanently committed for what, waste disposal facility?

MR. WOODS: Yeah, correct.

MS. NUNGESTER: Not for the waste itself but for the --

MR. WOODS: For the facilities that would house the waste.

Commentor D (Cont.)

Thank you.

MR. STEGNER: Thank you, Norma. Edwa?

MS. YOCUM: Edwa Yocum. Some of this will sound repetitious, but I'm asking for a public comment period between the ROD's, the draft and final; and we need an official public comment period after the RA process. And also I'm asking for a public comment period between the beginning and completion of remediation. And then, too, when dismantling the K-65 silos and also the 3 and 4, I'd like to have a protective cover be used around the silos.

And as far as I read in there, that EPA would be reviewing the vault or the disposal sites every five years, I'd like to know the definition of "reviewing," and I would like continuous monitoring and maintenance of on-site disposal vaults or at least one time a year as long as they're on site. And also, who would be paying for this monitoring and maintenance? And this way I recommend a trust fund for monitoring and maintenance of the disposals.

MR. STEGNER: Thank you, Edwa. Open

BOB MILLER
Governor

STATE OF NEVADA

JOHN P. CONEAUX
Director

Commentor E

DEPARTMENT OF ADMINISTRATION
Capitol Complex
Carson City, Nevada 89710
Fax (702) 687-3983
(702) 687-4065

April 18, 1994

Mr. Ken Morgan
Public Information Director
ATTN: FS/PP-DEIS Comments
Fernald Field Office
U.S. Department of Energy
Post Office Box 398705
Cincinnati, Ohio 45239-8705

RE: Fernald Environmental Impact Statement, Operable Unit 4
Fernald, Ohio

Dear Mr. Morgan:

Thank you for providing the State of Nevada the opportunity to review the Department of Energy's Feasibility Study/Proposed Plan Draft Environmental Impact Statement (EIS) for Remedial Action at Operable Unit (OU) 4 of the Fernald Environmental Management Project (FEMP). As you know, the draft EIS assesses the potential environmental impacts of removing and treating silo materials and surrounding environmental media at DOE's Fernald plant in Ohio and sending these treated materials to the Nevada Test Site (NTS) for final disposal. Following are the state's comments on this proposal.

As we understand the proposed action, DOE is taking the position that the thorium mill tailing waste, which is admitted to be mixed waste, is not subject to Environmental Protection Agency (EPA) or State of Nevada regulatory control. For the reasons specified below, we believe this position is not correct.

Commentor E

- In 1987 DOE promulgated regulations (10 CFR 962.1) stating that RCRA hazardous waste, mixed with byproduct material falling under the category defined in the Atomic Energy Act (42 USC 2014(e)(1), would be subject to regulation (i.e. the hazardous components of the mixed waste) by EPA and EPA-delegated States. However, the byproduct material falling under the category given in 42 USC 2014(e)(2) that was mixed with RCRA hazardous waste, while constituting a mixed waste, would not be subject to regulations by EPA and or EPA-delegated States. We note promulgation of these regulations and associated restrictions were carried out prior to the passage of the Federal Facility Compliance Act of 1992 (FFCAct).

- As you know, under the FFCAct, Congress defined mixed waste to mean "waste that contains both hazardous waste and source, special nuclear, or by-product material subject to the Atomic Energy Act of 1954." This definition shows no distinction between the two categories of byproduct material mentioned above. Hence, the attempted exemption from hazardous waste regulations of the hazardous components of mixed waste containing byproduct material from EPA\State regulatory control, has been invalidated.

- We also note that EPA has delegated to the states regulatory control over all mixed wastes without regard to specific radionuclide content, which is consistent with the expression of Congressional intent in defining mixed waste under the FFCAct (See 51 FR, July 3, 1986, 24504-24505).

Based on these points, it is the State of Nevada's position that the regulatory issues described in the above mentioned Draft EIS have not been adequately addressed.

We also note that the cost estimates of long-term storage/disposal of mixed waste at the NTS were not properly accounted for in the Draft EIS. The assumptions, for example, under which storage/disposal of mixed waste at the NTS could be considered "free" when compared to a commercial facility, were not presented in the document.

000101

Commentor E

In a related matter, we are still waiting for a response concerning our request for an extension of the comment period for the subject Draft EIS. As you may recall, we recently requested the extension to facilitate stakeholder involvement activities in southern Nevada.

Thank you for the opportunity to comment on the above mentioned Draft EIS.

Sincerely,

Maud Naroll

Maud Naroll
State Clearinghouse

MN/jbw
cc: Governors Office
Affected State Agencies
Nevada Congressional Delegation
Carol M. Borgstrom DOEHQ\NEPA
Joseph Fiore, DOE/NV
Donald R. Elle, DOE/NV

Commentor F

COMMENT SHEET

DOE is interested in your comments on the cleanup alternatives being considered in the Feasibility Study/Proposed Plan-Draft Environmental Impact Statement for Remedial Action at Operable Unit 4. Please use the space provided below to write your comments, then fold, staple or tape, and mail this form. We must receive your comments on or before the close of the public comment period on April 20, 1994. If you have questions about the comment period, please contact Ken Morgan, the DOE Public Information Officer at Fernald, at (513) 648-3131

Due to its proximity to the Great Miami River, this land is part of the migratory flyway. Ducks, geese and other migratory birds fly over this area or use it as their residence many months of the year.

Presently, technology exists in landfill management using rubber (neoprene) liners to minimize water seepage. This technology could be incorporated into the Fernald area to create ponds and wetlands. Controlled water levels in ponds, reservoirs and wetlands could be regulated by the pumps and wells that are now in place and being used in the aquifer clean-up.

Hazardous waste should be taken out by rail since the tracks are in place. Handling this waste by transporting it by truck is much more dangerous.

I would discourage industrial development or development that would attract large concentrations of humans in case problems would happen to develop in the future. We cannot afford to have another Love Canal. Our area has had its fair share of negative press and peace of mind and good health is our wish for all.

Name: JACK & Roberta Warndorf
Address: [redacted]
City/State/Zip
Phone:

MAILING LIST ADDITIONS:

Please add my name to the Fernald Mailing List to receive additional information on the cleanup progress at the Fernald Environmental Management Project:

YES X NO__

000103

Commentor G

COMMENT SHEET

DOE is interested in your comments on the cleanup alternatives being considered in the Feasibility Study/Proposed Plan-Draft Environmental Impact Statement for Remedial Action at Operable Unit 4. Please use the space provided below to write your comments, then fold, staple or tape, and mail this form. We must receive your comments on or before the close of the public comment period on April 20, 1994. If you have questions about the comment period, please contact Ken Morgan, the DOE Public Information Officer at Fernald, at (513) 648-3131.

I am asking for a public comment period between the RCD's (Draft & final) Also

- Need an official comment period in the RD/RA process - this is when the actual design & remediation occurs.

- Want a public comment period between the beginning and completion of remediation.

When dismantling the K 65 silos that a protective cover be used around the silos

Continuous monitoring & maintenance of on site disposal wastes - or at least one time a year as long as on site.

- Recommend a trust fund for monitoring & maintence.

Name: Elma Yocum

Address: [redacted]

City/State

Phone:

MAILING LIST ADDITIONS:

Please add my name to the Fernald Mailing List to receive additional information on the cleanup progress at the Fernald Environmental Management Project:

YES__ NO__

Commentor H

3686 Cincinnati-Brookville Road
Hamilton, Ohio 45013

March 25, 1994

Mr. Ken Morgan
Director, Public Information
U.S. Department of Energy Field Office
P. O. Box 398705
Cincinnati, Ohio 45239-8705

SUBJECT: PUBLIC COMMENTS ON PROPOSED PLAN FOR REMEDIAL ACTION OPERABLE UNIT 4 FEMP SILOS 1, 2 AND 3 CONCERNING PREVENTION OF OFFSITE MIGRATION OF AIR POLLUTION AND NOISE

Dear Mr. Morgan:

In order to prevent offsite contamination with respirable airborne cancer producing toxic gases, vapors, fumes and particulate matter from Remedial Actions at Operable Unit 4, it is suggested that at a minimum the following recommendations be adhered to regardless of which cleanup alternative is selected:

1. Construction of a fail safe containment facility maintained at negative air pressure (similar to a glove box) to house all vitrification, bulk reduction and/or cement stabilization equipment and associated HEPA filters, scrubbers, and gas treatment, etc. as well as all packaging operations.

2. Use of real time alarm system with backup must be used to detect failure of equipment including each and every filter and scrubber unit. Air returned to the environment must be cleaned.

3. Use of real time alarm system with backup to detect any toxic chemical contaminated air leaking into the total containment facility from malfunctioning equipment and packaging operations. Contaminated air must be cleaned before being released into the environment. Dilution of highly toxic chemicals into the environment can not be tolerated as a solution.

4. All alarm systems must be checked and calibrated daily and back up alarm systems in place and operative at all times. Preventive maintenance of all equipment must be done at required scheduled intervals and checked by management.

5. To properly oversee the vitrification, bulk reduction, cement stabilization and packaging remediation operations, a member of management from Fluor Daniel, D.O.E. and US EPA must all be present at all times to quickly resolve any problems that are certain to come up, and to make certain that established safety procedures are followed to the letter.

6. Should contaminated air be detected entering the environment from whatever source, a complete shut down of the offending operation would be in order until corrected and Fernald neighbors be immediately notified through site perimeter public address speakers and news media.

000105

Commentor H

7. Toxic chemicals or mixed toxic waste by any other name must not be brought into the Fernald Site to further contaminate it from anywhere else for any purpose whatsoever be it for testing, pilot runs, temporary or permanent storage, decontamination vitrification, bulk reduction or cement stabilization, etc.

8. State-of-the-art engineering noise controls should be incorporated in the design of facilities and equipment used so that no noise from remedial actions is heard downwind offsite. Noise resulting from the release of high pressure air or steam into the atmosphere must be attenuated through appropriate engineering controls.

9. Shipment of toxic wastes should be made to Nevada Test Site as soon as possible. Temporary storage of safely encapsulated toxic waste, contaminated soil and debris should be south of the production area as far from the heavily traveled Route 126 (Cincinnati-Brookville Road) as is feasible.

Please include the above as part of the formal Public Comment for Remediation of Operable Unit 4 FEMP Silos 1, 2 and 3.

Thank you for your help.

Sincerely,

J. E. Walther

J. E. Walther

FEMP1

000106

Ohio Historic Preservation Office

Ohio Historical Center
1982 Velma Avenue
Columbus, Ohio 43211-2497
614/297-2470
Fax: 297-2546

Commentor I

OHIO HISTORICAL SOCIETY
SINCE 1885

March 24, 1994

Mr. Ken Morgan
Public Information Director
ATTN: FS/PP-DEIS Comments
Fernald Field Office
U.S. Department of Energy
Post Office Box 398705
Cincinnati, OH 45239-8705

Re: Fernald Environmental Management Plan
Butler and Hamilton Counties, Ohio

Dear Mr. Morgan,

This is in response to correspondence from Carol M. Borgstrom of the Department of Energy dated February 24, 1994 (received March 1) regarding the above referenced project (a copy of the correspondence was also submitted through the State Clearinghouse and received March 7, 1994). The comments of the Ohio Historic Preservation Office (OHPO) are submitted in accordance with provisions of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]); the U.S. Department of Energy serves as the lead federal agency. My staff has reviewed this project, and I offer the following comments.

OHPO has two areas of concern for the proposed clean-up at the Fernald facility. This particular part of the clean-up involves proposed demolition of storage silos in Operable Unit 4. Additional actions are under consideration for several other operable units in the waste storage area. The first area of concern is the potential for impacts to archaeological sites. The Fernald facility is located in an archaeologically sensitive area and several archaeological studies have been completed for other actions related to the clean-up in and around the Fernald facility. Until a programmatic agreement has been developed, each project will require coordination with this office for archaeological resources. Coordination is anticipated regarding the proposed demolition of the silos providing us sufficient information to make a recommendation for archaeological investigations. At this time we have not determined that any archaeological work is needed for any of the proposed or future actions in the waste storage area. The coordination should provide detailed mapping, descriptions of the soils (to determine if any areas within the project area are relatively undisturbed), descriptions of proposed actions including ancillary work areas and any temporary storage areas, and photographs of the facilities.

Mr. Ken Morgan
March 24, 1994
Page 2

Commentor I

The second area of concern relates to the Fernald facility as an integrated series of architectural structures and facilities. It is our position, under guidelines provided by the Advisory Council on Historic Preservation, the National Council of State Historic Preservation Officers, and the Department of Defense, that the Fernald Facility is eligible for inclusion in the National Register of Historic Places. It is our position that the facility includes all of the structures and facilities within the 1000 plus acre tract. The Fernald facility is eligible because of the important role it played in support of United States defense programs during the Cold War, thus, the facility is a significant part of one of the most important aspects of our history.

The proposed demolition of the silos, or any other structure or facility, could have an adverse effect on the Fernald facility. Coordination with this office is required prior to the implementation of any plan or action resulting in demolition or changes to any structure or facility. OHPO recommends the development of a programmatic agreement to address historic preservation concerns. Once we have established the context for the Fernald facility and the limits of the contributing structures and facilities, then specific recommendations can be made regarding proposed actions such as the proposed demolition of the silos. In the interim, it is our recommendation that the silos should be regarded as contributing structures and we should proceed under the assumption that the proposed demolition will have an adverse effect on a district eligible for inclusion in the National Register of Historic Places. Coordination with this office is recommended to begin preparing the necessary documentation for this action.

In summary, OHPO recommends changes to the Draft Environmental Impact Statement to include coordination with this office under provisions of the National Historic Preservation Act.

Any questions concerning this matter should be addressed to David Snyder or Julie Quinlan at (614) 297-2470, between the hours of 8 am. to 5 pm. Thank you for your cooperation.

Sincerely,

Martha J. Raymond

Martha J. Raymond, Department Head
Technical and Review Services

MJR/DMS:ds

xc: Carol M. Borgstrom, Department of Energy
State Clearinghouse (OH940225-X763-36.471)

000108

Commentor J

April 17, 1994

TO: Ken Morgan, Public Relations, U.S. DOE, FEMP

FROM: Lisa Crawford, President, F.R.E.S.H., INC.

SUBJECT: O.U. 4 Comments on Proposed Plan

Listed below are my comments on the O.U. 4 Proposed Plan:

1.) DOE should include and or develop real-time monitoring for discharges to the environment resulting from remedial actions.

2.) Information obtained from real-time monitoring and any other monitoring activities should be provided to the public.

3.) DOE should incorporate pollution prevention activities whenever possible during the design and operation of the OU 4 remedial action system.

4.) DOE must make certain that the public has involvement and it will continue during the RD/RA. DOE must commit to continued public involvement during this period.

5.) DOE must revise the site community relations plan to meet the need for continued public involvement during the RD/RA.

6.) DOE must and will keep the public abreast of all decisions and any changes that occur during this period.

If you have questions, please feel free to contact me. Thank you.

LC:eae

cc: files

000109

Commentor K

[redacted]

April 20, 1994

Mr. K. L. Morgan
Public Information Officer
DOE Field Office, Fernald
U. S. Department of Energy
P. O. Box 398705
Cincinnati, Ohio 45239-8705

After reviewing the Proposed Plan for Remedial Actions at Operable Unit 4 at Fernald, I would like voice to you some of my concerns as a resident who lives downwind of the proposed activity.

I would like to know if there have been any air pollution models run which show the distribution of the contamination that will be caused as a result of these activities. Not screening types models, but specifically, comprehensive models which take into consideration terrain, wind speed, weather conditions, mixing height and the deposition patterns.

My major concern is the emission of radium (not radon) in the exhaust gases and fugitive gases from the proposed vitrification facility.

One of the important considerations for risk based calculations is that Elda Elementary School, the Ross Middle School, and the Ross Senior High School are all in the direction of the prevailing wind pattern.
I would like to recommend that comprehensive air pollution modeling be done on the facility's impact to the area's air quality. I would like to see the vitrification unit's risk from fugitive and exhaust emissions quantified. I would like to see how the vitrification unit will impact the site's overall risk to the community. Lastly, I would like to see the impact that this will have on the site's radionuclide air emissions specifically with respect to radium emissions into the air.

I make these comments in good faith, and trust they will be received as a good faith effort to improve the implementation of the proposed. 000110

Commentor K

action. and that no effort will be made by any party to affect my employment at the FEMP.

Respectfully yours.

Lawrence L. Stebbins

BOB MILLER
Governor

STATE OF NEVADA

Commentor L

DEPARTMENT OF ADMINISTRATION
Capitol Complex
Carson City, Nevada 89710
Fax (702) 687-3983
(702) 687-4065

April 5, 1994

Mr. Ken Morgan
Public Information Director
ATTN: FS/PP-DEIS Comments
Fernald Field Office
U.S. Department of Energy
P.O. Box 398705
Cincinnati, Ohio 45239-8705

RE: Fernald Environmental Impact Statement, Operable Unit 4
Fernald , Ohio

Dear Mr. Morgan:

Thank you for providing the State of Nevada the opportunity to review the Department of Energy's Feasibility Study/Proposed Plan Draft Environmental Impact Statement (EIS) for Remedial Action at Operable Unit (OU) 4 of the Fernald Environmental Management Project (FEMP). As you know, this "Draft EIS" assesses alternatives for the removal, treatment, and disposal of radioactive material at DOE's Fernald site near Cincinnati, Ohio.

The proposed action analyzed in the Draft EIS is to assess the potential environmental impacts of DOE's preferred alternative, which is to remove silo materials and surrounding environmental media, stabilize the product through vitrification, and send the treated material to the Nevada Test Site (NTS) for final disposal. According to information provided to officials from DOE's Nevada Operations Office (DOE/NV), if the proposed action is implemented, over 300,000 cubic yards of radioactive waste would be disposed of at NTS. Disposal activities would cover a period of approximately thirty years.

Commentor L

As you know, comments on the Draft EIS are due on April 20, 1994. However, for the reason discussed below, we believe the comment due date should be extended to facilitate a more comprehensive stakeholder involvement process for the citizens of Nevada.

Recently, a group of concerned Nevadans, affected Indian Tribes, and local government officials along with officials from the State and DOE jointly participated in the establishment of a Site Specific Advisory Board for DOE/NV's Environmental Restoration and Waste Management Program at the NTS. The group is officially titled The Citizens Advisory Board for NTS Programs (CAB). This new CAB for NTS programs held its first organizational meeting on March 8th, 1994.

Because the CAB will likely play a key role in advising DOE/NV about stakeholder concerns involving major program decisions such as those proposed in the above mentioned document, we believe it is of paramount importance that the CAB be given the opportunity to discuss the possibility of requesting a briefing on the proposed action and alternatives discussed in the Draft EIS.

You might recall that such a briefing was provided by DOE officials and contractors from FEMP to officials from DOE/NV and the State of Nevada. Granting our request for an extended comments period of at least 60 days would allow the CAB to address this issue at its next meeting, which is scheduled for April 20, 1994.

We await your prompt decision concerning this request.

Sincerely,

Maud Naroll

Maud Naroll
State Clearinghouse

MN/jbw
cc: Members, Citizens Advisory Board NTS Programs
Governors Office and Affected State Agencies
Nevada Congressional Delegation
Carol M. Borgstrom DOEHQ\NEPA
Nick C. Aquilina, DOE/NV
Joseph Fiore, DOE/NV
Donald R. Elle, DOE/NV

000113

Commentor M

U.S. Department of Transportation
Research and Special Programs Administration

APR 21 1994

Mr. Ken Morgan
Public Information Director
ATTN: FS/PP-DEIS Comments
Fernald Field Office
U.S. Department of Energy
P.O. Box 398705
Cincinnati, OH 45239-8705

Dear Mr. Morgan:

This letter is in response to the February 24, 1994 letter from Ms. Carol M. Borgstrom, Director, Office of NEPA Oversight, Department of Energy to Ms. Kathleen C. DeMeter, Assistant Chief Council, National Highway Traffic Safety Administration, Department of Transportation (DOT). Ms. DeMeter forwarded that letter to the Research and Special Programs Administration (RSPA), the Federal agency primarily responsible for hazardous materials transportation regulations. That letter solicited review and comments on the Feasibility Study (FS), the Proposed Plan (PP), and the Draft Environmental Impact Statement (DEIS) documents for remediation of Operable Unit 4 of the Fernald Environmental Management Project (FEMP). Our review has focused on elements associated with the transportation of radioactive materials resulting from the remediation activities.

