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**ADDENDUM TO THE RI/FS COMMUNITY RELATIONS PLAN FOR
REMOVAL ACTION NO. 12 - SAFE SHUTDOWN**

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TO THE
RI/FS COMMUNITY RELATIONS PLAN
FOR REMOVAL ACTION No. 12
SAFE SHUTDOWN

Fernald Environmental Management Project
Fernald, Ohio

U.S. Department of Energy
Fernald Field Office

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LIST OF ACRONYMS

CERCLA:	Comprehensive Environmental Response, Compensation, and Liability Act [of 1980] (also known as Superfund)
CRP:	Community Relations Plan
DOE:	U.S. Department of Energy
EE/CA:	engineering evaluation/cost analysis
EPA:	U.S. Environmental Protection Agency
FEMP:	Fernald Environmental Management Project (formerly the Feed Materials Production Center)
FFCA:	Federal Facility Compliance Agreement
MEF:	material evaluation form
NCP:	National Oil and Hazardous Substances Pollution Contingency Plan [of 1990]
RI/FS:	remedial investigation and feasibility study
SARA:	Superfund Amendments and Reauthorization Act [of 1986]

Introduction

This document was prepared as an addendum to the Fernald Environmental Management Project (FEMP) Remedial Investigation and Feasibility Study (RI/FS) Community Relations Plan (CRP), dated August 1990. This addendum addresses Removal Action No. 12, Safe Shutdown.

This removal action is being conducted pursuant to the laws, regulations and agreements listed below, and will comply with the provisions of each:

- The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), also known as Superfund, that provides for the investigation and cleanup of uncontrolled hazardous waste sites
- The Superfund Amendments and Reauthorization Act of 1986 (SARA) that renewed and updated CERCLA
- The National Oil and Hazardous Substances Pollution Contingency Plan of 1990 (NCP) that spells out how CERCLA and SARA will be implemented
- The Federal Facility Compliance Agreement of 1986 (FFCA) between the U.S. Department of Energy (DOE) and the U.S. Environmental Protection Agency (EPA) that provides for the investigation and cleanup of environmental impacts from past and present activities at the FEMP
- The Consent Agreement of 1990 that amended the FFCA and fostered consistency among the operable unit concept and the current commitments of the RI/FS program without modifying the underlying objectives
- The Amended Consent Agreement of 1991 that establishes definitions and schedules for completion of RI/FS documents for the five operable units and identifies additional specific removal actions at the FEMP

The 1990 Consent Agreement specified four removal actions and provided for the identification of three more; these seven are now referred to as the Phase One Removal Actions. The Amended Consent Agreement for the FEMP, signed on September 20, 1991 and effective on December 19, 1991, specified eleven additional removal actions, referred to as Phase Two Removal Actions.

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On January 14, 1992 six more removal actions, known as Phase Three Removal Actions, were approved by EPA and three emergency removal actions were initiated. In all, the three phases total 27 separate, sequentially numbered removal actions. DOE may identify additional removal actions each year by January 15, if needed.

Objectives

The objective of removal actions under CERCLA and the NCP is to "...take appropriate action to abate, stabilize, mitigate, or eliminate the release or threat of release..." of hazardous materials or waste in a manner that reduces or eliminates the threat to public health, welfare or the environment. Removal actions are emergency or short-term responses to immediate threats. They differ from remedial actions in that they are generally more limited in scope and cost.

Removal actions can be divided into three general categories: emergency, time critical, and non-time critical as follows:

- Emergency removal actions call for an immediate response. An Administrative Record file must be established and affected citizens must be notified.
- Time-critical removal actions usually last between 120 days and six months. They require the same response as an emergency removal action plus issuance of an addendum to the CRP based on interviews with community residents and/or public interest groups to identify their concerns and determine ways in which residents would like to become involved.
- Non-time-critical removal actions usually have a planning period of at least six months and dictate the same community relations activities as discussed above. An added requirement is the preparation of an engineering evaluation/cost analysis (EE/CA). In this case, the addendum to the CRP must be completed before the EE/CA.

The specific objective of Removal Action No. 12, a non-time-critical removal action, is to remove uranium and other process/raw materials from equipment and lines in former production areas and from the facility. This will be accomplished through a multi-phased approach including: preliminary assessment of process facilities; characterization of process equipment and hold-up materials; transfer of existing inventories of subject materials to approved storage; lock-out/tag-out of process equipment; and preparation of all appropriate documents.