The reviewed documents are clearly of a general nature at this early phase of the program, and do not reflect all details such as radioassay methods, materials classification, and packaging required for compliance with the transportation regulations. There were no statements about any expected need for exemptions from the requirements of DOT regulations which are authorized under Title 49, Code of Federal Regulations (CFR), Part 107; rather, it is stated that all shipments will be made in full compliance with DOT regulations.

In the development of future documentation for the FEMP, it is suggested that technical attention be given to two minor concerns we saw in the FS/DEIS. First, in Volume One, Section 2.5.7.1, Page 2-78, it was stated that all materials transported would meet the definition of Low Specific Activity (LSA) radioactive materials as defined in 49 CFR 173.403(n). We believe the expected physical form of the material transported will result in the radiological risk to the public

000114

Commentor M

being equal to or less than most LSA shipments transported in the Country. However, from Volume Two, Appendix A, Table A.1-1, it appears that the activity per gram of material for some of the package contents might exceed the limits for LSA materials in 49 CFR 173.403(n). The second concern is somewhat related to the activity per gram issue. In Volume One, Section 4.2.2, Page 4-25, it is noted that "sampling of the vitrified waste form would be limited to measurement of dose rate". After material vitrification, the external radiation dose rates will clearly be the indications of the most significant radiological hazards of the materials during transportation. However, since the identity of the radionuclides and the activity of the content in each package is required by the regulations, documentation with technical reasoning will be needed to relate the results of pre-vitrification radioassays to the contents of the packages.

From our limited review of the early phase planning documents, it appeared that there was not much information about non-radioactive hazardous materials transportation compliance issues, or about hazardous wastes subject to both DOT and Environmental Protection Agency regulations. Compliance with those regulations should not be difficult; the radiological hazards appear to be of greatest concern.

Except for the two minor concerns mentioned above, the reviewed documents appear to be satisfactory with respect to hazardous materials transportation.

Sincerely,

for James K. O'Steen, Director
Office of Hazardous Materials
Technology

cc: Carol M. Borgstrom

000115

Commentor N

May 17, 1994

Mr. Ken Morgan
Director, Public Information
U.S. Department of Energy, Fernald Field Office
P.O. Box 39705
Cincinnati, Ohio 45239-8705

SUBJECT: **DOCUMENTS COMPRISING THE FINAL FEASIBILITY STUDY/PROPOSED PLAN - ENVIRONMENTAL IMPACT STATEMENT FOR REMEDIAL ACTIONS AT OPERABLE UNIT 4, THE FERNALD ENVIRONMENTAL PROJECT (DOE/EIS-0195d)**

Dear Mr. Morgan:

The Nevada Test Site (NTS) Citizens Advisory Board (CAB) had the opportunity to meet with representatives of the Fernald Environmental Project at our May 11, 1994 meeting. The CAB is comprised of representatives from the public, citizens groups, Native Americans, local governments and others. Fernald staff provided a useful brief describing proposed shipments of radioactive material to the NTS. They and NTS Department of Energy (DOE) personnel at the meeting noted, however, that the deadline for comments to the EIS is May 20, 1994.

The May 11, 1994 meeting was the first time that the CAB had an opportunity to receive any information about the proposed shipments. The CAB has still not reviewed the documents. We would, therefore, have less than a week to review the EIS. The CAB is, therefore, requesting an extension of time to review the documents and provide substantive input to the process.

The shipments of radioactive waste from Fernald are the first of potentially many other shipments to the NTS. It is important, therefore, for the CAB to review the Fernald EIS proposal.

The CAB and citizens of Nevada trust that you will grant an extension of time for the review of the EIS documents.

Sincerely,

William L. Vasconi, Acting Chairman
Citizens Advisory Board
m583.vis

cc: James Sarit, Region V
Environmental Protection Agency

Commentor O

On June 24, 1994, the DOE received by facsimile transmission, the following four comments/issue statements on the behalf of the Nevada Test Site Citizens Advisory Board (CAB), from an individual who identified herself by telephone as Katherine Yuracko, a member of the CAB. As directed by Katherine Yuracko during the telephone conversation, the facsimile was redacted by DOE to only include verbatim the substantive comments/issue statements pertinent to the Operable Unit 4 FS/PP-DEIS.

06-24-1994 14:30 513 738 6650 US DEPT of ENERGY P.02
06-24-1994 11:23 702 2951113 DOE/ERO P.02
TURNCHO & ASSOCIATES 702 647 6060 P.01

Post-it™ brand fax transmittal memo 7671 | # of pages ▸

To Bobbie McClure	From Kathy Yuracko
Co.	Co.
Dept.	Phone #
Fax # 295-1113	Fax #

Fern

Issues

1. The shipments of waste from Fernald are the first of potentially many other shipments to the NTS. Rather than making decisions on a piecemeal basis, we want to see the full picture before we are asked to make decisions on individual pieces. That is, we want to first consider the total impact of all of the waste that is being considered for disposal at the NTS. Following that, we want to consider each individual piece.

2. The documents reviewed do not discuss the full range of possible alternatives. E.g.:
   - disposal at Hanford
   - reprocess to recover materials
   - dispose of all material at the NTS

   Why were these options rejected? What is the full list of options initially considered and why was each option rejected?

3. We believe that:
   - funds should be provided for technical oversight of waste management activities
   - the State of Nevada and affected Counties are entitled to impact mitigation payments as compensation for costs arising from management of this material

4. Based on the presence of RCRA regulated metals and organics in the waste, we are concerned that the waste contains both hazardous and radioactive constituents.
   a. Please list the radionuclide and inorganic and organic chemical constituents of the waste.
   b. Please identify the concentration of each consutuent.
   c. Please identify the risk resulting from each constituent.
   d. Please describe how the proposed treatment and disposal mechanisms address both the radionuclide and chemical constituents of the waste.

Commentor P (1-177)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(1)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Nichole Davis

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(2)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Smallie Michael

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(3)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Lynn Rohl

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(4)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [illegible]

Address [redacted]

000119

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(5)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Mark Michael

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(6)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Kathleen Guire

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(7)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name (Jo Anne) Moran

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(8)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Catherine A. McLaughlin

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(9)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Nancy Gott

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(10)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name REBECCA WEBBER

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(11)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Tanya Carr

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(12)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Jim Macklin

Address [redacted]

000123

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(13)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(14)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Rebecca Heiser

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(15)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name TROY WEATHERBY

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(16)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name ABRAHAM HARTMAN

Address [redacted]

000125

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(17)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Vicki Cassman

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(18)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Art Goldberg

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(19)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Jillian Beth Wright

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(20)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Linda Strange

Address [redacted]

000127

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(21)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Konnie Strange

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(22)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Mindy Brummett

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(23)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name LaLoi Rossi

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(24)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name TARVN CUNNINGHAM

Address [redacted]

000129

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(25)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Tiffany Brummett

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(26)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Janet Zimmerman

Address [redacted]

000130

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(27)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(28)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

000131

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(29)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Daniel J Fedor

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(30)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Michael Carrigan

Address [redacted]

000132

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(31)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Renée Helm

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(32)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Juliette Lopez

Address [redacted]

000133

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(33)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Orlando Saenz

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(34)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Tom Brinker

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(35)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Karen Radayne

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(36)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Carmen E. Rodriguez

Address [redacted]

000135

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(37)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(38)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

000136

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(39)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(40)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Michelle Lynn Berry

Address [redacted]

000137

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(41)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name L. JEAN McCoy

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(42)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Tammy Smith

Address [redacted]

000138

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(43)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(44)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name STAN GREENE

Address [redacted]

000139

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(45)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Frances Bruno

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(46)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Betty Hax

Address [redacted]

000140

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(47)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name DAVID GEERTS

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(48)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name John Eyle John Eyle

Address [redacted]

000141

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(49)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Alison Orr

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(50)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name David Orr

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(51)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Finn Norris Casey

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(52)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Elizabeth Petit

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(53)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Sonia Swenson

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(54)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Ron Schafer

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(55)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Victoria Pinkston

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(56)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Kathy Gromowski

Address [redacted]

000145

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(57)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Smiel Rogers

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(58)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name MICHAEL LECORRIERE

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(59)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Sheri LaCorriere

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(60)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Buck Nester

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(61)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(62)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Hun Phan

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(63)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(64)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Steve Zehr

Address [redacted]

000149

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(65)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste..

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(66)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Jim TAGUA

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(67)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Shelli McKenney

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(68)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Carmen Davis

Address [redacted]

000151

Keep Fernald Waste On-.. Comments on the Fernald C...

P(69)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Nasreen Bakhtary

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(70)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Maribel McAdory

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(71) ● The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

● Transportation risks need to be thoroughly evaluated.

● Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Merlinda Gallegos

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(72) ● The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

● Transportation risks need to be thoroughly evaluated.

● Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted] Hunt

Address [redacted]

000153

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(73)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Barb Brent [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(74)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name MAYTE VILLANUEVA [redacted]

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(75)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name James Mia

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(76)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name David Johnson

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(77)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Laura Yada

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(78)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name [redacted]

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(79)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name Sherri Carox

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(80)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name Stevi Carroll

Address [redacted]

000157

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(81)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name MARGARET BEAN Margaret Bean

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(82)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

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Name Patrice L. Harper

Address [redacted]

000158

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(83)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name Robin Warne

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(84)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name George A Bean

Address [redacted]

000159

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(85)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name ROBERT PIERSON [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(86)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name Tim Bartlett

Address [redacted]

000160

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(87)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name SELMA + UMNUSS + CHUCK UMNUSS

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(88)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name Rob MACHNIT

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(89)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Jeff van Ee

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(90)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name Tiffany Brown

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(91)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name Jeffrey M Steinbeck

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(92)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name Catherine Tillman

Address [redacted]

000163

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(93)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name MADELAINE DAYTON [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(94)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

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Name Lori Johnson [redacted]

Address [redacted]

000164

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(95)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Sharlin Anderson

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(96)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name KATHLEEN WOMACK

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(97)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name S. GONEZ [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(98)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name Melone Harvey [redacted]

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(99)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name MICHELE GILBRETH

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(100)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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Name [redacted]

Address [redacted]

000167

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(101)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Grace E. Tao

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(102)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Julia L. Winkler 89119.

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(103)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

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- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name John Hammer

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(104)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name James Holmes

Address [redacted]

000169

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(105) ● The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

● Transportation risks need to be thoroughly evaluated.

● Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Merlyn Hoquet

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(106) ● The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

● Transportation risks need to be thoroughly evaluated.

● Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Barbara Rita

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(107)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(108)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(109)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Louis Lavietes

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(110)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Jeff Cooley

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(111)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name James P. Foster

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(112)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

000173

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(113)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Tusa Higgins

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(114)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Maggie Rich

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(115)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Joel Delmendo

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(116)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Kathertine Garder

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(117)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Jason Benatz

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(118)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Ebony Samerrand

Address [redacted]

000176

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(119)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Stacy Smith

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(120)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Sandra Shellie

Address [redacted]

000177

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(121)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(122)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Judy Cvetkovic [redacted]

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(123)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Michael Cuttone

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(124)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

000179

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(125)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Willene De Fangis

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(126)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Donald A. De Fangis

Address [redacted]

000180

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(127)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Robert Tonelli

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(128)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Ruth Lindahl

Address [redacted]

000181

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(129)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Melody Demsh

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(130)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [illegible]

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(131)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name ANTHONY BONDI

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(132)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name T. J. JONES

Ad[redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(133)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name John A. Loeffler

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(134)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name CHRISTOPHER MERCER

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(135)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(136)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name LIZ MARION

Address [redacted]

000185

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(137)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Warren a DeWitt

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(138)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name BRENDA INEKELER

Address [redacted]

000186

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(139)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Cheryl Fresse

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(140)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Harriet R. Magliano

Address [redacted]

000187

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(141)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Kathy Porna

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(142)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [illegible]

Address [redacted]

000188

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(143)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Kelli Kennette

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(144)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Trish Taylor [redacted]

Address [redacted]

000189

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(145)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Heather Davis

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(146)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Marilyn Benoit

Address [redacted]

000190

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(147)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Richard Lawson

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(148)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Susan Thornton

Address [redacted]

000191

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(149)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Addre[redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(150)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Pete Martin

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(151)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name TRACIE K. LINDEMAN

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(152)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name DAVID L. PLATCEIO/TOSA-wi-e

Address [redacted]

000193

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(153)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Jo Ann Garrett

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(154)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Margaret Norman Margaret Norman

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(155)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Judy Treichel

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(156)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Larry C. Johns

Address [redacted]

000195

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(157)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Steve Frishman

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(158)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name William Rose Sr.

Address [redacted]

000196

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(159)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(160)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Shawn Black [redacted]

Address [redacted]

000197

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(161)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name LAWRENCE SKINNER Lawrence W. Skinner

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(162)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Mary L Johns

Address [redacted]

000198

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(163)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides; should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Bob Fulkerson

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(164)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name CARLA BAKER WALLACE

Address [redacted]

000199

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(165)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(166)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(167)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(168)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

000201

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(169)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(170)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

000202

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(171)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(172)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [redacted]

Address [redacted]

000203

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(173)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name [illegible]

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(174)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name _____

Address _____

000204

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(175)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name GEOFF HOLTON

Address [redacted]

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(176)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Richard Glassman

Address [redacted]

000205

Commentor P (1-177 Cont.)

Keep Fernald Waste On-site in Ohio.. Comments on the Fernald Cleanup EIS.

P(177)

- The more than 300,000 cubic yards of radioactive waste consisting of uranium, thorium and radium among other radionuclides, should be kept on-site in containers adequate to protect the local populace. Nevadans should not be required to accept additional risk on top of that already present at the Nevada Test Site.

- Transportation risks need to be thoroughly evaluated.

- Socioeconomic impacts on the receptor community should be thoroughly evaluated and balanced against the desires of Ohio to move Fernald waste.

Name Kathleen Glasman

Address [redacted]

Commentor Q

The following comments/issues were submitted by Pam Dunn, Harrison, Ohio. The comments/issues were retyped and alphabetically identified by DOE in order to facilitate developing comment responses. The original hand written comments have also been included as matter for the record.

June 20, 1994

Mr. Ken Morgan
U.S. Dept. of Energy Fernald Field Office
P.O. Box 398705
Cincinnati, OH 45239-8705

RE: Comments Proposed Plan For Remedial Action OU4.

(a) • In reviewing the Proposed Plan for OU4 there are variances in the capital cost for the same treatment alternatives with the only difference being on-site versus off-site disposal. What is the source of this variance?

(b) • It is stated that EPA would review on-property disposal every five years in accordance with CERCLA requirements. Who and how often would a review be performed in the other years?

(c) • There is no mention of retri[e]vability of the materials which would be disposed of in the on-site disposal vault. Is this option being considered, and, if not, why?

(d) • Post-remediation O&M cost are estimated over a thirty-year period. What about the remaining years for which this material will require monitoring?

(e) • Alternatives 2B and 4B have identical post-remediation cost, with Alternative 4B being untreated. Please explain how cost can be the same for treated versus untreated materials disposed in an on-site vault.

(f) • There is discussions on interim storage. What is the estimated time for this interim storage?

000207

Commentor Q (Cont.)

(g) • Alternative 2C states that the contaminated materials would be place in bulk (without packaging) into the on-site disposal vault. Please expand on why this material would not be packaged and state the advantages/disadvantages of packaged versus non-packaged.

(h) • It is stated that non-porous material will be released from the site as uncontaminated per DOE Order 5400.5. Will this material be checked for contamination prior to release or just assumed to be uncontaminated and released?

(i) • Will the wastewater generated during remediation be treated for non-radioactive contaminates prior to discharge in the Great Miami River? To what extent will radioactive and non-radioactive elements be removed prior to discharge?

(j) • A material variance in the cost associated with Subunit C exist between 3C.1 and 3C.2 with the only apparent difference being 3C.1 Disposal at NTS and 3C.2 at Envirocare in Utah. Please explain this variance and if this is partially due to more stringent requirements at NTS, should these more stringent requirements also be required at a commercial facility? Which requirements is more protective? It is also stated that an exemption from DOE Order 5820.2A (this is transposed as 5280.2A in document, Page 56) is needed to dispose at a commercial facility; has this been granted?

(k) • Will notification of these shipments be given to the areas involved in the transportation routed for rail and truck, and what precautions for protection will be employed?

(l) • Table 6-1 comparison of remedial alternatives, state differences in implementing identical treatments with different disposal options. Is this difference related to transportation issues for off-site rather than on-site? Please explain these differences. Also, Subunit C lists no treatment for all alternatives; please demonstrate why no treatment is acceptable.

(m) • Is there potential for failure of the vitrified material has the radionuclides trap[p]ed continue to delay, and if so, what is that risk?

(n) • It states that the capital cost associated with the on-site disposal facility has been removed. Where is (will) this cost be accounted for?

(o) • Line 14, Page 67 reads results in significant reduction in the volume...This would read better if the "a" preceded significant/rather than follow.

Commentor Q (Cont.)

(p) • Please define the following statement (Line 16, Page 67) utilize permanent solutions to the maximum extent practical. What viable, permanent solutions presently exist?

(q) • Basis for stating long-term environmental impacts of permanent disposal at NTS are minor and no long-term impacts of biota expected from disposal activities at NTS. It is stated that to reduce U-238 to essentially background is not feasible; it also states that it is assumed that the federal government retain ownership of the FEMP site to consider clean-up protective. While I do not have a problem with these statements, it does bother me that no formal statement has been made publicly concerning this. These two statements present future land use constraints which must be addressed. Why hasn't the DOE adopted a formal position concerning this issue and communicated this to both the Fernald Citizens Task Force and the community?

(r) • Line 13, Page 76, reads "... would bot be ...", should that read "... would not be ..." ?

(s) • It states the on-site, above-grade disposal facility would be designed for a 1000 year life with no active maintenance. What is the half-lives or duration for which the radionuclei and chemical contaminants are a threat to the environment; do they exceed 1000 years? Also, explain why no active maintenance is assumed for 1000 years.

(t) • Has an exemption to the Ohio Solid Waste Facility requirement been requested, and if not, when will such a request be made? Also, Line 28, Page 79 would read better if "the" or "a" were added to precede disposal. (For disposal facility on the FEMP site.)

Should you have any questions concerning these comments, feel free to contact me at the address given below:

Submitted by
Pam Dunn
[redacted]

cc:
Mr. John Applegate
F.R.E.S.H., Inc.
File

Commentor Q (Cont.)

JUNE 20, 1994

MR. KEN MORGAN
U.S. DEPT. OF ENERGY FERNALD FIELD OFFICE
P.O. BOX 398705
CINCINNATI, OHIO 45239-8705

RE. COMMENTS PROPOSED PLAN FOR REMEDIAL ACTION OU4

- IN REVIEWING THE PROPOSED PLAN FOR OU4 THERE ARE VARIANCES IN THE CAPITAL COST FOR THE SAME TREATMENT ALTERNATIVES WITH THE ONLY DIFFERENCE BEING ON-SITE VERSUS OFF-SITE DISPOSAL. WHAT IS THE SOURCE OF THIS VARIANCE?
- IT IS STATED THAT EPA WOULD REVIEW ON-PROPERTY DISPOSAL EVERY FIVE YEARS IN ACCORDANCE WITH CERCLA REQUIREMENTS. WHO AND HOW OFTEN WOULD A REVIEW BE PERFORMED IN THE OTHER YEARS?
- THERE IS NO MENTION OF RETRIEVABILITY OF THE MATERIALS WHICH WOULD BE DISPOSED OF IN THE ON-SITE DISPOSAL VAULT. IS THIS OPTION BEING CONSIDERED, AND IF NOT, WHY?
- POST REMEDIATION O&M COST ARE ESTIMATED OVER A THIRTY YEAR PERIOD. WHAT ABOUT THE REMAINING YEARS FOR WHICH THIS MATERIAL WILL REQUIRE MONITORING?
- ALTERNATIVE 2B AND 4B HAVE IDENTICAL POST-REMEDIATION COST, WITH ALTERNATIVE 4B BEING UNTREATED. PLEASE EXPLAIN HOW COST CAN BE THE SAME FOR TREATED VERSUS UNTREATED MATERIALS DISPOSED IN AN ON-SITE VAULT?
- THERE IS DISCUSSIONS OF INTERIM STORAGE. WHAT IS THE ESTIMATED TIME FOR THIS INTERIM STORAGE?
- ALTERNATIVE 2C STATES THAT THE CONTAMINATED MATERIALS WOULD BE

Commentor Q (Cont.)
-Page 2-

placed in bulk (without packaging) into the on-site disposal vault. Please expand on why this material would not be packaged and state the advantages / disadvantages of packaged versus non-packaged.

- It is stated that non-porous materials will be released from the site as uncontaminated per DOE order 5400.5. Will this material be checked for contamination prior to release or just assumed to be uncontaminated and released?
- Will the wastewater generated during remediation be treated for non-radioactive contaminates prior to discharge in the Great Miami River? To what extent will radioactive and non-radioactive elements be removed prior to discharge?
- A material variance in the cost associated with subunit C exists between 3C.1 and 3C.2 with the only apparent difference being 3C disposal at NTS and 3C.2 at Envirocare in Utah. Please explain this variance and if this is partially due to more stringent requirements at NTS, should these more stringent requirements also be required at a commercial facility? Which requirements are more protective? It is also stated that an exemption from DOE order 5820.2A (this is transposed as 5280.2A in document, page 5C) is needed to dispose at a commercial facility; has this been granted?
- Will notification of these shipments be given to the areas involved in the transportation routes for both rail and trucks and what precautions for protection will be employed?
- Table 6-1, Comparison of Remedial Alternatives, states differences in implementing identical treatments with different disposal options

Commentor Q (Cont.)

PAGE 3 -

IS THIS DIFFERENCE RELATED TO TRANSPORTATION ISSUES FOR OFF-SITE RATHER THAN ON-SITE? PLEASE EXPLAIN THESE DIFFERENCES.
ALSO SUBUNIT C LISTS NO TREATMENT FOR ALL ALTERNATIVES; PLEASE DEMONSTRATE WHY NO TREATMENT IS ACCEPTABLE.

- IS THERE POTENTIAL FOR FAILURE OF THE VITRIFIED MATERIAL HAS THE RADIONUCLEIDS TRAPED CONTINUE TO DECAY, AND IF SO, WHAT IS THAT RISK?
- IT STATES THAT THE CAPITAL COST ASSOCIATED WITH THE ON-SITE DISPOSAL FACILITY HAS BEEN REMOVED. WHERE IS (WILL) THIS COST BE ACCOUNTED FOR?
- LINE 14, PAGE 67 READS RESULTS IN SIGNIFICANT A REDUCTION IN THE VOLUME.... THIS WOULD READ BETTER IF THE A PRECEDED SIGNIFICANT RATHER THAN FOLLOW.
- PLEASE DEFINE THE FOLLOWING STATEMENT (LINE 16, PAGE 67) UTILIZE PERMANENT SOLUTIONS TO THE MAXIMUM EXTENT ~~PRACTICAL~~ PRACTICAL. WHAT VIABLE PERMANENT SOLUTIONS PRESENTLY EXIST?
- BASIS FOR STATING LONG-TERM ENVIRONMENTAL IMPACTS OF PERMANENT DISPOSAL AT NTS ARE MINOR AND NO LONG-TERM IMPACTS OF BIOTA EXPECTED FROM DISPOSAL ACTIVITIES AT NTS.

IT IS STATED THAT TO REDUCE U-238 TO ESSENTIALLY BACKGROUND IS NOT FEASIABLE; IT ALSO STATES THAT IT IS ASSUMED THAT THE FEDERAL GOVERNMENT RETAIN OWNERSHIP OF THE FEMP SITE TO CONSIDER CLEAN-UP PROTECTIVE. WHILE I DO NOT HAVE A PROBLEM WITH THESE STATEMENTS, IT DOES BOTHER ME THAT NO FORMAL STATEMENT HAS BEEN MADE PUBLICLY CONCERNING THIS. THESE TWO STATEMENTS PRESENT FUTURE LAND USE CONSTRAINTS WHICH MUST BE ADDRESSED. WHY HASN'T THE DOE ADOPTED A FORMAL POSITION CONCERNING THIS ISSUE AND COMMUNICATED THIS TO BOTH THE FERNALD CITIZENS TASK FORCE AND THE COMMUNITY?

Commentor Q (Cont.)

PAGE 4 -

- LINE 13 PAGE 76, READS WOULD BOT BE, SHOULD THAT READ WOULD NOT BE?
- IT STATES THE ON-SITE, ABOVE-GRADE DISPOSAL FACILITY WOULD BE DESIGNED FOR A 1000 YEAR LIFE WITH NO ACTIVE MAINTENANCE. WHAT IS THE HALF-LIVES OR DURATION FOR WHICH THE RADIONUCLIDES AND CHEMICAL CONTAMINANTS ARE A THREAT TO THE ENVIRONMENT; DO THEY EXCEED 1000 YEARS? ALSO EXPLAIN WHY NO ACTIVE MAINTENANCE IS ASSUMED FOR 1000 YEARS?
- HAS AN EXEMPTION TO THE OHIO SOLID WASTE FACILITY REQUIREMENT BEEN REQUESTED, AND IF NOT WHEN WILL SUCH A REQUEST BE MADE? ALSO LINE 28, PAGE 79, WOULD READ BETTER IF THE OR A WERE ADDED TO PRECEDE DISPOSAL. (FOR DISPOSAL FACILITY ON THE FEMP SITE.)

SHOULD YOU HAVE ANY QUESTIONS CONCERNING THESE COMMENTS, FEEL FREE TO CONTACT ME AT THE ADDRESS GIVEN BELOW.

SUBMITTED BY
PAM DUNN
Pam Dunn
[redacted]

c:
MR. JOHN ABOLIGATE
F.R.E.S.H. INC
FILE

Commentor R

OhioEPA
State of Ohio Environmental Protection Agency

Southwest District Office
40 South Main Street
Dayton, Ohio 45402-2086
(513) 285-6357
FAX (513) 285-6404

H-3599

APR 26 3 55 PM '94

George V. Voinovich
Governor

April 19, 1994

RE: PUBLIC COMMENTS
O.U.4 PROPOSED PLAN

Mr. Ken Morgan
Public Relations
U.S. DOE FEMP
P.O. Box 398705
Cincinnati, OH 45329-8705

Dear Mr. Morgan:

The purpose of this letter is to provide official comments on the Operable Unit 4 Proposed Plan:

1. The OU4 Proposed Plan is the culmination of efforts by U.S. DOE, Ohio EPA, and U.S. EPA to understand and develop a plan for mitigating releases to the environment from OU4. The alternative selected in the Proposed Plan will address potential and actual releases in a manner protective of human health and the environment.

2. DOE should commit to including and/or developing real-time monitoring for discharges to the environment resulting from remedial actions including any treatment system. DOE should attempt to incorporate any new developments in real-time monitoring from the Office of Technology Development. Data obtained from real-time monitors and any additional monitoring activities should be provided to the Ohio EPA and public in a timely manner.

3. DOE should attempt to incorporate pollution prevention activities whenever possible during the design and operation of the OU4 remedial action system. All available methods to reduce or eliminate discharges from the treatment system should be considered during the design of the system.

4. DOE must ensure the public that their involvement will not be diminished during Remedial Design and Remedial Action (RD/RA). DOE should commit to continued public involvement during RD/RA within the Record of Decision for OU4.

5. DOE should revise the site Community Relations Plan to address the need for continued public involvement during the RD/RA. Ohio EPA looks forward to working with DOE to revise this document.

Commentor R (Cont.)

Ohio EPA Comments OU4 PP
April 19, 1994
Page 2

If you have any questions about these comments please contact me.

Sincerely,

Thomas A. Schneider
Project Manager

TAS

cc: Lisa Crawford, FRESH
Jack Van Kley, Ohio AGO
Jim Saric, USEPA
Ken Alkema, FERMCO
Lisa August, Geotrans
Jean Michaels, PRC
Jenifer Kwasniewski, OEPA/DERR
Jeff Hurdley, OEPA/Legal
Robert Owen, ODH

000215

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

AUG 02 1994

REPLY TO THE ATTENTION OF:

ME-19J

Ms. Randi Allen
Department of Energy
Post Office Box 398704
Cincinnati, Ohio 45239-8704

Dear Ms. Allen

This will confirm the substance of our recent telephone conversations concerning this Agency's review of the Department of Energy's proposal for implementing activities including reactivation of certain power generating facilities at the Fernauld site.

As discussed with you, the Draft Environmental Impact Statement (EIS) for this project was never received in this Branch. In this regard, the Planning and Assessment Branch has been designated as the official contact point within Region V for provision of comments on Federal projects as required pursuant to Section 309 of the Clean Air Act and/or the National Environmental Policy Act. The official comment period for this Fernauld project expired 45 days from the date a notice of the EIS's availability was published in the Federal Register. In the meantime, however, the document was received, reviewed, and commented upon by staff of our Waste Management Division with regard to those aspects of the project for which Waste Management Division has special concern.

Given expiration of the official NEPA comment period for this project's EIS, the only comments on the record from our Agency are those previously supplied to you from our Waste Management Division. At this point in time, given the requirements of NEPA and its implementing regulations, those comments will have to suffice as our Agency's comments. Provided that the comments previously provided by our Waste Management Division are complied with, and further provided that facility in question is subsequently operated in full accordance with applicable local, State, and Federal requirements, it appears unlikely at this time that any significant adverse impacts on the environment can reasonably be foreseen.

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Commentor S (Cont.)

-2-

We look forward to receipt of the project's forthcoming Final EIS. Our Agency's comments on the Final EIS will be provided on a timely basis. If you have any questions, please do not hesitate to contact me at 312/886-7342.

Sincerely yours,

Michael W. Mac Mullen

Michael W. Mac Mullen
Senior Environmental Scientist
Planning and Assessment Branch
Planning and Management Division

000217

ATTACHMENT II

ERRATA SHEETS AND CHANGES TO THE FEASIBILITY STUDY/PROPOSED PLAN-DRAFT ENVIRONMENTAL IMPACT STATEMENT

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II ERRATA SHEETS AND CHANGES TO THE FEASIBILITY STUDY/PROPOSED PLAN-DRAFT ENVIRONMENTAL IMPACT STATEMENT

The FS/PP-DEIS for Operable Unit 4 was released for public comment in March 1994. The DOE reviewed all written and oral comments submitted during the public comment period. Upon review of these comments, it was determined that no significant changes to the remedy, as was originally identified in the FS/PP-DEIS, were necessary. However, it should be noted that the repromulgation of 40 CFR §191 by the EPA, did result in minor changes in the comparative analysis of alternatives presented in the FS/PP-DEIS. Likewise, in May 1994 five final concerns were received from the EPA on the Operable Unit 4 FS/PP-DEIS. In responding to these five concerns, Table D.3-5 in Appendix D of the Operable Unit 4 FS/PP-DEIS was revised. The revised table is included in this Attachment. The following discussion addresses the nature and extent of these changes.

II.1 REPROMULGATION OF 40 CFR §191

Repromulgation of the 40 CFR §191 requirements for Management and Disposal of Spent Nuclear Fuel, High-Level, and Transuranic Wastes has caused changes to be made to the ARARs as described in the Draft Final FS/PP-DEIS, conditionally approved by the EPA on February 9, 1994. DOE chooses not to submit revision pages to the FS/PP-DEIS; all changes to the ARARs for that document and any impacts from the repromulgation are discussed in this section of the Draft ROD. Since the repromulgation resulted in relevant and appropriate, rather than applicable requirements, the repromulgation of 40 CFR §191 will not impact the proposed off-site alternative for disposition of the K-65 material. However, the on-property disposal alternatives (Alternatives 2A/Vit and 2A/Cem) that were previously retained, having passed the threshold criteria of the detailed analysis, are no longer able to meet the threshold criteria of compliance with ARARs, and are consequently dropped from further consideration. Subsequently, all references to Alternative 2A are therefore deleted from reference in the text of the ROD, and in the Appendix A.

The only relevant and appropriate requirement from 40 CFR §191 that is retained as an ARAR in this ROD (Appendices A and B) for the proposed alternative is 40 CFR §191.03(b), which establishes dose limits for management and storage of the K-65 material. However, since this ARAR is relevant and appropriate, rather than applicable, it will pertain only to the on-property portions of the remediation.

Background

The United States Department of Energy - Fernald Field Office (DOE-FN) received conditional approval

of the Draft Final FS/PP-DEIS for Operable Unit 4 from USEPA on February 9, 1994. Included in the FS/PP-DEIS applicable or relevant and appropriate requirements (ARARs) was a reference to 40 CFR §191, "Environmental Radiation Protection Standards for Management and Disposal of Spent Nuclear Fuel, High-Level, and Transuranic Wastes". This reference to 40 CFR §191 was modified in the Operable Unit 4 FS/PP-DEIS, submitted in February 1994 in response to the conditional approval letter, to reflect the changes to the regulation that occurred upon its repromulgation on December 20, 1993. It still accommodates the specific direction previously provided by the USEPA regarding incorporation of the 40 CFR §191 requirements as an ARAR/TBC ("Operable Unit 4 Screening Dispute Resolution U.S. DOE Fernald", Catherine McCord, USEPA, to Andy Avel, DOE, dated October 18, 1990). The final rule became effective on January 19, 1994, during final revision of the Operable Unit 4 FS/PP-DEIS, and agency comments did not address the repromulgation of the rule. This fact was discussed with the USEPA, and a DOE position paper on the incorporation of 40 CFR §191 as an ARAR for Operable Unit 4 remediation was submitted to the USEPA for concurrence. The USEPA disagreed with the draft position proposed by DOE, and responded with a directive to incorporate the substantive elements of the repromulgated rule into the ROD, with an option to resubmit change pages to the FS/PP-DEIS ("Application of 40 CFR §191 to OU #4", Jim Saric, USEPA, to Jack Craig, DOE, dated April 25, 1994). DOE elected not to revise the FS/PP-DEIS, but rather to describe in this section of the ROD changes to the table of ARARs and associated impacts on selection or implementation of remedial alternatives that have occurred between the time the Draft Final FS/PP-DEIS was conditionally approved, and the submittal of the ROD to the USEPA and OEPA. The list of ARARs in the Draft ROD, and proposed approach to compliance with the substantive elements thereof, once approval by the USEPA is obtained, will be the final approved list of applicable or relevant and appropriate requirements for final remediation of Operable Unit 4.

Impacts of Repromulgation

Since 40 CFR §191 cannot be considered a legally "applicable" class of ARAR for this CERCLA remediation, §191 is not applicable to any Operable Unit 4 waste streams. Since compliance with only applicable requirements is required to be demonstrated for off-site remedial alternatives proposed under CERCLA, these requirements will not impact the proposed off-site alternative for disposal of the treated K-65 material at the NTS.

DOE previously included 40 CFR §191 Subpart A as a relevant and appropriate requirement, and Subpart B as to be considered (TBC) criteria for management of K-65 material in accordance with guidance received from the USEPA. Subpart A of §191, entitled "Environmental Standards for Management and

Storage" includes public dose rate standards for protection of the public from radiation hazards posed by spent nuclear fuel, high-level, or transuranic waste material. The repromulgation of the Final Rule did not materially affect the sections of Subpart A referenced in the Operable Unit 4 FS/PP-DEIS; the Subpart A requirement referenced in the Operable Unit 4 FS/PP-DEIS remains unchanged in the table of ARARs as a relevant and appropriate requirement for the on-property portion of the remedial activities to be conducted on the K-65 material.

Prior to repromulgation, Subpart B requirements were in remand, and were therefore considered TBCs in the FS/PP-DEIS submitted to the agencies. Since Subpart B of §191, entitled "Environmental Standards for Disposal," has been repromulgated, the USEPA has directed that sections must now be considered as relevant and appropriate requirements for any on-property disposal alternatives. Since it could not be demonstrated that the on-property disposal of treated K-65 material would comply with specific requirements of this Subpart, those alternatives involving on-property disposal (Alternatives 2A/Vit and 2A/Cem) were no longer able to meet the threshold criteria of compliance with these ARARs, and were consequently dropped from further consideration. All descriptions to Alternative 2A are therefore deleted from reference in the text of the ROD, and in the Appendix A.

A new Subpart C of §191 "Environmental Standards for Groundwater Protection", was created by the repromulgated rule. As with Subpart B, this new Subpart pertains only to disposal systems. The elements of this Subpart must now be considered as relevant and appropriate requirements; however, since the on-property disposal alternatives to which this Subpart pertains were dropped from further consideration on the basis of non-compliance with Subpart B requirements, and since Subpart C will not pertain to any off-site disposal alternatives, these requirements will not be included in the Appendix A or B tables of ARARs. Subpart C will have no effect on the selected alternative, which includes off-site disposal.

II.2 ERRATA SHEETS TO THE OPERABLE UNIT 4 FEASIBILITY STUDY/PROPOSED PLAN-DRAFT ENVIRONMENTAL IMPACT STATEMENT

In the course of obtaining EPA's approval of the Operable Unit 4 Feasibility Study/Proposed Plan-Draft Environmental Impact Statement, several iterations of specific comment responses were required to fully address five remaining EPA concerns.

On May 9, 1994 the EPA approved the Final Operable Unit 4 Feasibility Study Report and Proposed Plan based upon the satisfactory resolution of five remaining concerns. Only the resolution of one of the five

remaining concerns resulted in an action by the DOE, which involved the revision of two pages to the Operable Unit 4 Feasibility Study Report/Proposed Plan-Draft Environmental Impact Statement.

In the May 9, 1994 approval letter, the EPA noted that previously agreed upon changes related to the Operable Unit 4 FS, Appendix D, Table D.3-5 were not made in the revised final document per resolution. Specifically, the surface area (SA) values presented for the Dermal Contact While Bathing pathway in Table D.3-5, were not reflected in the Final Operable Unit 4 Feasibility Study/Proposed Plan-Draft Environmental Impact Statement document. In addition, the EPA noted that footnote "h" of Table D.3-5 was incorrect; the referenced pages were not consistent with the cited EPA document.

The following DOE response was accepted by the EPA on this matter:

> "This table (D.3-5) was derived from the OU4 Baseline Risk Assessment, but the latest change for this dermal exposure pathway was not made for this table. This will have no impact on the OU4 FS risk assessment as the only contaminant which was considered for the groundwater pathway was U-238. Since radionuclides are not evaluated for dermal absorption pathways, this parameter change will not change the risk values."

In accordance with this resolution the DOE issued the following revised pages to Table D.3-5, which included the corrected surface area value of 23,000 cm^3 and the corrected footnote "h".

TABLE D.3-5
(Continued)

Pathway Parameters	Trespassing Child Age 6-18	Expanded Trespasser Child Age 6-18	Expanded Trespasser Adult 18-50	RME On-Property Farmer Age 1-70	CT On-Property Resident Farmer Age 1-70	On-Property Resident Child Age 1-6	Off-Property Resident Farmer Age 1-70
Inhalation of Volatiles Released from Household Water Uses							
IR (m^3/hr)	N/A	N/A	N/A	0.63	0.63	0.63	0.63
ET (hr/d)	N/A	N/A	N/A	0.25[b]	0.17[b]	0.33[b]	0.25[b]
EF (d/yr)	N/A	N/A	N/A	350[d]	275[b]	350[d]	350[d]
ED (yr)	N/A	N/A	N/A	70	9[e]	6	70
BW (kg)	N/A	N/A	N/A	70	70	15	70
AT-Noncancer (d)[f]	N/A	N/A	N/A	25550	3285	2190	25550
AT-Cancer (d)[g]	N/A	N/A	N/A	25550	25550	25550	25550
Incidental Ingestion of Soil/Sediment							
IR (g/hr)	0.1	0.1	0.1	0.18	0.122	0.2	N/A
FI (unitless)	0.25	0.1	0.05	1	1	1	1
EF (d/yr)	52	110	40	350[d]	275[b]	350[d]	350[d]
ED (yr)	12	12	32	70	9[e]	6	70
BW (kg)	43	43	70	70	70	15	70
AT-Noncancer (d)[f]	4380	4380	11680	25550	3285	2190	25550
AT-Cancer (d)[g]	25550	25550	25550	25550	25550	25550	25550

See footnotes at end of table.