Background

In July 1991, the FEMP initiated the Safe Shutdown Program to provide planning, engineering and program control for the proper disposition of all uranium materials, production-related materials and associated equipment. The program will also assure the proper characterization, emptying and deenergization of all previously operated production-related equipment in compliance with DOE, U.S. EPA and Ohio EPA requirements and regulations.

Although the immediate cessation of production-related operations occurred in July 1989, much of the equipment was maintained so as to be available for restart. This would allow continued production, including production of intermediate products, for future DOE use in programs at other sites. The official termination of the FEMP production mission took place in June 1991, without restart of production processes or stabilization of intermediate products.

The overall objective of the Safe Shutdown Program involves the transfer of materials from existing production-related equipment. After characterization of the contents of a piece of equipment, wastes will be transferred to appropriate containers and either stored at approved locations on site or transferred off site for disposal. All applicable energy sources related to a piece of equipment will be physically isolated to render that piece of equipment nonoperational. With the transfer of waste materials to storage containers, the potential for a release to the environment is significantly reduced. Inspection of the storage containers and storage areas will be performed in accordance with all applicable procedures, including the established FEMP Drum Management Plan. The equipment will then be decontaminated according to established DOE orders and any applicable FEMP policies and procedures.

Following preliminary facility assessments, materials and equipment will be characterized using process knowledge, existing analytical determinations, and any applicable material safety data sheets. Information concerning each material will then be recorded on a material evaluation form (MEF). The MEF provides a vehicle to evaluate materials in any category (raw, product, process, excess, or waste) and characterizes the materials (hazardous, radioactive, or mixed) for proper handling and disposition. If confirmation of the characterization of any material cannot be completed from the information assembled on the MEF, analytical sampling must be performed in order to properly identify the characteristics and/or constituents of the material.

Included in the Safe Shutdown Program is the disposition of chemicals and materials either directly or indirectly related to the production of uranium products. Since production ceased, approximately 400,000 pounds of directly related production materials (e.g., magnesium metal turnings) have been successfully transferred to the private sector.

The proper disposition of uranium material products and recoverable residues will also be conducted as an integral part of the Safe Shutdown Program. These materials will remain in their designated storage areas awaiting interest notification from other federal facilities or approved customers from the private sector. Since production ceased, approximately 2,600,000 pounds of uranium product have been transferred from the FEMP as part of the Safe Shutdown Program.

The FEMP Safe Shutdown Program represents an effort to mitigate potential sources of contamination to the environment and to stabilize, isolate, and/or treat any existing contamination to prevent release or migration. The primary governing requirement of the Safe Shutdown Program is DOE Order 5820.2A, Radioactive Waste Management, which establishes policies and guidelines for the management, decontamination, and decommissioning of radioactively contaminated facilities.

Integration With Operable Unit 3 RI/FS

The inventory of uranium and other process/raw materials that currently exists in the nine production plants lies within the purview of Operable Unit 3 of the ongoing site-wide RI/FS. Each plant's original production responsibilities are described below.

Plant 1 operations included a sampling line for incoming uranium compounds, a roller mill to reduce the particle size of MgF_2 , a safe geometry digester, a drum reconditioning system, scrap drum baler, warehouses and storage pads for drummed residues and wastes, and dust collectors.

Plant 2 and Plant 3 operations included a nitric acid digestion system, a metal dissolver system, a liquid-liquid extraction system, a boildown and denitration area where purified uranyl nitrate was converted to orange oxide (UO_3), a nitric acid recovery system, a combined raffinate area, a hot raffinate building, a refinery sump system, and dust collectors.

Plant 4 operations included reactors to convert orange oxide (UO_3) to brown oxide (UO_2) or black oxide (U_3O_8) and then to green salt (UF_4), ammonia dissociators, nitrogen generators, an hydrogen fluoride (HF) recovery area, a tank farm, product packaging stations, and dust collectors.

Plant 5 operations included derby manufacturing that featured jolters, F-machines, Rockwell furnaces, a breakout system, slag milling and liner preparation, and dust collectors; also, ingot manufacturing that featured vacuum remelt casting furnaces, crucible charge and burnout areas, ingot separation, mold cleaning and painting, ingot sawing and saw blade sharpening, a Hilco oil reclaiming system, and dust collectors.