TABLE D.3-5
(Continued)

Pathway Parameters	Trespassing Child Age 6-18	Expanded Trespasser Child Age 6-18	Expanded Trespasser Adult 18-50	RME On-Property Farmer Age 1-70	CT On-Property Resident Farmer Age 1-70	On-Property Resident Child Age 1-6	Off-Property Resident Farmer Age 1-70
Dermal Contact While Bathing							
SA (m^2)	N/A	N/A	N/A	2.3[h]	2.3[h]	0.8[h]	2.3[h]
PC (cm/hr)	N/A	N/A	N/A	csv	csv	csv	csv
ET (hr/d)	N/A	N/A	N/A	0.25[h]	0.17[h]	0.33[h]	0.25[h]
EF (d/yr)	N/A	N/A	N/A	350[d]	275[b]	350[d]	350[d]
ED (yr)	N/A	N/A	N/A	70	9[e]	6	70
BW (kg)	N/A	N/A	N/A	70	70	15	70
AT-Noncancer (d)[f]	N/A	N/A	N/A	25550	3285	2190	25550
AT-Cancer (d)[g]	N/A	N/A	N/A	25550	25550	25550	25550
Dermal Contact With Soil/Sediment							
SA (m^2)	0.41	0.41	0.57	0.57	0.5	0.2	0.57
DA (cm/m^2)	1	1	1	csv	csv	csv	csv
ABS	csv	csv	csv	csv	csv	csv	csv
EF (d/yr)	52	110	40	350[d]	275[b]	350[d]	350[d]
ED (yr)	12	12	32	70	9[e]	6	70
BW (kg)	43	43	70	70	70	15	70
AT-Noncancer (d)[f]	4180	4180	11680	25550	3285	2190	25550
AT-Cancer (d)[g]	25550	25550	25550	25550	25550	25550	25550

otnotes at end of table.

TABLE D.3-5
(Continued)

Pathway Parameters	Trespassing Child Age 6-18	Expanded Trespasser Child Age 6-18	Expanded Trespasser Adult 18-50	RME On-Property Farmer Age 1-70	CT On-Property Resident Farmer Age 1-70	On-Property Resident Child Age 1-6	Off-Property Resident Farmer Age 1-70
Inhalation of Dusts, Volatiles, and Radon							
DR (mrem/hr)	csv	csv	csv	csv	csv	csv	N/A
ET Indoors (hr/d)	N/A	N/A	N/A	18.3	19.8	22	N/A
ET Outdoors (hr/d)	4	2	1	5.7	4.2	2	N/A
EF (d/yr)	52	110	40	350	275	350	N/A
ED (yr)	12	12	32	70	9	6	N/A
BW (kg)	43	43	70	70	70	15	N/A
Ingestion of Vegetables and Fruit							
IR (g/d)	N/A	N/A	N/A	122	78[b]	101.5[i]	122
FI (unitless)	N/A	N/A	N/A	1	1	1	1
EF (d/yr)	N/A	N/A	N/A	350[d]	275[b]	350[d]	350[d]
ED (yr)	N/A	N/A	N/A	70	9[e]	6	70
BW (kg)	N/A	N/A	N/A	70	70	15	70
AT-Noncancer (d)[f]	N/A	N/A	N/A	25550	3285	2190	25550
AT-Cancer (d)[g]	N/A	N/A	N/A	25550	25550	25550	25550
Ingestion of Meat							
IR (g/d)	N/A	N/A	N/A	75	50[b]	29	75
FI (unitless)	N/A	N/A	N/A	1	1	1	1
EF (d/yr)	N/A	N/A	N/A	350[d]	275[b]	350[d]	350[d]
ED (yr)	N/A	N/A	N/A	70	9[e]	6	70

See footnotes at end of table.

TABLE D.3-5
(Continued)

Pathway Parameters	Trespassing Child Age 6-18	Expanded Trespasser Child Age 6-18	Expanded Trespasser Adult 18-50	RME On-Property Farmer Age 1-70	CT On-Property Resident Farmer Age 1-70	On-Property Resident Child Age 1-6	Off-Property Resident Farmer Age 1-70
BW (kg)	N/A	N/A	N/A	70	70	15	70
AT-Noncnacer (d)[f]	N/A	N/A	N/A	25550	3285	2190	25550
AT-Cancer (d)[g]	N/A	N/A	N/A	25550	25550	25550	25550
Ingestion of Milk							
IR (L/d)	N/A	N/A	N/A	0.3	0.2[b]	0.9	0.3
FI (unitless)	N/A	N/A	N/A	1	1	1	1
EF (d/yr)	N/A	N/A	N/A	350[d]	275[b]	350[d]	350[d]
ED (yr)	N/A	N/A	N/A	70	9[e]	6	70
BW (kg)	N/A	N/A	N/A	70	70	15	70
AT-Noncancer(d)[f]	N/A	N/A	N/A	25550	3285	2190	25550
AT-Cancer(d)[g]	N/A	N/A	N/A	25550	25550	25550	25550

[a]Parameter values obtained from Final RI Report for Operable Unit 4 (November 1993), Table D.3-12.
[b]Special guidance from EPA Region V.
[c]Drinking water consumption rate of 1.4 L/day from NRC (Nuclear Regulatory Commission), 1977, U.S. Nuclear Regulatory Commission Regulatory Guide 1.109; NCRP (National Council on Radiation Protection) Report No. 76.
[d]Guidance from EPA (1991a), OSWER Directive: 9285.7-01B.
[e]Guidance from EPA (1991b), Interim Final, OSWER Directive: 9285.6-03.
[f]Calculated as the product of ED (years) x 365 days/year.
[g]Averaging time for carcinogens calculated as the product of 70 years x 365 days/year.
[h]EPA (1992a), "Dermal Exposure Assessment: Principles and Applications, EPA/600/8-91/011B.
[i]Guidance from EPA (1989), Interim Final, p. 6-36.

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ATTACHMENT III

FINAL ENVIRONMENTAL IMPACT STATEMENT DISTRIBUTION LIST

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ATTACHMENT IV

PUBLIC MEETING TRANSCRIPT

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US DEPARTMENT OF ENERGY

PUBLIC MEETING

MONDAY, MARCH 21, 1994

THE PLANTATIONS, HARRISON, OHIO

SPANGLER REPORTING SERVICES

PHONE (513) 381-3330 FAX (513) 381-3342

MR. STEGNER: Good evening. Thank you for coming. My name is Gary Stegner. I work at the Department of Energy at Fernald. Tonight we're going to be discussing Operable Unit 4, which are the silos, Silos 1 through 4 including the basic five silos.

Briefly, very briefly, the way we're going to set the evening up is, if you look at the agendas on your chair, we'll start off with a series of presentations which should last about a total of about 45 minutes.

Following the presentations we'll have an informal question and answer section. This is informal as distinguished from the formal comment period that will follow. During the informal session, it will be a give and take with the panel and any of the other experts who we might have out there in the audience to answer your questions regarding Operable Unit 4. We do want to keep focused as much as possible on Operable Unit 4.

Following the informal questions and answers, what we'll do is take a break for about 10 or 15 minutes. Then we'll come back, and then

1 we'll have the formal comment period. The formal
2 comment period is for the record. You know, it is
3 something that will be included in our
4 Responsiveness Summary, and it will be included in
5 the Record of Decision for Operable Unit 4.
6 Before I introduce the panel tonight,
7 a few logistical announcements. People will
8 remind, I think everyone is registering at the door
9 as they come in. If you want to make a formal on
10 the record comment, please designate that when you
11 sign in. The way I will do that is, following the
12 break when we begin that, I will go through there
13 and find out the number of people who want to and I
14 will call them up.
15 Don't think that you have to come up
16 here to the microphone tonight to make your formal
17 comments because there are comment cards on your
18 chairs. Also you can give those to me after the
19 meeting. You can send them to Amy at the
20 Department of Energy at Fernald, and you can also
21 just write out your comments and send them to us at
22 the Department of Energy at Fernald. We ask that
23 you have those to us by April 20th, however.
24 I think there is ice water someplace

in this room. Rest rooms are out the door there. There's also a pop machine if you want to get something to drink during the break. We encourage you to take the handouts that we have scattered throughout the room, if you want to find out more about Operable Unit 4.

So let me get on with introducing our panel tonight. We have Randi Allen, who is the Operable Unit Four Manager for the Department of Energy here tonight. Wilf Pickles, her counterpart with FERMCO, the manager there. We have Ed Skintik, Regulatory Compliance for the Department of Energy. His counterpart, Eric Woods, FERMCO reformatory programs; and also Dennis Nixon, the Assistant Unit 4 Director. So without further ado, I will turn it over to Randi Allen.

MS. ALLEN: We also have Eric Woods who works for FERMCO. All I'm going to do here real quick is, in case there's anybody in the audience that is not that familiar with Fernald, I'm just going to introduce you to the operable units, and then turn it over to Dennis Nixon. He's going to go through some details on Operable Unit 4.

1 Sure everybody has seen this before.
2 This is just to show you the location of the
3 Fernald. It's a 1,050 acre site located about 17
4 or 18 miles northwest of Cincinnati. What I'd like
5 to do here real quick is just run through the other
6 operable units to you, and then I'd like to present
7 a schedule. We're going to have a similar meeting
8 for all the other operable units in a little bit of
9 a later time scale here. I'll show that to you in
10 a minute.
11 Operable Unit 1, which you see in the
12 orange, is the waste pits, and Operable Unit 2 is
13 called other waste units. That's the flyash piles,
14 the south field, the sanitary field, and lime and
15 sludge fields. Operable 3, that's a bigger
16 operable unit. That's all the facilities located
17 on the site. Operable Unit 4 is obviously the
18 silos, one of the smaller units. And Operable Unit
19 5 is everything else not shown on the grid,
20 environmental media, the soils, and the ground
21 well.
22 Here's a schedule for the other
23 operable units. As you can see, in the yellow is
24 the period between like whenever you see the

1 remedial investigation report, that's when the
2 documents are beginning to become available for
3 review by the public. Operable Unit 4 down there,
4 we're right now between the feasibility stage,
5 proposed plan. We've initiated preparation of a
6 Record of Decision.
7 Some places you see the feasibility
8 study, and shortly thereafter the US EPA, the DOE
9 headquarters, and the Ohio EPA will review and
10 comment on the document and approve the document.
11 It becomes available for the public to review, and
12 they'll have this type of evening for each one of
13 the other operable units.
14 This is the process we go through to
15 get in the file remediation. Actually, this is a
16 pretty simple version of it, if you can believe
17 it. Right now in Operable Unit 4 we are right here
18 in beginning preparation of the Record of
19 Decision. So we're getting ready in the near term
20 to issue the Record of Decision of Operable Unit 4
21 that gets submitted to the US EPA and Ohio EPA in
22 June of this year.
23 After that, once we have reached an
24 agreement on what that Record of Decision should

say, the comments you provide on this proposed plan are incorporated into that document. So once we issue that Record of Decision, we will begin final remediation.

At this time what I'd like to do is introduce Dennis Nixon, and he is going to run through the documents you guys have been asked to review.

MR. NIXON: Good evening. What I'm going to do, present this evening, is a brief history of Operable Unit 4 and how we got to where we're at today. As Randi said, Operable Unit 4 is one of five operable units at Fernald. It's located on the western portion of the site next to Paddy's Run Creek. This is an areal shot of the operable unit area.

There's a geographic area encompassing the four waste storage silos. K-65 silos, which you'll see to the south, here Silos 1 and 2 contain the K-65 residues. Silo 3 is -- contains the cold metal oxide material. Silo 4 is empty and was never used.

The operable unit also consists of a radon treatment system and underground decant sump

1 tank that was used in the process of filling the
2 silos, the surfaces soils, subsurface soils, and
3 the berm soils, as well as any perched water that
4 may be encountered during the final remediation.
5 The silos were constructed in 1951
6 and 1952 for use as interim storage vessels for
7 defensive program waste that was being produced at
8 that time at the Melloncrock Chemical Works in St.
9 Louis.
10 I have a group of shots on the
11 construction I'll just run through. This is a -- I
12 believe the foundation being prepared for Silos 4,
13 3, 2, looking south. The silos were constructed --
14 Silos 1 and 2 were constructed in the winter
15 months, which caused some problems within the
16 construction, causing problems with shutting down
17 the concrete pours which resulted later in cold
18 joints, which when they stopped pouring the
19 concrete, which we'll show you in later pictures,
20 that later would form cracks in the sides of the
21 silos.
22 Silos 1 and 2 during the construction
23 phases, shot looking to the west during
24 construction. The silos were filled during up till

1 1958. If you'll notice the cracks on the south
2 face where those cold joints in the construction
3 occurred. Essentially due to those cracks, there
4 later was an asphaltic cover. Here again the
5 cracks in the sides of the silos looking to the
6 north, Silo 1, 2, and 3.
7 In 1964 those cracks were sealed with
8 a Gunite material, and then an asphaltic sealant
9 was placed on that, and the first of two berms were
10 added. The berms were added not only for -- They
11 were mainly added for structural stability. They
12 were also there to provide some shielding due to
13 the radiation that was given off by the silo
14 material. The decant sump tank, which was a buried
15 tank, this is the -- an access way, a corrugated
16 pipe that was used to access that tank after the
17 berm was added.
18 And this is an areal shot of the
19 original berm. Again, the K-65 silo is here. In
20 1983 that berm, the original berm, had resided, and
21 we had another berm added in 1983 due to the
22 erosion problems. Furthermore, in 1987 these dome
23 caps were placed on the K-65 silos to enhance the
24 structural integrity of the dome itself. The foam

1 was added to insulate the silos and to assist in
2 the radon problem, which we'll talk about a little
3 later.
4 Again, in 1991 -- I'll talk about the
5 history, is the clay that was added. We had a
6 removal action in 1991. Due to the radon concerns,
7 the chronic radon emissions, as well as concerns of
8 the silos collapsing and releasing material, we
9 added a one-foot layer of bentonite clay to the
10 residues.
11 As I said, the material was added up
12 until 1958 in the silos. The majority of the
13 material, as I said, was processed at -- the K-65
14 material was processed at the Melloncrock Chemical
15 Works in St. Louis. Essentially, they had a
16 problem in St. Louis with storage. So we
17 constructed the silos at Fernald for storage of
18 that material. It was shipped from Melloncrock as
19 well as Lake Ontario Ordinance Works to the Fernald
20 site.
21 You can see here the incoming drums
22 that were received at the site. Those drums were
23 slurried in the drum handling building. They were
24 reslurried, pumped in the silo. That material was

1 allowed to sit over night, essentially, and the
2 liquid was decanted off into the decant sump tank
3 that I spoke of earlier.
4 As well, some K-65 material was
5 processed at Fernald in our refinery. Those
6 raffinates were pumped in a liquid form through the
7 trench that you see here running east west to Silo
8 2.
9 The Silo 3 material was all processed
10 on site here in our refinery at Fernald. Those
11 raffinates were unlike the K-65 material, would
12 calcine at a very high temperature and would rot,
13 and would pneumatically convey through the same
14 trench to the pipe in Silo 3.
15 The K-65 material generally takes the
16 form of a wet clay material ranging from gray to
17 brown. It is defined as technically as 11E2
18 by-product material under the Atomic Energy Act,
19 which makes that an exception from the RECRA
20 regulations, even though we do consider RECRA as a
21 helpful and appropriate requirement.
22 The material in K-65 silos generally
23 the contaminates of concern are radium, thorium,
24 and lead-210. Due to that radium content, the

residues give off a considerable amount of radon gas, which again was the reason for the removal action to add the one-foot layer of bentonite clay in 1991.

There are elevated concentrations in the residues, the untreated residues, of barium and lead. There are very low concentrations of PCB and tributyl phosphate used that probably occurred during the processing at the refinery or at the Melloncrock Chemical Works.

Total volume of material, including Silos 1 and 2, including the bentonite clay is roughly 8,900 cubic yards. In your packets you have tables from the remedial investigation, the actual characteristics of the residues themselves. I won't go over those tonight.

The Silo 3 material is called cold metal oxides. As I said, those are a dry powdery material like a talcum powder, again defined technically as 11E2 by-product material, the much lower concentrations of radium nuclides in the Silo 3 materials.

The predominant contaminates of concern here are the thorium-230, uranium, and

1 lead-210 again. The Silo 3 material also leaches
2 rare earth metals listed here. Little to no
3 organics in the Silo 3 material due to that high
4 temperature calcine process.
5 And here the total volume of Silo 3
6 material, approximately 5,000 cubic yards, for a
7 total residue volume of roughly 13,000 cubic yards
8 to be processed in our final remediation. Again, I
9 have the tables of the characteristics of that
10 waste.
11 In addition to the residues, Operable
12 Unit 4 will remediate surface soils, contaminated
13 surface soils, contaminated berm soils, the
14 subsurface soils below and surrounding the silos,
15 and again any perched water that is encountered
16 during the final remediation.
17 As Randi said, we are in the process
18 of a remedial investigation feasibility study. We
19 currently have completed our remedial
20 investigation. It is conditionally approved by the
21 US EPA. The feasibility study and the proposed
22 plan have been completed, and again are
23 conditionally approved by the US EPA.
24 We are at the phase that we are

1 getting the public comments, public involvement in
2 our proposed plan, and responding to the comments.
3 We are making progress with our Record of Decision
4 based on this proposed plan. It's due to the
5 agency in June of this year. That will include a
6 Responsiveness Summary which will respond to the
7 questions and comments that are raised tonight and
8 in other meetings or other discussions, formal
9 comments.
10 And then after that Record of
11 Decision, hopefully by October, November time frame
12 of this year, we'll have a Record of Decision.
13 We'll be moving forward into the remedial design
14 and remedial action phases of the project.
15 All of the points are important that
16 we make and go into detail with later. The
17 documents that have been prepared today are fully
18 integrated with the NEPA process and act as the
19 site's draft of the Environmental Impact
20 Statement.
21 In the feasibility study, we
22 evaluated a full range of alternatives, you know,
23 alternatives that included on-site and off-site
24 disposal, various treatment options, and the DOE

1 proposed alternative, preferred alternative, is as
2 follows:
3 Essentially, the major components of
4 that preferred alternative are to remove the
5 residues from the silos, stabilize those residues
6 by the use of vitrification and dispose of those --
7 that vitrified waste off site at the Nevada test
8 site.
9 Again, we evaluated a full range of
10 alternatives, and those alternatives were evaluated
11 under the nine criteria which were provided by
12 CERCLA. We're currently involved with the
13 modifying criteria, which is to get the public
14 involved. Again, the major components, to remove,
15 treat, and dispose of the materials in the silos;
16 but in addition to that, we're going to be
17 demolishing. After the residues are removed and
18 treated, we'll be demolishing and decontaminating
19 the silos themselves, the remediation facilities
20 required.
21 We'll be excavating any contaminated
22 soils, that's surface and subsurface soils, the
23 perched ground water. And then, of course, the
24 disposal of the soils and debris will be consistent

1 with the Operable Unit 3 and Operable Unit 5
2 Records of Decision, respectively. They will not
3 be finally disposed of with this operable unit.
4 As for the cost of this action, the
5 cost is roughly $90 million from start to finish,
6 which is made up of the capital cost for the
7 facility as well as various remediation costs and
8 operations and maintenance costs.
9 This is the schedule. Essentially,
10 we are at the end of the proposed plan period. We
11 are entering into the Record of Decision. We have
12 a draft Record Decision right now at the DOE
13 headquarters that's being reviewed. We have
14 initiated some work on the remedial design work
15 plan based on this proposed plan.
16 Following the Record of Decision, we
17 will go into full-blown remedial design, and then,
18 of course, remedial action will follow. The
19 construction you see here, the construction phase,
20 will be roughly through March of 1997.
21 We'll initiate the remedial
22 operations shortly thereafter, and the facilities
23 will operate roughly until the year 2,000. After
24 the operations are complete, this is the period in

1 which we demolish and decontaminate the facilities
2 that were used to treat and stabilize the
3 materials.
4 There are a couple of key questions,
5 my last couple of slides here, that need to be
6 answered. Why remove the silo waste at all? I
7 think everyone that's involved with this, this
8 project, will agree that the silo materials need to
9 be taken out of the silos and put into a safe
10 configuration.
11 The silos have questionable
12 structural integrity. There is the potential,
13 always the potential, for a continued leakage from
14 the silos, proposes an unacceptable risk to both
15 the off-site residents as well as any future
16 trespassers for the site.
17 After they've been removed, why
18 vitrify these wastes? Vitrification is a very --
19 it's a proven technology, and due to our extensive
20 rehabilitative studies, we found it to be a very
21 good treatment technology for the K-65 silo
22 materials. The silo K-65 materials have high
23 silica contents which is very conducive to this
24 process.

1 There is significant volume
2 reduction. There is up to a 60 percent reduction
3 when vitrifying the K-65 materials. We have
4 significant reduction of radon emanation rate.
5 Essentially, once the material has been vitrified,
6 it has the radon flux of the common building
7 materials like bricks and wood.
8 It also reduces the leachability of
9 metals that are in the material. For example,
10 those metals we are concerned with listed here, the
11 untreated waste, the leaches in excess of the RECRA
12 maximum allowable concentration; after
13 vitrification all well below the regulatory
14 limits. Radon emanation rate, very high for the
15 untreated waste, and it is obviously a significant
16 reduction there.
17 That's all I have for you this
18 evening. I'd like to introduce Eric Woods, who's
19 going to talk in detail on the process in which we
20 integrated the CERCLA and NEPA in these documents.
21 MR. WOODS: Good evening. What I'd
22 like to do is provide a short presentation on
23 CERCLA/NEPA integration, basically focusing on
24 three things: a little bit about the history of

1 NEPA compliance at the site, and then look at the
2 Operable Unit 4 feasibility study and proposed
3 plans specifically and kind of walk through how we
4 are integrating NEPA into these documents, and
5 then, lastly, provide a summary of the Operable
6 Unit 4 environmental impacts and the cumulative
7 environmental impacts.
8 So we're all on the same page with
9 respect to NEPA, NEPA is the National Environmental
10 Policy Act signed into law in January of 1970. The
11 goal of NEPA was to provide a national policy on
12 protection of the environment, and one of the
13 specific aspects of NEPA in order to accomplish
14 this goal is that it established a process by which
15 federal agencies, such as the Department of Energy,
16 will need to consider environmental impacts when
17 they made decisions.
18 This is formally known as the
19 Environmental Impact Statement Process, what we're
20 going through here for Operable Unit 4, and a very
21 important aspect of that is the public involvement
22 aspect.
23 The first Environmental Impact
24 Statement proposed at the Fernald site was a

1 renovation EIS. When the site mission changed from
2 production to remediation, the need for this
3 document went away, and the Department of Energy
4 subsequently canceled the renovation EIS.
5 As I said, the mission was changing
6 at that point from production to remediation, and
7 there was still the need to address NEPA for the
8 clean-up activities that were being planned at that
9 time. Therefore, the Department of Energy issued a
10 second notice of intent in May of 1990. This was
11 followed by scoping meetings in June, and this
12 basically announced that it intended to prepare an
13 Environmental Impact Statement for the Operable
14 Unit 4 remedial activities.
15 This document was designed or was
16 planned to do a couple of things. Mainly, it was
17 to look at the environmental impacts of the
18 Operable Unit 4 alternatives, specifically, and
19 reach a decision for OU4 and OU4 only.
20 However, because it was the lead EIS
21 or the first of five integrated documents to be
22 prepared at the site, it was also to address
23 cumulative impacts, and we'll walk through the
24 document and I'll show where and how we've done

1 that.

2 I'll mention that the remaining

3 operable units, 1, 2, 3, and 5, will also be

4 prepared as documents at a lower level, and we'll

5 make decisions for those operable units

6 specifically.

7 I think a key question is, why did we

8 integrate, why not do an individual EIS process and

9 an individual RI/FS process? The main reason is

10 there's a similarity between the two. The RI/FS

11 process under CERCLA, there's an awful lot of the

12 same things we need to do with the EIS under NEPA.

13 Primarily, NEPA evaluates the site, the

14 alternatives to reach an end goal, and it does

15 mention some of the criteria we look at. In the

16 end it identifies preferred alternatives. These

17 are similarities in the two.

18 There are some differences, primarily

19 in the way the alternatives are evaluated, and

20 where these differences occur is where we simply

21 utilize the CERCLA framework and infuse or

22 integrate NEPA into the documentation.

23 This does several things for us. It

24 avoids duplications, the duplications of preparing

1 two separate documents. It also minimizes the
2 potential for inconsistencies, and it's consistent
3 with DOE policy.
4 Looking specifically at the Operable
5 Unit 4 documentation, I want to point out the
6 various parts of the document where NEPA has been
7 infused or integrated. The first place is right up
8 front in the Executive Summary in the introduction
9 in Chapter 1.
10 We provided a discussion of
11 CERCLA/NEPA or NEPA/CERCLA integration, basically
12 what role the various documents play, why we do
13 this, how the remaining operable units will
14 follow. This just gives an overview of the
15 process.
16 The next place where we have
17 integrated NEPA is in Chapter 4. This is really
18 the most important part of the document from the
19 NEPA perspective. This is where we identify
20 environmental impacts that we anticipate for the
21 alternatives that have been identified.
22 Basically, as you go through the
23 alternatives, there is a short-term effectiveness
24 discussion and a long-term effectiveness discussion

1 for each alternative. Under short-term we provided
2 an analysis of the environmental impacts
3 anticipated during remedial activities. And then
4 in the long-term effectiveness section, we provided
5 an analysis of environmental impacts that are
6 anticipated after remedial activities are
7 complete.
8 When we evaluate environmental
9 impacts, these are some of the criteria we look
10 at. As you go through the document, you will see
11 short-term environmental impacts, just this is a
12 format of the evaluation you will see. Rather than
13 talk through these, I thought I would provide some
14 photographs to kind of illustrate what we're
15 talking about.
16 This slide illustrates several
17 things. This is Paddy's Run. Obviously, water
18 quality is related to Paddy's Run. Also the belton
19 king fisher and the various habitats of biotic
20 resources which evaluate wildlife, wildlife
21 habitat, any species that may be listed at the
22 state or federal level protected.
23 Also flood planes, there are flood
24 planes we must deal with along the Great Miami

1 River. There's also flood planes along Paddy's
2 Run. Flood planes extend to various points on the
3 banks of Paddy's Run depending on what the
4 topography is like in that area.
5 Another example of biotic resources
6 is this overhead. This is along the eastern
7 portion of the site, and this basically shows a
8 typical field or pasture type habitat we have, and
9 as we went through the cumulative impact analysis
10 and for the purposes of that analysis looked at the
11 possibility of on-site disposal, this was typically
12 the kind of habitat that we identified being
13 disturbed.
14 Another important aspect is cultural
15 resources. Cultural resources could be historic or
16 prehistoric artifacts, such as projectiles or some
17 of the ceremonial pieces that are identified on
18 this overhead. They also could be structures such
19 as homes that this area is very rich in cultural
20 resources, and we have an active program to insure
21 that we don't impact these types of things.
22 This is another shot of the flood
23 plane area. This is along the Great Miami River.
24 You can see the site in the distance. It's upside

1 down. The flood planes obviously extend in the
2 flat, cultivated fields adjacent to the Great Miami
3 River, and what we're concerned about when we look
4 at flood planes is basically changing elevations.
5 A flood, if it were to occur, either
6 a hundred-year flood or a 500-year flood, it's
7 typically accustom to proceeding a certain distance
8 from the river, in the case of Paddy's Run from the
9 stream. If we change elevations significantly, the
10 water can no longer go where it was accustomed to
11 going and will magnify down stream floods.
12 Kind of hand in hand with the flood
13 planes are wetlands. This is a typical wetland
14 that we have on site, basically this drainage ditch
15 with the cat tails. We have about 35 acres of
16 wetland on the Fernald site, and approximately 10
17 to 15 fall under this category of drainage ditch
18 wetlands. There's a larger area of forested
19 wetlands in the northern part of the site, which
20 are a little bit higher quality than this.
21 When we look at impacts in the
22 Operable Unit 4 document, both specific and
23 cumulative related to all of the operable units,
24 drainage ditch wetlands are primarily wetlands that

1 could be impacted. Wetlands on site are shown in
2 red. This is a large area of forested wetlands I
3 was speaking about.
4 We're taking steps, as we did very
5 early on in the process, to avoid this wetland
6 area. However, if we cannot avoid this area, we're
7 developing a strategy to compensate for the loss of
8 wetlands. We're going to be negotiating that with
9 the Army Corps of Engineers and various other
10 agencies. So those are just some of the kinds of
11 things we look at as we go through our impact
12 analysis.
13 Back to the document itself, also in
14 Chapter 4, at the end of Chapter 4, we have several
15 short sections that we've added to comply with NEPA
16 guidelines. These are irreversible, irretrievable
17 commitment of resources and several others. So
18 that essentially takes care of the body of the
19 feasibility study.
20 As I said, this document is
21 functioning for the Environmental Impact Statement
22 at the site. So the other aspect of it is
23 cumulative aspects that occur in Appendix I in the
24 feasibility study. We've taken remedial

1 alternatives, the latest information we had
2 available, and provided an analysis of the impacts
3 related to the overall remediation of the site.
4 Obviously, we're going to be
5 proceeding through the RI/FS process for the other
6 operable units. Decisions will be made for those
7 other operable units, and that -- the decisions
8 that are made at the very -- from the LRA's that
9 we've utilized for our evaluation in Appendix I.
10 If that happens, we'll update this analysis and
11 provide it for future feasibility studies for
12 submittance for other operable units.
13 Looking at some of the impacts we
14 anticipate for OU4 specifically, alternative, as
15 Dennis discussed, was removal, vitrification of the
16 contents of the silos, removal and on-property
17 disposal contingent upon decisions in OU3 and 5 for
18 storage.
19 Basically, there's an overall
20 beneficial impact for eliminating or controlling
21 the source or potential source of contamination of
22 the silo, contents in the silos. On the negative
23 side, the excavation of the Operable Unit 4 area
24 and the potential excavation for on-site disposal

1 facility will result in less than 15 acres of the
2 site being disturbed in the short term. Depending
3 on the decisions that are made in Operable Unit 3
4 and 4, a portion of these could be committed in the
5 long-term for disposal. Also potential for a small
6 area of wetlands to be disturbed as a result of the
7 excavation activities. Again, we're looking into
8 compensating for the loss of these wetland areas.
9 And minor increases in traffic due to
10 goods and materials, fill material, being brought
11 on to the site. This is on the order of ten trips
12 per day for the life of the remedial activity. And
13 those we've identified as substantive. There are
14 others, some of the other categories are evaluated
15 and discussed in the document as well.
16 As far as cumulative impacts go,
17 again, an overall beneficial impact due to the
18 elimination of sources of contamination. Due to
19 the potential sources to the air, water, and soil,
20 again, we're looking at all five operable units
21 being remediated.
22 So we've got a larger area that will
23 be disturbed during that activity up to 250 acres.
24 And, again, the LRA's that we use for this

1 evaluation primarily looked at on-site disposal.
2 So this is somewhat of a worst case scenario.
3 Hand in hand with the disturbances at
4 the site, a portion of habitat, such as the field
5 habitat I showed in the overhead previously, and
6 some forested areas in the northern part of the
7 site would be disturbed.
8 We do have -- Probably the most
9 important impact we need to identify is, we do have
10 the potential to lose most of the wetland areas on
11 the site. We are trying to work with the various
12 crews to insure or to the extent possible avoid the
13 wetland areas. Wetlands that we do lose due to
14 excavation or commitment of land, we will begin to
15 compensate or mitigate the loss of those areas.
16 In the area of socioeconomics, which
17 looks at impacts from the action to the local or
18 area economy infrastructure such as public
19 services, we do expect a significant amount of
20 material to be purchased in the area.
21 And in addition, we've done a lot of
22 evaluation as to the level of work force at the
23 site, and we expect the level to stay fairly
24 consistent through the life of the remedial

1 activities. Therefore, socioeconomics in the short
2 term should be primarily beneficial. And as we
3 complete remedial activities, the need for a lot of
4 the work force will decline, which could result in
5 minor socioeconomics after the activities are
6 complete.
7 That concludes my presentation, and
8 I'll turn it over to Randi Allen.
9 MS. ALLEN: I just have a couple
10 slides here. These are the last three slides in
11 your package, and I promise I'm not going to go
12 through all of those. Sitting up there looking out
13 at you guys, looks like not a moment too soon I'm
14 winding up this packet here.
15 This is really what we've gone
16 through in Operable Unit 4 so that we could relate
17 what we are intending to do with the residue to
18 advise you out there. Initially starts back when
19 we submitted the document to US EPA and Ohio EPA,
20 the document and the EIC.
21 Essentially, what we've gone through
22 here is beginning really in October, we have tried
23 to meet with the public to tell them what is in the
24 proposed plan and the feasibility study, and have

1 gone through really risk assessment, ground water,
2 and different little round tables I guess.
3 And when we get down to the bottom of
4 this first slide, this is pretty much when we
5 started the distribution of this document. Because
6 it's an EIS the distribution of this document was
7 2,500 copies or something along that. This takes
8 us pretty much to where we are now. This is March
9 7th, this is just notifying this is an EIS
10 feasibility study.
11 The last sheet here will take us to
12 where we are now, to March 21st. And as I think
13 Dennis has told you, April 20th is the date that we
14 are asking for everybody's comments. You can give
15 us some comments this evening if you'd like to,
16 written or verbal comments. And I think the last
17 chapter in the proposed plan, there's -- also you
18 can send it, there's the address for submitting
19 your comments to the US DOE, Ken or Gary, or you
20 can send them out to Jim Saric.
21 What we're going to do at that point
22 in time is prepare a responsiveness study. When we
23 submit our Record of Decision down here on June
24 10th to US EPA, that Responsiveness Summary will be

1 part of that document. So that's your opportunity
2 to see how we responded to your comments.
3 This last one down here, there's been
4 quite a few questions on what kind of public
5 involvement do we have from this point on. Now,
6 they have revised the Community Relation Plan in
7 1986 and 1989. And it takes us pretty much up to
8 the Record of Decision point; is that right, Gary?
9 MR. NIXON: That's right.
10 MS. ALLEN: So what we need to do,
11 in the next three months I think the Public
12 Relations Department will be sending out some
13 questionnaires and folders to members of the
14 community to get some communication, when we get
15 into remedial design what part do you want to play,
16 how involved do you want to be to, do you want to
17 continue to have round tables.
18 We need to get some communication and
19 revise that plan. I think this is a pretty
20 standard format for all of the operable units once
21 they get to the feasibility study point as we go
22 through the round tables and have a public
23 meeting.
24 At this time what I'd like to do is

1 ask Jim Saric from US EPA and Tom Schneider from
2 the Ohio EPA if they'd like to make some comments.
3 MR. SARIC: I guess when I look at
4 the meeting we're having here tonight, the proposed
5 plan for Operable Unit 4 silos, I kind of sat back
6 and started thinking about some of the first times
7 I was involved in this project in 1987 for a few
8 months. And then I went and was working for EPA on
9 another Department of Energy project and came back
10 several years ago in '91, and the K-65 silos were
11 an issue of a very heated debate. They were a very
12 strong public concern.
13 I think if it was the one symbol of
14 the Fernald site that was representative, it was
15 the K-65 silos, and a very significant source of
16 contamination, a very significant source of concern
17 for all of us involved.
18 And I think today we're really at a
19 key pivotal point, a crossroad, where DOE is
20 proposing a remedy, one which we've looked at and
21 reviewed several times as well as Ohio EPA. And
22 we've looked at various options, and we think we've
23 got one that's very reliable, a very good option
24 for handling this material.

1 And, you know, we're hopefully going
2 to be able to move forward. We're encouraging you
3 to come forward with comments on this thing, and
4 then you'll have the Record of Decision coming in
5 in June which will basically begin finalizing this
6 decision. Obviously, if you look at some of the
7 earlier slides, there's still a lot more work to be
8 going on.
9 I mean, this is a decision on what
10 we're going to do, and now it's actually let's go
11 out and do it, remove the silo waste or whatever
12 the action. This will continue, and there's a lot
13 of work to be done, and I think the dates in 2,000
14 are, you know, ongoing as far as when activities
15 will be completed in 2,000 or 2,002.
16 So I guess, personally, I think we're
17 at a big crossroad here, and I guess it's important
18 really to understand what action is being taken,
19 and I encourage all your comments to give. If
20 you've got any questions, please ask any of us,
21 myself or Tom Schneider, and we can go over those
22 things with you. Thanks.
23 MR. MITCHELL: At the last meeting I
24 showed a new table of organization for the new

1 officers for the facility over the site, and Tom
2 Schneider has been selected as the Fernald
3 Coordinator, and this is his first meeting.
4 MR. SCHNEIDER: Well, I just want to
5 reiterate what Jim said. I think he said it very
6 clearly. We're at a very significant point in the
7 process. You know, we've all came a long way, and
8 you're all to be congratulated for having stuck it
9 out so long.
10 We're finally at the decision point.
11 We've spent all this time investigating this site,
12 now we're making the decision. Now is not the time
13 to give up on your involvement, and now is probably
14 the time to make your comments count the most.
15 Your comments on this plan and the future proposed
16 plans is really where you have a chance to make a
17 substantial difference.
18 We along with US EPA participated in
19 the review of these documents and the proposed
20 remediation, but we're always open to your
21 suggestions and comments. So like I said, we look
22 forward to your comments on this document. If you
23 have questions, we'll be here to answer them.
24 In the future there will be probably

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1 a few more of us from Ohio EPA. We're hiring some
2 more staff, so hopefully that will be a little more
3 proactive to your needs and help you out as far as
4 information you might need. So like I said, feel
5 free to contact me outside of this at the office or
6 wherever. Thanks.
7 MR. STEGNER: Thank you. What we'll
8 do now is, we'll have an informal question and
9 answer session. It might be best if you use a
10 microphone back there. If you don't feel
11 comfortable, just stand up and shout it. We have a
12 recorder here tonight. Please just state your name
13 and the question, and we'll let the panel pick it
14 up. So whoever wants to be first, feel free.
15 MS. NUNGESTER: I'm Norma
16 Nungester. I'm a Fernald resident, and a member of
17 Fresh. I have a question of Dennis Nixon. He made
18 the statement that I don't agree with, and I
19 wondered if he could clarify for me. He said that
20 when you vitrify waste, it reduces radon emanation
21 to that of building materials. To my
22 understanding, when you vitrify radionuclides, that
23 they still are very, very hot.
24 MR. NIXON: That's correct. The

1 concentrate, due that reduction, is the radon
2 generation from the treated waste itself that is
3 significantly reduce. The radon is actually held
4 up, and the surface area is significantly reduced.
5 Did you get every other word?
6 You're exactly right, that due to
7 that fact that there's a significant volume
8 reduction, you actually concentrate the
9 radionuclides, so you have a higher concentration
10 of say uranium in a set volume, but the radon
11 itself is much less. The generation or the
12 emanation from the vitrified waste is much less
13 than in its natural form.
14 MS. NUNGESTER: Okay, thank you.
15 MS. YOCUM: Edwa Yocum, Fresh member
16 and a resident of the Fernald area. I was asking a
17 question, this concerns Subunit C2 on your
18 preferred alternative demolition removal on
19 property disposal. When you were talking about the
20 OU4 NEPA compliance with the substantive cumulative
21 impact up to 250 acres of surface disturbance, does
22 that mean that would be what would be part of where
23 the waste will be put?
24 MR. WOODS: Yeah. Again, we looked

at an LRA and assumed on-site disposal.

MS. YOCUM: Okay.

MR. WOODS: And that acreage would incur areas where waste would be disposed of.

MS. YOCUM: Okay. Then, you also are talking about the loss of 220 acres of habitat. Is that included in the 250 acres?

MR. WOODS: Yeah. That 250 would be a total that would occur during the short term, in other words, during excavation activities. Once remediation is completed, we would look at approximately 220 acres being permanently committed, so yes, that's correct.

MS. YOCUM: Okay, all right, that's what I wanted to know.

MS. NUNGESTER: Can you expand on that permanently committed? I missed something. Permanently committed for what, waste disposal facility?

MR. WOODS: Yeah, correct.

MS. NUNGESTER: Not for the waste itself but for the --

MR. WOODS: For the facilities that would house the waste.

1 MS. NUNGESTER: That's the inground
2 facility, the upgrade vault, as you so say?
3 MR. WOODS: Correct.
4 MS. NUNGESTER: Now can you give me
5 an explanation of what is in an upgrade vault?
6 MR. WOODS: The alternatives that we
7 used for the evaluation utilized the vault concept,
8 which would be a portion of the waste being
9 disposed of below grade, and, you know, basically a
10 portion above. There would be facilities that the
11 waste could be retrieved from, and what we used was
12 the calculation of the area.
13 MS. NUNGESTER: Disposal means
14 permanent?
15 MR. WOODS: Yes.
16 MS. NUNGESTER: But now you're
17 talking interim?
18 MR. WOODS: Well, what I'm saying is
19 the design of the facility wasn't as important as
20 the area that the facility could include. Designs
21 are going to be finalized as we go through the
22 remedial process.
23 MS. NUNGESTER: Well, this is
24 another thing, when you go through the RA and

1 that's where the final decision and designs are
2 actually made --
3 MR. WOODS: Correct.
4 MS. NUNGESTER: -- how can you come
5 out with a Record of Decision before you actually
6 know what the vault is going to look like and if it
7 is really going to do the job?
8 MR. WOODS: No, you cannot reach a
9 Record of Decision until, you know, we've gone
10 through the full analysis of what the vault will be
11 designed like and how it will work. What we did is
12 utilize the alternatives that were available at
13 that time for the purpose of the evaluation, which
14 is really the best we can do. We can't foresee.
15 MS. NUNGESTER: Okay. As of today?
16 MR. WOODS: That's correct, that's
17 correct. As we go through the various operable
18 units and decisions are made as to the final design
19 of the vaults and changes are made to the area,
20 that may be required. We'll update the analysis
21 and provide it in the future integrated documents
22 for the other operable units.
23 MS. NUNGESTER: Okay. So then our
24 decisions of the -- So your alternatives for the

1 Unit 4 can change by the time after arriving at a
2 decision?
3 MR. NIXON: We were specific with
4 the subunit wastes the Record of Decision. For
5 Operable Unit 4, specifically the Record of
6 Decision, the proposed plan in the future Record of
7 Decision will be that the Subunit C waste is -- you
8 remember us talking about being held in abeyance or
9 delayed operable units, the Subunit C waste will be
10 handled in accordance with the Records of Decisions
11 for Operable Unit 3 and Operable Unit 5,
12 respectively. Okay.
13 So as far as our Record of Decision,
14 essentially we carry it through the removal of the
15 soil, interim storage of that soil in accordance
16 with Removal Action 17, which is the management of
17 those soils, demolition of the structures and
18 storage of that debris in interim until OU3 comes
19 up with a final decision for the debris.
20 OU5 will have a final decision on how
21 the soils will be treated, and those all integrate
22 very well. When we start that remediation process,
23 when we have those soils excavated and stored, at
24 that time Operable Unit 3 and 5 Records Of

1 Decisions will be in place, and we'll have very
2 good integration.
3 At that point we'll be able to
4 deliver -- Theoretically, we'll be able to take the
5 soils out and take those to a Operable Unit 5
6 facility for treatment. They'll be disposed of in
7 accordance with their Record of Decision, and that
8 may or may not be on-site disposal.
9 MS. NUNGESTER: Okay. You're
10 saying, you're taking the debris, the structure,
11 the equipment, the surface soil, you're putting
12 them all in the underground vaults?
13 MR. NIXON: Operable Unit 4 is
14 delaying that decision. That's going to be
15 actually be stored in an interim fashion --
16 MS. NUNGESTER: Okay
17 MR. NIXON: -- until OU5 and OU3
18 have records of decision. Now, their Record of
19 Decision may very well be that we will treat soil
20 by washing it and disposing of that on site.
21 MS. NUNGESTER: Right, but it
22 doesn't say that, that it's going to be interim
23 until Unit 5 is considered.
24 MR. NIXON: The proposed plan does

1 clearly state, as well as the Record of Decision
2 will clearly state those, that integration.
3 MS. NUNGESTER: It does?
4 MR. NIXON: Yes, it does.
5 MS. NUNGESTER: Okay. Well, I know
6 on the proposed plan booklet on page 43 talks about
7 that specific issue.
8 MR. NIXON: Right.
9 MS. NUNGESTER: If anybody has that
10 book, and they want to look at it, they can, but I
11 don't believe it says -- It says something about
12 that it will be combined with 5, Unit 5, but it
13 does not say that would be interim disposal until
14 5.
15 MR. NIXON: Disposal, it is interim
16 storage.
17 MS. NUNGESTER: Or storage, but they
18 use "disposal" as the word throughout the whole --
19 MR. NIXON: In the proposed plan,
20 the proposed plan has, for Subunit C waste, it has
21 a selected or preferred alternative which is
22 on-site disposal identified, and the reason that's
23 in there is because on-site and off-site disposal
24 was so close we had to select the one for the sake

evaluating the full alternative from start to finish. Okay.

Later in the document it talks about the integration effort that will occur with OU3 and OU5, and puts -- holds that decision in abeyance for final disposal of those debris and soil until OU3 and OU5 have their Records of Decision.

MS. ALLEN: The confusion could be the fact sheet on page 12 states that the soil debris will be disposed of on site.

MR. NIXON: There is an ~~area~~ error in the fact sheet on page 12, the last paragraph I believe.

MS. NUNGESTER: Then, this shows more of a reason why the public should have a comment period before -- after -- in between the ROD's and even during the remedial, the RA, then, to understand it. Thank you.

MR. STEGNER: Other questions?

UNIDENTIFIED SPEAKER: I have one, and it goes to back to when you were talking about, Randi about, the community and stake holders or public or whatever we're called these days, plays a part in this process. I'll echo what Edwa just

1 said. We give our comments, then there's a Record
2 of Decision. You respond to our comments, and you
3 follow this thing down.
4 But what if we don't like your
5 responses, you know, I don't see another -- I guess
6 as a stakeholder, which is kind of an okay word
7 these days, I guess I have a little bit of a
8 problem with that because once I give you my
9 comments on this as of April 20th, I don't get to
10 say nothing else, and if you don't like what you
11 choose or I don't like the way you responded to my
12 comments, you know, how am I going to be able to
13 come back and say I don't like this?
14 MS. ALLEN: Just like with any other
15 primary document, we submit them to US EPA, and
16 that same document also goes over to the PEIC, and
17 I'm assuming that the Record of Decision will be
18 like any other document in that once it hits the
19 PEIC, you guys are invited and welcome to comment
20 on the document and provide comments over to Gary
21 and Ken.
22 UNIDENTIFIED SPEAKER: And they
23 would be considered as official comments? Because
24 as I read this thing here, it doesn't indicate that

1 at all.

2 MS. ALLEN: It also doesn't in the

3 remedial investigation report, but if you can

4 remember --

5 UNIDENTIFIED SPEAKER: I guess what

6 we're asking for is that we need to be walked

7 through this process, you know. Once the Record of

8 Decision is made, we need to be talked to before

9 your remedial design stuff. We need to be involved

10 in that remedial design stuff.

11 Then we need to talk about the

12 remedial action stuff, and it's going to create a

13 lot of work for people, but we're afraid if we're

14 not walked through that process that we're going to

15 end up at the end with an alternative that people

16 in this community are really going to be upset

17 with.

18 MS. ALLEN: I think that's where the

19 input on the edition that's coming out of the

20 public relations group is going to be critical

21 because it doesn't take us past the point we are

22 right now, and I think we need to get some kind of

23 idea of what kind of part you guys want to play in

24 that.

1 MR. PICKLES: Really the FS and
2 proposed plans for Unit 5 is coming out, you do
3 have a comment period. I assume from your comments
4 about what we're doing in the -- are you satisfied
5 with the issue; is that right?
6 UNIDENTIFIED SPEAKER: Well, I mean
7 some of us might be. I can't speak for everyone in
8 this room, but, you know, at the same time we're
9 going to walk through this process of designing how
10 we're going to do this, I want to know what's going
11 on and what's happening so I can verbally say I
12 don't like this or I like this or this isn't right
13 or whatever.
14 You know, I don't want to say, yeah,
15 yeah, I'm all for your alternative here, this
16 sounds great, let's do it, and then you don't talk
17 to me until the year 2,000, and I don't like what
18 you did.
19 You know, I think, you know, if we're
20 going to stick through this process as we've done
21 for ten years, and I guess we'll do it for the next
22 how many ever, we want to make sure that we're
23 making good and tough decisions as we move along
24 here so when we get done, we have a cohesive

1 decision in this community that we can live with
2 what is left here.
3 MR. STEGNER: I think it's safe to
4 say that we'll be involving you throughout the
5 whole entire process, walking you through the
6 process, you and the Citizens Task Force.
7 UNIDENTIFIED SPEAKER: We need to
8 see that as being a real life thing. Somewhere on
9 here it needs to be written in here we'll talk to
10 the public, we'll seek public input, we'll
11 whatever. That needs to be added in here somewhere
12 because we don't see that in here right now.
13 MS. ALLEN: Well, we almost have to
14 because I'm already getting asked questions right
15 now that I can't answer until remedial design. As
16 far as long term during final remediation, I don't
17 have the answers right now. So I mean, this
18 process going to have to continue through final
19 clean-up because I just can't answer the questions
20 right now.
21 UNIDENTIFIED SPEAKER: On February
22 1st the Ohio EPA issued a notice of deficiency and
23 closure. Were those deficiencies ever corrected?
24 MR. NIXON: Which closure plan?

1 UNIDENTIFIED SPEAKER: On Unit 4,
2 the one you just gave us an elaborate presentation
3 on.
4 MR. NIXON: I believe there might be
5 some confusion there. Can the State of Ohio clear
6 that up? RECRA Unit 4 Solid Waste Unit possibly,
7 it is not this operable unit.
8 UNIDENTIFIED SPEAKER: Not this
9 operable unit?
10 MR. SCHNEIDER: That's correct.
11 UNIDENTIFIED SPEAKER: So two
12 different hazardous waste units on this facility?
13 MR. SCHNEIDER: This isn't a
14 hazardous waste unit.
15 UNIDENTIFIED SPEAKER: Could we ask
16 them to stand when they speak?
17 MR. SCHNEIDER: We're saying
18 Operable Unit 4 is it not a hazardous operable
19 waste unit, not Operable Unit 4. I don't know what
20 exact letter you may have there, but we can talk
21 about it. I think it's probably a RECRA unit.
22 UNIDENTIFIED SPEAKER: It was issued
23 February 1st out of your office, 1994.
24 MR. SCHNIEDER: Must be a RECRA

1 unit, then.

2 UNIDENTIFIED SPEAKER: Okay. I'll

3 discuss it with you.

4 UNIDENTIFIED SPEAKER: I'm Lou

5 Bogart. I'm a resident of Ross. I have some

6 technical questions. In looking at data tables for

7 Operable Unit 4, one of the things that strikes me

8 is that you always report uranium 254/236. Does

9 that mean there's U-236 there? If so, I don't

10 believe it because U-236 doesn't exist in nature.

11 Secondly, the ratio of U-234 to U-238

12 in many cases look very odd, odd in the sense that

13 in nature and in this ore and in the raffinate the

14 234, 238 ratio ought to be very close to unit. For

15 example, when in the table that you've given a

16 handout, the Silo 1 number looks pretty wrong. The

17 Silo 2 number is more acceptable.

18 And the reason I think that's

19 important is because you're going to focus the

20 clean-up levels on U-238. I don't quite know how

21 you're going to do that without doing some very

22 sophisticated isotopic analysis. But in any case

23 those numbers don't look right, and you see that in

24 many, many tables.

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1 On the inorganic chemicals, is there
2 somewhere in all the OU4 documentation a list of
3 all of the inorganic constituents? For example, I
4 note that in most of the recent documents you don't
5 list gold. Now you can. There is about, about
6 four times as much gold in this material as
7 silver.
8 Just as a side light for my own
9 amusement, I calculated this afternoon. There's
10 about $2.3 million worth of gold in those two
11 silos, and that may not be important, but what
12 other elements are not reported which may have some
13 impact on the processing of the material by
14 vitrification?
15 For example, there should be a fair
16 burden of rare earths, the whole lamprophyllite
17 series should be in these ores, and I don't see any
18 of that being reported. Anybody have an answer for
19 that one?
20 MR. NIXON: Well, you had about five
21 questions, so I'll start in the beginning. One was
22 235 to 236, those are analyzed and reported the
23 same. You are correct. We don't feel there is any
24 uranium-236 in the residues. It's a good point.

1 Whether the ratio between U-234 and U-238 is
2 correct, I do not have the answer to that, but we
3 can discuss that and get back with you within the
4 next couple of days.
5 MR. BOGART: How about a complete
6 list of --
7 MR. NIXON: Complete list, the
8 remedial investigation did do a complete list of
9 the organics, inorganics. Whether gold was
10 evaluated, I'm not sure. I'm looking at my team.
11 MR. BOGART: You were supplied gold
12 by TLCP.
13 MR. NIXON: But we also do a full
14 HSL, Hazardous Substance List, which gold would not
15 be part of. So I'm not sure whether gold was
16 particularly reported in the RI.
17 MR. BOGART: How about rare earths?
18 MR. NIXON: I couldn't answer that,
19 either. We've got a copy of the remedial
20 investigation here. Whether these fellows can
21 quickly find answers to those questions or again we
22 can get back with you.
23 Amy Engler I know is sitting out here
24 somewhere taking very good notes, and we'll respond

1 to any of the questions which we don't have answers
2 to tonight. We've committed to have answers back
3 within 48 hours from this evening.
4 MR. BOGART: Well, I -- not so much
5 for myself, but I think for the general public.
6 MR. NIXON: Any question that is
7 raised even in the informal conference will be
8 addressed in the responsiveness.
9 UNIDENTIFIED SPEAKER: Can we use
10 that gold as collateral, can we use that? You said
11 there's like $2 million worth of gold. Can we use
12 that as collateral somehow?
13 MR. BOGART: It's going to cost 90
14 million bucks, maybe we can make it 88 million
15 bucks. On page 21 or whatever this thing is
16 called, the proposed plan, the spiral-bound thing,
17 on page 12 about the middle of the page is an
18 initiation of a discussion about risk.
19 And this is the area that concerns me
20 the greatest, because although you point out
21 that -- And I presume in all cases you're talking
22 about fatal cancers because there are, of course,
23 nonfatal cancers also. And that's not terribly
24 clear in anything that's written.

1 Risk from exposure, the radiation
2 naturally occurring in the environment is about 1
3 in 100 primarily from radon; however, incremental
4 risks targeted by the upper end of EPA range means
5 if all persons within a population of 10,000, 1
6 person might get cancer from the exposure, and
7 cancer is expected from all other causes. I think
8 the whole business of risk assessment needs to be
9 put into some kind of context.
10 If you look at the latest NCRP
11 guidance, 115 and I guess 116, you can talk about
12 risk in terms of about 4 or 5 times 10 to the minus
13 10 and you do the hocus-pocus chemists like to do.
14 And that turns out the average resident from
15 natural radon, that risk becomes about one half
16 times 10 to the minus 2 and the range is 0 to 90
17 years old. And when 90 years old, I guess cancer
18 is the last thing I'm going to worry about.
19 But in any event, you make the
20 statement that the normal cancer risk is about 10
21 to the minus 2, and then you proceed to march down
22 the road of things that are 2 to 4 to 5 orders of
23 magnitude smaller, and it's never put in context.
24 And I think these documents need to discuss what

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1 are we paying for, and that becomes a real
2 problem. I don't know how many people feel
3 comfortable with a 10 to the minus 6 risk, and I'm
4 not real sure that that's a fatal cancer risk.
5 There is a problem with the
6 methodology of using the health effect summary
7 table slope factor thing as opposed to methodology
8 that's used by people who do the beer studies and
9 the NCRP studies because we're talking about vast
10 orders of magnitude differences.
11 Now, the last comment I guess, I'd
12 like to see something in these documents that more
13 clearly explains why the CERCLA process has elected
14 to use such abominably small risk estimates.
15 My last comment perhaps goes to EPA
16 back in 1986, was a bad year for me, EPA published
17 a notice of intent that they were going to
18 promulgate residual regulation standards. It is
19 now 1994, and, to the best of my knowledge,
20 residual radiation level standards have not been
21 promulgated.
22 In 1993 in a GAO report to Congress
23 somebody in EPA said that in March of 1994 they
24 were going to finally publish residual radiation

1 standards, not publish them, but they would take
2 them to OMB, which would be the fist step in
3 getting them published -- well, not the first step,
4 but a key step in getting them published in the
5 Federal Register.
6 March 1994 is now. My concern is, is
7 there one part of EPA working on residual radiation
8 level standards which may very well impact on the
9 clean-up levels that are being talked about here
10 for the clean-up of OU4?
11 MR. NIXON: Was there any response?
12 MR. SARCA: Yeah, I can answer that
13 from my understanding. One of the people involved
14 from the EPA perspective that works with me, he's
15 been commenting that he's involved in working on
16 some of those standards. Will they directly impact
17 this investigation, I don't know. I don't think
18 so. Hearing some of the numbers, I think they may
19 even be moving towards the side of being equally as
20 conservative, could be more conservative.
21 I don't know what the final will come
22 out with. When they do come out of the numbers,
23 they'll go to budget and move forward from there.
24 I do know that they are being worked on. One of

1 the people from my office is doing that right now.
2 I don't know the exact state.
3 UNIDENTIFIED SPEAKER: If memory
4 serves, I think that the gold Lou was talking about
5 was contained in the pitch blend or whatever it was
6 that came over from Africa that the United States
7 bought and dumped into the K-65 silos. I heard or
8 read that somewhere. You might want to check that
9 out.
10 MR. NIXON: It is in the K-65
11 material, yes.
12 MR. BOGART: It all came from one
13 mine.
14 UNIDENTIFIED SPEAKER: The reason
15 they took that pitch was they wanted to strike
16 gold?
17 MR. BOGART: No, radium and gold.
18 UNIDENTIFIED SPEAKER: As far as I'm
19 concerned, it can be vitrified.
20 MR. BOGART: The question was, what
21 else is there?
22 UNIDENTIFIED SPEAKER: Okay. I just
23 have another question. When you said they were
24 filling the silos, especially 1 and 2, did they

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1 transport it through a pipe?

2 MR. PICKLES: Yes, ma'am.

3 UNIDENTIFIED SPEAKER: That's not

4 what I recall. If my memory serves me correctly,

5 some of that material may have been put in that

6 way, but I remember the workers saying at different

7 times that they also carted barrels out there from

8 the silos.

9 MR. NIXON: Most of the material in

10 Silos 1 and 2 were in a drum form that came from

11 Melloncrock Chemical Works in St. Louis. Those

12 drums were taken to the drum handling building

13 between Silos 2 and 3. The drums were dumped and

14 then mixed into a slurry with water and pumped into

15 the silo and then allowed to settle. The water was

16 decanted off into the decant sump tank, and then

17 that water was used to reslurry additional material

18 coming from off site.

19 The material -- The majority of the

20 material, that was processed here on site, because

21 we did process both at the Melloncrock Chemical

22 Works as well as some of the material being

23 processed here, K-65 material being processed at

24 the site in our Refinery Plant 2 and 3.

1 That material as it was processed
2 from the production area at Fernald, it was
3 transported hydraulically in a slurry through that
4 underground trench, through the pipe back to Silo
5 2. But the majority of the material was in drum
6 form and reslurried at the silos.
7 UNIDENTIFIED SPEAKER: I think that
8 should have been mentioned in your report there,
9 you know. It says, from the way I read it,
10 everything went through that pipe and everything,
11 which it wasn't really.
12 MR. NIXON: I tried to talk to that
13 point in showing that one areal shot where you can
14 see all of the large numbers of drums that were
15 being stored by the silos. That is the incoming
16 material that was coming in from Melloncrock in St.
17 Louis and then reslurried at the site.
18 MR. STEGNER: Thank you. Let's take
19 our break now and reconvene for the formal comment
20 period.
21 (A brief recess was taken.)
22 (All panel members except Mr. Stegner stepped
23 down.)
24 MR. STEGNER: This is the beginning

1 of the formal comment section where your comments
2 will be entered to the Responsiveness Summary in
3 the Record of Decision. We will do this as we have
4 some folks who have signed up to make comments.
5 You do not have to sign up to make comments. You
6 can have an open mike at the end. There's only
7 about four or five folks here that indicated they
8 wanted to make comments.
9 Again, you do not have to use this
10 forum to make the official comments. You can
11 submit comments on one of these cards and leave
12 them here at the end of the meeting or you can
13 submit comments to the Department of Energy at the
14 Public Affairs office. We also ask before you
15 leave, if you don't mind, to fill out the
16 evaluation forms we have sitting on all of the
17 chairs.
18 The first person we have is Kevin
19 Sorrel. I guess can Kevin's not here.
20 UNIDENTIFIED SPEAKER: There's some
21 folks still out here in the hallway.
22 MR. STEGNER: You want to check out
23 there.
24 UNIDENTIFIED SPEAKER: Not there.

1 MR. STEGNER: Is Lee Bolver still
2 here?
3 UNIDENTIFIED SPEAKER: He left.
4 MR. STEGNER: Bob, do you have
5 something to say?
6 UNIDENTIFIED SPEAKER: I'll turn it
7 in later.
8 MR. STEGNER: Bob Gessel -- Godsel,
9 I'm sorry? Going very well so far. Tom Wagner,
10 Citizens Task Force? Okay. We have an open mike,
11 folks, if anyone wants to make a comment.
12 MS. NUNGESTER: You want my address,
13 too?
14 MR. STEGNER: Not necessary, as long
15 as we have your name.
16 MS. NUNGESTER: Norma Nungester,
17 Fernald resident and Fresh group. I have several
18 comments. First of all, I want to cover again what
19 was stated in the question and answer period. I
20 think between the draft ROD and the final ROD we
21 need a public comment official time, and you need
22 to formalize this. On down here below you say the
23 public involvement, public involvement, that means
24 nothing to us. You need to formalize that.

And you also need more details on your RD/RA work plan. We want to know more details on transportation. We want to be notified when you're transporting this stuff and talk about the materials that are actually in the K-65 when they're vitrified and when you start to ship them out to Nevada.

Also this stuff that stays on site, I'd like to know how they will be monitored, and for how long of a period they're going to be monitored. I guess I just want to express that we want a guarantee that real-time monitoring will be used.

Also a suggestion, how about covering those silos when you start working on them? I think this is one of the most important things you could do for the community. I think that's about it. I'm trying to read my notes that are chicken scratch here.

Oh, one more thing. I'd like to be diligent on referring large quantities of waste from other sites. We don't want anything brought in here from other plants to vitrify with our material or to be put under the storage areas.

1 Thank you.

2 MR. STEGNER: Thank you, Norma.

3 Edwa?

4 MS. YOCUM: Edwa Yocum. Some of

5 this will sound repetitious, but I'm asking for a

6 public comment period between the ROD's, the draft

7 and final; and we need an official public comment

8 period after the RA process. And also I'm asking

9 for a public comment period between the beginning

10 and completion of remediation. And then, too, when

11 dismantling the K-65 silos and also the 3 and 4,

12 I'd like to have a protective cover be used around

13 the silos.

14 And as far as I read in there, that

15 EPA would be reviewing the vault or the disposal

16 sites every five years, I'd like to know the

17 definition of "reviewing," and I would like

18 continuous monitoring and maintenance of on-site

19 disposal vaults or at least one time a year as long

20 as they're on site. And also, who would be paying

21 for this monitoring and maintenance? And this way

22 I recommend a trust fund for monitoring and

23 maintenance of the disposals.

24 MR. STEGNER: Thank you, Edwa. Open

microphone still, folks. Thank you all very much.

- - -

MEETING CONCLUDED AT 8:45 P.M.

- - -

000320

1 C E R T I F I C A T E

2 I, LISA CONLEY, RPR, the undersigned, a notary
3 public-court reporter, do hereby certify that at
4 the time and place stated herein, I recorded in
5 stenotypy and thereafter had transcribed with
6 computer-aided transcription the within (65),
7 sixty-five pages, and that the foregoing transcript
8 of proceedings is a complete and accurate report of
9 my said stenotypy notes.
10
11
12
13 MY COMMISSION EXPIRES: LISA CONLEY, RPR
14 JULY 28, 1994. NOTARY PUBLIC-STATE OF OHIO
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SUMMARY OF MEETING MINUTES COMMUNITY ADVISORY BOARD FOR THE NEVADA TEST SITE

DATE: May 11, 1994
TIME: 7:00 P.M. - 9:30 P.M.
PLACE: THE ALEXIS PARK RESORT
LAS VEGAS, NEVADA
SUBJECT: PROPOSED SHIPMENT OF FERNALD, OHIO LOW-LEVEL RADIOACTIVE WASTE TO THE NEVADA TEST SITE

SPEAKERS:		Page
For the Government:		
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	Joe Fiore	7
	Dennis Nixon	9
	Layton O'Neill	13
	David Rast	6
For the CAB Members:		
	William Vasconi, Chairperson	18
	Dennis Bechtel	5
	Chris Brown	8
	Lathia McDaniels	7
	Richard Nicolla	8
	E. Paul Richitt, Jr.	11
	Joanne Stockill	6
	Katherine Yuracko	11
Ex Officio Members:		
	Joe Fiore	7
	Paul Liebendorfer	7
For the Public:	Don Hendricks	12
	Jerry Sieren	15
	Michael Verrilli	15
	John Walker	10

ATTENDEES:

DOE AFFILIATES:

Jack Craig, USDOE/FN
Leah Dever, DOE/NV
B. Dozier, REECO
J. E. Evered, FERMCO
Sharon Faurer, DOE/HQ
Joe Fiore, DOE/NV
Wendy A. Griffin, DOE/NV
Patricia Herrin, REECO
Warren Hooper, FERMCO
Steve Housen, FERMCO
Allene Kitchen, DOE
Joe Kitchen, DOE/NV
David Lojek, DOE/FN
Darwin J. Morgan, DOE/NV
Dennis A. Nixon, FERMCO
Don Ofte, FERMCO
Layton O'Neill, DOE/NV
Brian Perkins, REECO
David Rast, DOE/FN
Myrle Rice, IT Corp.
Kevin Rohrer, IT Corp.
James Saric, USEPA/Region V
Bonnie Thompson, DOE/NV
Pam West-Thompson, RSN
Donald Wruble, PAI
Runore Wycoff, DOE/NV

CAB MEMBERS:

Name	Address
Richard Arnold	[redacted]
Dennis Bechtel	
Chris Brown	

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5983

James Henderson

Marilyn Littlepage

Lathia McDaniels

Richard Nocilla

E. Paul Richitt, Jr.

Joanne Stockill

Bill Vasconi
(Chairperson)

Katherine Yuracko

[redacted]

EX-OFFICIO MEMBERS

Paul Liebendorfer

Joseph N. Fiore

[redacted]

PUBLIC CITIZENS: **Name** **Address**

George Blankenship

Jim Buchanan

[redacted]

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Sydney Gordon

Don Hendricks

Rob Santa Maria

Tom Schneider

Gerald Sieren

Michael Verrilla

John B. Walker

[redacted]

Capitol Complex
Carson City, NV 89701

REPORTED BY: Wendy J. Pullium, PAI
Transcriber

000326

CALL TO ORDER:

The meeting was called to order at 6:10 p.m.

The purpose of the evening's meeting was for two presentations. The first presentation was furnished by representatives of the U.S. Department of Energy Fernald Field Office located in Cincinnati, Ohio. The second presentation was presented by the Waste Management Division, U.S. Department of Energy, Nevada Opertations Office.

Each presentation was followed by a question and answer session from the NV/CAB and the public.

Joe Fiore announced that the state of Nevada had made a request in response to a draft Envioronmental Impact Statement issued by Fernald which described the activities which result in waste being transported to the Test Site, and the request involved extending the public comment period on that document for 60 days to give the Community Advisory Board of the Nevada Test Site Programs (NV/CAB) an opportunity to understand the situation better. In response to that, Fernald agreed to extend the comment period by 30 days. The original closing date for comments was April 20th; it is now May 20th. This meeting was being held in time for comments to be put together in the next nine days.

FERNALD'S PRESENTATION:

Dave Rast from the Fernald Field Office gave a summary on the proposal to transport and dispose of low-level radioactive waste at the Nevada Test Site's radioactive waste management site. The waste will be generated in the cleanup and environmental restoration of the DOE's closed uranium production facility near Fernald, Ohio. If the proposed and subsequent actions are implemented, approximately 300,000 cubic yards of radioactive waste will be disposed of at the NTS. Disposal activities would cover a period of approximately 30 years. Copies of the slides presented are attached.

QUESTIONS AND ANSWERS:

At this time, each Board member introduced him/herself and then proceeded with their individual questions and/or comments.

DENNIS BECHTEL: First, I would like to thank you for sharing information about the site. I had the opportunity to visit Fernald several years ago as a member

of the EMAC board. Could you possibly translate your numbers, your 300,000 cubic yards and your annual figures in numbers of shipments, and what they might mean?

DAVE RAST: We get approximately 18 cubic yards of waste on the average on a shipment. If I do the simple math and just divide it by 20, that is 15,000.

DENNIS BECHTEL: So that's potentially what? Three thousand trips a year, and you are looking at FY96 here? (No response given.)

JOANNE STOCKILL: What kind of shipments are you talking, rail or truck?

DAVE RAST: Truck. Currently the only mode of transportation we have off site is truck shipments. We have been looking at rail shipments. Currently, the rail at Fernald is light gauge rail and cannot support heavy shipments, and we have some local rail in the area that is in need of repair before I would attempt to effect any shipments by rail.

JOANNE STOCKILL: Is that true of the 600,000, you are going to put in commercial sites?

DAVE RAST: Yes.

DENNIS BECHTEL: Follow up on the question I had. When you plan your shipping campaign, what sort of coordination do you do with state and governments and particularly the state of Nevada? How do you handle that?

DAVE RAST: Currently, we haven't done any coordination from Fernald in emergency preparedness. DOE established a radiological response team and divides the contaminant into areas for response in a case of a transportation emergency. We also effect training for our shippers. We also have a designated route for which drivers are to transport shipments. They also have a designated call-in time; they have to report at least once every 24 hours. Many of the trucks are being equipped with satellite tracking equipment. The drivers also have all the emergency contact information in their transportation file within a packet and the bill of lading transportation documents.

DENNIS BECHTEL: Where would those designated routes be in Nevada? Would they be interstates?

DAVE RAST: Interstates where possible. You can't get to the Nevada Test Site via interstates. They usually come across 95 over 15, up 15 and back out 95.

DENNIS BECHTEL: So right through Las Vegas?

DAVE RAST: Yes, sir.

LATHIA MCDANIELS: Can you tell me what steps are implemented to insure that we don't accidently get mixed low-level waste shipped to us?

DAVE RASP: To insure that we don't get mixed waste transported to the Nevada Test Site, there is an extensive characterization and certification program established by the Nevada Field Office. That certification program is defined in their Waste Acceptance Criteria Document, NVO-325. We adhere to the conditions established in that document.

We perform a review of our waste on a waste stream by waste stream basis. We also maintain control of containers; maintain control of who has access to waste disposal facilities such as our dumpsters on site have locks on them. Only designated personal have the ability to put trash into a dumpster, or to put any kind of material into a waste container. We are implementing even tighter controls now on waste containers.

We do do sampling analysis of some materials, characterizing them under the RCRA regulations to check for hazardous constituents, to make sure they are not a mixed waste. We maintain those characterization files at the site. They have been reviewed by the representatives from the Nevada Field Office and also from the Nevada Department of Environmental Protection on some of our waste streams.

LATHIA MCDANIELS: But there is no outside agency that has the hands-on ability to review while you are doing it?

DAVE RAST: Before we are allowed to ship to Nevada Test Site, they review the characterization files for the waste streams. Before that waste stream is approved for acceptance, they review it.

LATHIA MCDANIELS: When you say "they," who?

DAVE RAST: Nevada DOE field office.

JOE FIORE: We adhere to a very rigorous waste acceptance process. That includes formal submittal of applications from waste generators. But to specifically answer your question, part of that process involves oversight by the State of Nevada, Division of Environmental Protection. So that's the independent non-DOE part of the thing.

PAUL LIEBENDORFER: I will say, we probably made a significant impact on all the waste that is shipped out here from--not just Fernald but the other places as well--on the level of quality of the waste.

LATHIA MCDANIELS: Are you satisfied (Paul Liebendorfer) that we are not and we will not be getting any mixed low-level waste?

PAUL LIEBENDORFER: Within the documents we have seen so far.

LATHIA MCDANIELS: Outside of the documents; your personal feelings?

PAUL LIEBENDORFER: I think at this point in time, there has been nothing raised. Maybe I should take a step back. There was a shipment that came in a couple years ago of thorium waste that we had great concerns about because of what we perceived to be a lot of inadequate documentation to support the position. We went around for about eight or ten months on that.

I actually went back, and they did some resampling of some containers that were left there, and observed the days worth of sampling and the evaluation, and insisted on additional information to be presented to be included in the waste package to support their position. After conclusion of that particular round, we felt that they, at that point in time, did have the ability to demonstrate that those documents coming back in, that, thorium waste, were in fact, not a mixed waste. They have implemented a process that we don't look at every waste stream. We are able to audit any waste stream we request.

Obviously, we cannot go to every site and look at every package, so we have got to the point where DOE conducts an audit and we audit DOE.

RICHARD NOCILLA: I have been wondering if apart from the tradition of bringing your waste to the NTS, is there another disposal site?

DAVE RAST: We have disposed of waste at the Envirocare Facility in Utah and recently made some additional shipments to a facility. Currently, under the current DOE regulations, the Nevada Test Site is the assigned disposal site for Fernald. Now, we are working on petitions to get the exemptions to dispose of low-level waste at commercial disposal sites.

CHRIS BROWN: What kind of half lives do the various radionuclides that you mentioned have?

DAVE RAST: The primary radionuclides that we have on site are uranium and thorium. I think the uranium is ten million years and thorium is a billion.

CHRIS BROWN: And do you all make highly enriched or low enriched?

DAVE RAST: We only made low enriched uranium. We have some material that is for sale that is approximately 20-percent enrichment. We have limited quantities of that. Approximately, I think 50 pounds of the 20-percent enrichment material which is currently on the block for sale, and more than likely it will be sold.

The highest enrichment we typically dealt with was 1.25 percent, which is about half a percent over normal.

CHRIS BROWN: The relation of this process of choosing the NTS and being designated to the PEIS process, I am curious because, it has up to six possible sites for low-level waste to be sent throughout the complex. I'm wondering if Fernald would give consideration to a site more proximate to it through the PEIS process?

DENNIS NIXON: I believe he is referring to potential sites that could be constructed in close proximity to the Fernald site, and we have essentially found that not to be implementable at this time and cost effective for the small quantity of waste.

CHRIS BROWN: Three hundred thousand cubic yards is not a small amount.

DENNIS NIXON: The proposed action is only 13,000 cubic yards. The 300,000 is the total volume for the site.

CHRIS BROWN: Well, out of all the numbers you threw out at us, which 13,000 cubic yards?

DAVE RAST: Operable Unit 4 residues is the proposed action right now.

CHRIS BROWN: So, are you going to tier following EIS's on each of the operable units, and if so when will we be seeing those?

DENNIS NIXON: This is the 13,000 for this action with Operable Unit 4, and we talked about reducing that to 6,000.

DAVE RAST: Each of the follow-up operable units has an accumulative effect. As you get to the decision point in each of the other operable units, they will tier that effect into environmental assessment for each of the operable units, and those will be coming out at the dates that you see the arrow pointed to at this time.

CHRIS BROWN: So, if your presentation talks about the accumulative impact, the answer, we are only dealing with 13,000, which really isn't relevant. We are dealing with the whole thing. These things are coming out one after the other in the space of a year here, except for Operable Unit 3 which is going to take a few more. We are basically talking about the whole volume, not just the 13,000.

JACK CRAIG: The document you have now is for Operable Unit 4. It is only making a decision on the 13,000 cubic yards. Like you said, there will be follow-up documents that will also finalize the decision on the other operable units.

If, through this process, all the leading alternatives are selected, you will get a chance to look at each one of those individually. And, those will add up to 300,000 if

the leading alternatives are selected, but you will get a chance to comment on each one of those as they come out. But this document you are looking at now is only making a decision on the 13,000 cubic yards.

The other number that leads up to the 300,000, you will be able to comment on that later through the submittal of the following-up documents.

JOHN WALKER: I haven't heard any discussion about the alternatives for on-site disposal. Even though it is not the preferred alternative, it is an alternative that you did examine. Would you like to discuss those alternatives? The alternatives for keeping it all at Fernald on site.

DENNIS NIXON: I think that what I'm addressing here is just the proposed action, which is again the 13,000 cubic yards which is Operable Unit 4. There are various reasons why. We evaluated a full range of options and alternatives for both on-site and off-site disposal, various treatment options, etc. We chose the NTS because it performed the best out of all the alternatives that we evaluated, and these are the reasons why the NTS was rated better over on-site disposal.

Also there are some real show stoppers when it comes to on-site disposal with this waste whether it's hydrology which Dave has covered; the climate, we have a lot of rainfall compared to what we would get in the desert here; the demographics of the area, there is a large population in close proximity of the site; the land use scenario is an agricultural land use, so there is a greater possibility of intrusion on the waste that was disposed of on site.

These things are resolved at the NTS. It is an arid climate; there is a very low population; there is very low probability of future intrusion on the waste; it's probably not going to be farmed in the future; the hydrology, geology, all that is very favorable to disposal of this waste at NTS.

JOHN WALKER: But there are some doable engineering systems where you can keep the waste on site a long period of time; is that correct?

DENNIS NIXON: That is correct. However, it does not completely pass the threshold criteria which we look at in the evaluation of the alternative. For one, it does not comply with all applicable, relevant, and appropriate requirements which are essentially the regulations that are applied to our site.

JOHN WALKER: I just want to make the point that there are alternatives to the preferred action that just didn't seem discussed at all.

DENNIS NIXON: We fully evaluated on-site disposal. This is the list of alternatives we evaluated in the Feasibility Study. For the Silo 1 and 2 material, or K-65 material, we have to evaluate no action, which obviously is a good solution for this particular operable unit.

We evaluated on-property disposal with various treatments, stabilization options as well as off-site disposal here and the NTS. We have not identified another off-site disposal facility that was available to this waste stream.

For the Silo 3 contents, essentially the same alternatives were evaluated. Subunit C, being the debris and soils on other structures, etc., was review and evaluated and that will be disposed of on site most probably assuming that the Operable Unit 5 waste is selected for on-site disposal.

KATHERINE YURACKO: Well, this is what I wanted to see, but now I want to know why are the only possibilities on site in Nevada?

DENNIS NIXON: Well, these are the alternatives. We listed and reviewed and evaluated a lot more alternatives than this, but not all alternatives passed the threshold criteria, which was to be protective and to be able to comply with all the applicable, relevant, and appropriate requirements such as disposal at another commercial site. We cannot identify a commercial site such as the Envirocare Site. We cannot meet their acceptance criteria.

DENNIS BECHTEL: How much does cost effectiveness enter into it?

DENNIS NIXON: Well, I don't want to say it's low on the totem pole, but it is certainly less important than the threshold criteria and being protective of the human health and the environment. It is also the most cost-effective alternative.

PAUL RICHITT: With respect to the on site, what is the alternate plan used for Fernald Site after you finish remediation?

DENNIS NIXON: We have a citizen's advisory board at Fernald that is determining that very issue. We have not determined what the final land use for Fernald is.

PAUL RICHITT: Because you vitrify the waste, you reduce volume, you are going to stabilize it so it can't migrate. You are going to bring it to the Test Site; the whole premise is to say the waste materials will be held and stable. If that is the case, depending on what you are going to put the Fernald Site to, you may have the same benefit by leaving it on site and not have to worry about transportation where you may introduce additional problems. So, is your basis for decision made before you have an alternate-use determination on the Fernald Site?

DENNIS NIXON: We don't believe so. Again, on-site disposal does not pass the threshold criteria, and we cannot meet all the applicable, relevant, and appropriate areas. We cannot insure that we--in the long term over a thousand-year period--that we would not have intrusion due to the land use and the demographics of the area.

JOANNE STOCKILL: Is there any assurance there would not be intrusion at the Nevada Test Site in a thousand years?

DENNIS NIXON: No, there is not. However, it is less likely.

BILL VASCONI: Are there any questions to be addressed from the audience?

DON HENDRICKS: Several months ago EPA took the position to DOE that the K-65 waste as well as some other high-thorium waste should be classed as greater than Class C waste. If by definition, you take that at face value, that means you should not dispose of those wastes in near-surface repositories. This doesn't quite seem to go along with that.

I would also assume that because you have reduced the volume and you have upped the concentration, which makes it even more significant.

DENNIS NIXON: That is true. The vitrification reducing the volume makes a more dense waste form. It does concentrate the radionuclides. I would just say that this waste is not high-level waste. It is not transuranic waste. It's categorized as 11e(2) by-product material. Even though the EPA Region V has applied 40 CFR 191, which is the regulation which controls high-level and transuranic waste, that was felt to be that our waste was enough like--due to the long-lived content and long lived alpha emitters--like the radium and thorium and uranium series, that we should consider that in our decision for the waste stream, and which we did in the document.

CHRIS BROWN: In terms of projected disposition at varies places, some on site. some commercial and some NTS, how does that work out in terms of radioactive hazardous materials, etc.

DENNIS NIXON: I think that all the waste that Dave spoke of was low-level radioactive waste.

DAVE RAST: All the waste that is projected in that is low-level radioactive.

CHRIS BROWN: The commercial stuff, is there any chance it will be sent to an incinerator?

DAVE RAST: Most of the material that we are looking at disposing of commercially is not amiable to incineration. It's soils, it's a sludge material out of our waste pits: it will need some drying. Most of the drying technique that we are looking at is either a (unintelligible) drier or we found compaction and super compaction is a much more effective drying technique than incineration. Incineration

is very expensive. Any kind of thermal treatment chews up massive amounts of energy, and you can run a 5,000-ton press a lot more energy effectively than you can an incinerator.

JOANNE STOCKILL: I wanted to ask Joe, should this shipment go to the Test Site, where would it be and how would it be stored? Would it be in Area 5?

JOE FIORE: Yes. It would be treated as low-level waste as it is defined bv our current DOE Orders, and the bulk of it would go to Area 5 or Area 3 which is nearby.

KATHERINE YURACKO: I'm now confused as to what this stuff is we are talking about. Did you say this stuff was regulated under the 40 CFR 191?

DAVE RAST: No. 40 CFR 191 was applied as a relevant and appropriate regulation to be considered. It is not a high-level waste product. It is a by-product from a leaching operation. The US/EPA Region V felt that if we wanted to dispose of that material on site, in our management of that material, we would have to follow the 191 guidelines.

KATHERINE YURACKO: Knowing nothing more than EPA Region V, that sounds reasonable to me. How does the facility you're talking about putting it in at the Test Site compare with a 40 CFR 191 facility?

JOE FIORE: We have done some performance assessments, Kathy, consistent with both 40 CFR 191 and the DOE Order, and I think we have some preliminary results. I'm not certain I know them or I can explain them very well. Layton, do you know what the preliminary results are?

LAYTON O'NEILL: Yes. They showed that the situation that we have will satisfy the 40 CFR 191, and we need more data to affirm that.

JOE FIORE: Let me explain. The Order we are applying for our low-level waste disposal, the Order that we must meet is that for low-level radioactive waste performance assessments described in a DOE Order, but that is the prescriptive role to meet. The consideration of 40 CFR 191, I believe, is a more rigorous requirement and I think we are trying to demonstrate that we also meet that, but it is not a requirement that we do meet that for disposal of low-level waste.

KATHERINE YURACKO: But it sounds like the only reason it can't go is at Fernald is because they require that they comply with 40 CFR 191, and so it is coming here because there is no requirement in Nevada to comply with 40 CFR 191. Have I understood that right?

DENNIS NIXON: That is not entirely true. There is another regulation, an OAC (Ohio Administrative Code) regulation, which would prohibit the location of a disposal cell over a sole source aquifer, which we would not comply with as well with this particular sighting of a disposal cell for this type of waste.

KATHERINE YURACKO: Let's say this is 40 CFR 191 waste. We have got 40 CFR 191 facilities all over this country. Can't we put this in one of them?

DENNIS NIXON: I'm not familiar with the locations of those facilities.

KATHERINE YURACKO: Well, there is this kind of waste elsewhere; right? Isn't this similar to mill tailing waste we have got all over the country?

DENNIS NIXON: No, I don't believe so.

KATHERINE YURACKO: It's originated under the same regulations.

DENNIS NIXON: Right.

KATHERINE YURACKO: We have facilities constructed around this country under this regulation. But you are saying that none of those can take this waste?

DENNIS NIXON: Right.

JOHN WALKER: I don't think there are any facilities under 191. I think WIPP is the only facility that they are looking at for 191. I think 191 was thrown out or set aside on Yucca Mountain. They are trying to fix a standard for Yucca Mountain, but 191 is only being applied to WIPP at this point, which is transuranic waste, which is long-lived much like uranium.

KATHERINE YURACKO: Then WIPP is an alternative for this?

JOHN WALKER: No.

KATHERINE YURACKO: I am not getting what this waste is.

DENNIS NIXON: I think this is a very important issue that we have discussed hundreds of times over the last two years. The reality of the matter is that this waste is not 40 CFR 191 waste even though the US/EPA Region V has told us to consider it as relevant and appropriate. The DOE does not agree with that position and has put forward a position paper that would identify that they do not concur with that position. However, the ARARs (Applicable, Relevant and Appropriate Requirements) that we are required to work on under CERCLA, they are addressed by the Agency. We cannot negotiate those. Those are not subject to any kind of negotiation. We do not

consider this 191 waste. It is clearly not high level, it is clearly not transuranic, which is the intent of that regulation.

The reason why it was applied to this waste is because it has greater than 100 nanocuries per gram of long-lived alpha-emitting radionuclides like uranium, radium, and thorium series. Those are enough like what is governed in 40 CFR 191 for Region V to make it relevant and appropriate in their minds.

MICHAEL VERRILLI: I have some questions about containerization of the material. How is that done? Is the material containerized there and then placed at the Test Site in the containers, or is it removed and then placed in other containers? The current shipments.

DENNIS NIXON: It is all containerized at the Fernald Site. It is not removed from the container before it is disposed.

MICHAEL VERRILLI: What kind of health hazards would those pose in the event of a breach of a container on a public highway?

DENNIS NIXON: Not being a health physicist, I'm not going try to take a guess on the health hazards. Most of the material we ship and most of the material that is transported to the Nevada Test Site has material that has fixed contamination or it's a nonsmearable, nonreleasable contaminant.

MICHAEL VERRILLI: So it is a contaminant that you would have to have long exposure to be damaged?

DENNIS NIXON: Right. And uranium, itself, is not a high radiological risk.

MICHAEL VERRILLI: The disposal at the Test Site itself, is it buried, is it above ground?

DENNIS NIXON: It is shallow-land burial.

JERRY SIEREN: A private citizen. One of the major news services this morning reported, I think it was the Review Journal, that the State of Ohio has become the leading candidate to host a commercial low-level radioactive waste disposal site. And the reason they have become the leading candidate is because the state of Michigan has been thrown out of the Midwest States Compact, because it refused to host the low-level radioactive waste site, and Ohio is the next largest producer of low-level radioactive waste in that Compact. A representative from the State of Ohio Environmental Protection Agency was quoted in the newspaper article, stating that the site would be located in Southern Ohio farm country due to lack of political clout in that area.

That was just introductory. My question: Was this site that is being considered now be located in the state of Ohio and presumably deemed acceptable for low-level rad waste, was it considered for the OU4 waste? And if not, why not, and could it be considered for that rad waste?

DENNIS NIXON: We considered a regional disposal alternative. If you look at the OU4 documents, that was one of the unsighted low-level waste disposal cells within 300 miles of Fernald and was evaluated as an option. The current low-level waste repository for Ohio has gotten the honor to site within their state is part of the Compacts' low-level waste disposal sites under the Low-Level Waste Policy Act. And just by virtue of that Act and within the terms of that Act, DOE is prohibited from using those sites.

JERRY SIEREN: Is the site in Utah? Envirocare?

DENNIS NIXON: It's not a Compact site.

JERRY SIEREN: It does accept commercial low-level rad waste?

DENNIS NIXON: Yes, it does. But it's a private site.

A 10-minute break was called for after the Fernald segment and the group reconvened at 8:30 p.m.

WASTE MANAGEMENT DIVISION'S PRESENTATION:

Layton O'neill gave a slide presentation on the DOE Nevada Operations Office, Waste Management Division's current low-level radioactive waste management program. Photographs of Nevada Test Site Area 5 and Area 3 waste disposal facilities and practices, and subsurface monitoring wells and holes, were shown and described. Research results showing surface water does not seep below 20 feet down from the surface, and so does not travel down to the 800-foot deep water table, were described.

QUESTIONS AND ANSWERS:

KATHERINE YURACKO: First of all, I have a lot of questions, and I frankly don't think we are going to get through all of this tonight. I'd like to start off with one if I can. I heard that Ohio thinks this is 11e(2) material, and my comment earlier was DOE has lots of 11e(2) material, has lots of 11e(2) disposal sites around the country. Now, Layton was kind enough to direct our attention to Chapter IV of 5820.2A which

addresses 11e(2) material, and I'd like to read--I was skimming that--and in Chapter IV, Section 3a(1), it states right here, "disposal sites should be identified and developed as needed in support of DOE remedial actions, and will normally be located in the state in which the wastes were generated." So, I still don't understand what's going on here.

LAYTON O'NEILL: Well, I will tell you what we did. When we started getting into this 11e(2) waste proposals to come to Nevada Test Site, we wrote a letter to Headquarters and said, provide us guidance because there is not enough in the document on that Chapter. So we are waiting to hear from Headquarters on further guidance on what they want us to do. That's all I can answer you. We don't have proper guidance from Headquarters on what to do with that material.

KATHERINE YURACKO: I guess one of the things I am still hung up on is this notion that the only two possibilities were on site and Nevada, and then it couldn't go on site because this was 11e(2) material, and so Nevada was the only alternative. But how about doing an evaluation of other 11e(2) disposal sites?

11e(2) is CFR 192. There are a number of facilities in this country that are regulated under the 40 CFR 192 that are taking DOE material, and so I'm just confused on this.

DENNIS NIXON: I'm not sure which sites you are particularly referring to. We have identified no other sites that could accept this material now. Not because it's 11E2. Just being a low-level waste, it is not a mill tailing.

KATHERINE YURACKO: Well, that's what I'm confused about. I mean, I was told it's 11e(2), and now you are saying it's not really so, and it can't go into an 11e(2) facility. Have you done an examination? There are lots of those facilities. Let's take Grand Junction. Have you done an examination of putting this material in the Grand Junction facility?

DENNIS NIXON: No, we have not. However, Dave can address those other disposal sites.

DAVE RAST: Most of the other sites and everything for UMTRA disposal are for native North American mill tailings; and in particular, once you look at mill tailings that came off of those sites, and they were taken out and used throughout the country verses the leachate from the K-65 materials. In that process there is a higher concentration of radium in those products than we find within the UMTRA mill tailings. So, all the performance assessments done for the UMTRA disposal sites are not driven to the levels of the material that we have in the silos.

KATHERINE YURACKO: So this facility on the Nevada Test Site is more protective than a 40 CFR 192 facility?

DAVE RAST: Yes. Given the information of the performance of the cells that we have and we have looked at the NTS, yes.

DENNIS BECHTEL: I do have a general question for Layton. How did you happen to pick the sites? It seems like they are right on the boundary of the Test Site; Area 3 and Area 5, the low-level sites.

LAYTON O'NEILL: It was picked in 1953. It is fortuitous, according to my knowledge and information, about what happened to the NTS. They searched around in the United States for a number of years to find a place to test weapons, and they finally settled on the Nevada Test Site, and they said this is a good place to test weapons.

I understand about five years ago, or maybe ten, they reinitiated that investigation, and went out again and looked all over the United States to find out where the best place would be to test nuclear weapons, and they ended up with the Nevada Test Site again. Now, we were fortuitous in picking the location we did, because, it is a long ways to the ground table, and I think the early guys knew a little something about that. So, we just bought into that. As I told you, we knew something about the depth to water from the other wells.

Area 5 is 800 feet to the water table. And there are a couple of studies that were done right near to us, radiation migrations studies, that were done where we pumped water out of a well 100 feet from an original detonation, and we pumped on it for 14 years. And the first thing we saw was at the end of two years of continuous pumping day and night on that well, we saw tritium coming across, and we pumped on it again and the tritium got to its maximum concentration at five years, and then it started to decay away again.

The people that studied the ground water at NTS say that it moves something like 11 feet a year, and that's all it moves. We forced moving it by pumping down on it and keeping that pumping going for 14 years. So, it is absolutely a good place, and it's very dry underneath us.

In the Area 3 area, the water table is at 1300 or 1500 feet below the surface of the land. So, we think fortuitously they are both good locations, and we looked into that when we started Area 3. I told you we picked an area where the detonation was at least 500 feet above the ground water table, and so we know we have got 500 feet of basically unbothered soil beneath; if nothing else, it is probably compressed by the weapons tests.

BILL VASCONI: Realizing the site characteristic studies and the fact that it is bound to be a better place than along the Miami River back in Ohio, my question would be, you do have an ample supply of holes at the Test Site to have your dumps, and I'm sure it can get shipped here. Is there any benefit to be derived from the state of Nevada for bringing in the waste?

LAYTON O'NEILL: Well, I think that depends on who you talk to. For mixed waste, the state of Nevada was gaining $20 a ton for the cement blocks we were putting in the ground. That's pretty good business for the state of Nevada. They could also do that for other waste, I believe. They could charge a tariff on the DOE if they so chose to.

BILL VASCONI: Yes, accepting that it's a federal land and you are bringing in federal waste; is that not true?

LAYTON O'NEILL: Yes, sir.

BILL VASCONI: So the benefits to be derived for Nevada would be negotiating for the waste in tonnage and/or condition of; right?

LAYTON O'NEILL: I believe so, and we think that the waste is not going to get into the ground water table, so we think they are not going to be harmed any.

JOHN WALKER: Just on the question of money and benefits, it seems to me that DOE receives the disposal funds from its off-site generators. Isn't that the case that derives some of the waste management budget?

JOE FIORE: Yes. DOE takes out of the one pocket and puts it into another. We provide a budget for the generator site and as we receive it, they pay us so much per cubic foot. So overall, the DOE, the disposal of it, is funded by the Department.

LAYTON O'NEILL: Last year we had excess money and Reynolds Electrical and Engineering Company was forced to return two million dollars; I think it was, to Headquarters, because we had more money than we were suppose to spend. So it was returned to the Treasury.

JOE FIORE: And to the extent that those funds support workers at the Test Site and their jobs, that's the extent of the benefit to the economy of the state.

JOHN WALKER: It's a federal activity, clearly not a state activity.

JOE FIORE: Correct.

JOANNE STOCKILL: Many years ago there were discussions about the state charging a fee for use of Nevada roads and transportation. Has there been any recent discussions on that, for Nevada to gain some money from shipments that are going to the Test Site?

PAUL LIEBENDORFER: I can speak to recently. I believe it is Nye County that has looked into some of those situations. I would believe a separate tax to use the roads, within a road use, would be Department of Transportation, typical to any trucking activity that went over it. I do know a couple of counties that are actually looking at determining whether or not they could assess waste shipments that come back in to support county emergency response activities. And I do know one of the counties is actually looking at that to support their emergency response if something would happen on a road, but just a separate assessment that is specific to low-level waste or hazardous waste or something else, I don't think. Any interstate transport would have to be equal no matter what the material was.

LAYTON O'NEILL: I was involved, in my early days before I got into the waste management field, in the training. My bosses went to the speak to the Governor, and it was at the time we had been asked by Headquarters to start to receive off-site waste from the other locations in the United States. We made some concessions to the state of Nevada, and we promised to train every patrolman in response to radiological accidents and to provide them a radiation kit that was calibrated on a regular basis so they could depend on it. We never did provide them with instruments, but we made a deal with the state emergency management group to use civil defense instruments, and we calibrated them for about seven or ten years until the state asked us to cease that program of calibrating.

We still are training highway patrolmen at this time. We still are training fire fighters in the state of Nevada. We provided monitoring gear for the stop-stations for registering trucks coming in and out of the state of Nevada, and we set them up with a monitoring device and an alarm that would detect radiation if the truck had any that they weren't admitting or didn't know about. They were able to check and make sure they were within limits.

We were providing training for emergency medical people, and we are still doing that today underneath the waste management program. I'm paying REECo a yearly amount to go out and do this training. And we have trained most all of the fire fighters in the city of Las Vegas and all the cities that have fire departments; we train a few of the volunteer fire departments.

We are doing these programs today underneath the waste management money.

JOE FIORE: I would just like to make a comment and maybe get an answer to a question to put this transportation thing in perspective. We did some back-of-the-envelope calculations that said 15,000 shipments over 30 years. That's 500 shipments a year. How does that relate to what we receive now? Don't we receive about 800 or a 1,000 a year today?

LAYTON O'NEILL: We are getting about three or four a week now. This isn't our heavy time now, because they are just getting out of the snow up there. So I guess, a couple hundred a year.

KATHERINE YURACKO: I have three concerns on this. One, is that, from what I can tell, this appears to be inconsistent with the Departments' own policy on 11e(2) material; two, I haven't been convinced that this is the only place that this material can go; and three, I'm concerned that Nevada gets nothing for this.

PROPOSAL NO. 1

At this point Katherine Yuracko proposed that the Board request a 30-day extension (for comments on the Draft EIS) in order to prepare an appropriate response, and in the meantime be provided with the Draft EIS and the four volumes of supporting documentation.

1. Dennis Bechtel concurred and requested that the Board ask for an extension.

2. Joe Fiore stated that this being the first procedural request that has been made by the Board, that he would abide by the consensus of the Board.

3. Jim Henderson also felt there was not enough information at the present time to make comments.

4. Bill Vasconi inquired if the Board's request for an extension would be adhered to by Fernald. In response, Jack Craig (a Fernald representative) said yes, they would.

5. DECISION: The Board voted on the proposal, and the proposal carried unanimously.

6. ACTION: Dennis Bechtel agreed to write a letter of request for a 30-day extension. The Board agreed that each Board member would need a copy of the summary DEIS, and the Board as a whole would request one copy of the four volumes of the supporting documentation therefrom.

7. The suggestion was made that the Feasibility Study and the EIS could be made available through Joe Fiore. There were four copies of the proposed plan, or summary document made available at the meeting through Fernald representatives. A request for any additional copies would need to go through Joe Fiore in order for Fernald to send them.

PROPOSAL NO. 2

Katherine Yuracko proposed that at future briefings, the Board needs to receive the summary documents in advance in order to review them before the presentation.

1. Bill Vasconi concurred with Kathy that the Board needed the summary information in advance.

2. ACTION: Joe Fiore recognized the need for the Board to be better informed in advance of any briefing or presentation and agreed to get information to the Board in advance at future briefings.

DISCUSSION ON THE CLASSIFICATION OF 11e(2)

1. Richard Nicolla asked for direction from DOE on why the proposed Fernald waste is classed as 11e(2) waste.

2. It was determined that Fernald asked DOE/NV to identify the proposed waste as 11E2. In turn DOE/NV requested Headquarters to give them policy and call back on it, because it wasn't clear to DOE/NV what it was.

3. Dennis Nixon made the point that in the DOE Orders, it refers to 11e(2) material being received at NTS in small quantities. The concern and question being can 6,000 cubic yards of the treated waste form be considered a small quantity? Thus leaving the question: What was the intent when "small quantities" was written in the DOE Orders?

4. The question was raised that there are other disposal facilities in the United States that can receive 11e(2) material. Why can't this waste go to these facilities?

5. ACTION: Joe Fiore agreed to pursue the intent of the words "small quantities" as written in the DOE Orders, but wanted to make sure everyone knew that it would take DOE longer than 30 days to get that answered.

6. ACTION: Fernald representatives agreed to respond and answer the question on why the other disposal facilities were not receiving this waste.

ANNOUNCEMENTS

1. Bill Vasconi announced that there was another CAB north of Las Vegas (SNFCAB). The SNFCAB is a cooperative agreement between Nye County and Lincoln County and Esmeralda County. They have elected a representative to attend and monitor this CAB's meetings for their benefit, and when appropriate this tri-county CAB would be prepared to give a presentation to this CAB on the group's activities.

2. Joe Fiore expressed his appreciation to the DOE and contractors representatives from Fernald for responding promptly to this Board's request for a presentation.

3. Joe Fiore also brought to everyone's attention that the Fernald representatives supplied copies of a public-information package which has their charter and fact sheets for each member of the Nevada CAB to review.

4. Dave Rast expressed the importance of follow-up in the formal documentation process in the comment resolution. The written portion of the process is very important.

Meeting adjourned at 9:50 p.m.

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ATTACHMENT V

LIST OF CONTRIBUTORS

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T. Jeff Stone, Manager Environmental Sciences - II
Fernald Environmental Restoration Management Corporation
B.S., Industrial Systems Engineering
The Ohio State University
Years of Experience: 10
Areas of Responsibility: Operable Unit 4 Final Environmental Impact Statement Project Manager

Hannah H. Truong, Environmental Protection Engineer II
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B.S., Mechanical Engineering
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Years of Experience: 4
Areas of Responsibility: Operable Unit 4 Final Environmental Impact Statement Project Coordinator

Thomas W. Underwood, Technical/Program Specialist II
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Years of Experience: 3
Areas of Responsibility: Socioeconomics and Land Use

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Years of Experience: 4
Areas of Responsibility: NEPA Technical Editor

W. Eric Woods, Senior Technical/Program Specialist
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Areas of Responsibility: Operable Unit 4 NEPA Analysis and NEPA Coordinator

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