Plant 6 operations included machining processes to heat treat ingots before shipping for extrusion, to cut off extruded ingots, to heat treat the blank cores, and to machine cores to a finished target element, a chip cleaning and briquetting system, machines for sizing and scalping pillow ingots, a rolling mill system, a waste water processing system, electrostatic precipitators, and dust collectors.

Plant 7 is a skeletal structure used for the storage of empty cans and drums. All process equipment used for a UF_6 to UF_4 process was removed in the late 1950s.

Plant 8 operations included several types of furnaces, liquid filtering systems, a halide acid metal dissolution area, a drum washer, a ball mill, and dust collectors.

Plant 9 operations included N-Reactor vacuum remelt casting furnaces, Rockwell furnaces, ingot sawing and machining, Zirmlo declading, a waste water processing system, an electrostatic precipitator, and dust collectors.

The pilot plant operations included small-scale facilities of all the production processes for the FEMP. In the early 1980s, a production-scale UF_6 to UF_4 unit was installed and operated.

Consistent with the provisions of the NCP, removal actions shall be appropriately integrated with the ongoing RI/FS to ensure appropriate Administrative Record documentation is provided regarding actions taken which may affect preexisting site conditions relative to Operable Unit 3 and the associated source term, and to ensure the removal action supports final remedial objectives. Within the FEMP Administrative Record, a separate file will be established for placement of supporting documentation pertaining to Safe Shutdown, Removal Action No. 12, including all key program documentation, current safe shutdown work procedures, and a compilation of appropriate materials disposition records for materials removed throughout the removal action.

The implementation of safe shutdown activities clearly supports the final remedial objectives for Operable Unit 3 by providing a necessary preliminary step for preparation of the systems for subsequent remedial activities. The proposed safe shutdown actions are consistent with final remedial actions based on the fact that mitigation of personnel/environmental risk, and safe permanent disposition of FEMP wastes/materials are ultimate goals.

Close coordination will be maintained with the ongoing RI/FS and with other removal actions for Operable Unit 3 to ensure that planned removal action program activities appropriately support RI/FS field investigations and alternative evaluations by incorporating interim cleanup of source terms into baseline risk determination and Operable Unit 3 site characterizations.

Overview of Community Concerns

In preparing this addendum, transcripts of community meetings held on: January 31, 1989; May 15, 1989; October 24, 1989; February 20, 1990; May 22, 1990; September 25, 1990; December 11, 1990; March 19, 1991; July 16, 1991; and October 29, 1991 were reviewed. Also reviewed were transcripts from the RI/FS Environmental Impact Statement scoping meetings held on June 12 and 13, 1990. The major concerns voiced by community members about low-level and hazardous wastes stored at the FEMP centered around the types and volume of waste being stored, storage management procedures, and most particularly the treatment and storage of containerized wastes. The following is a discussion of questions, grouped by subject, that addressed the issue of waste storage and management at the FEMP.

1. Nature and extent of potential contamination -- people were concerned that all media (soil, air, surface water and groundwater) are being checked for all possible types and amounts of contamination. The possibility of contaminant migration off site was also a concern.
2. Storage -- most concern was expressed regarding the actual condition of waste containers and warehouses. Community members are also concerned about what types and volumes of waste are being stored on site, the exact location of the wastes, the practices for monitoring stored wastes, and a schedule for completion of all preparations for disposal.
3. Transportation and disposal -- the community has expressed the need to be informed of the means of shipment (rail or truck), the proposed routes to be used, and the ultimate destination for disposal of FEMP wastes. Also, the community is concerned that shipment of FEMP wastes to another location might create another Superfund site.
4. Public information -- the public has commented on their need to be notified in advance of all off-site shipments and a desire to be informed of all plans and schedules for overpacking/handling of wastes.

In order to better determine the community's concerns about this planned removal action and to maintain open communication with the community, telephone interviews were conducted with community members who have expressed an interest in the FEMP in the past. The interviews were conducted to conform with CERCLA guidance and to respond to community members' concern that their opinions have not been solicited prior to the planning and implementation of removal/and remedial activities.

The local residents and merchants interviewed indicated that their greatest concerns regarding the Safe Shutdown Program are: the generation of additional waste volume through the decontamination of the equipment; safe, conforming storage of new waste volumes; the potential releases of contaminants during

implementation of the Safe Shutdown Program (airborne and water releases); and whether the Safe Shutdown Program will actually result in a restart of production operations.

A 45-day public comment period for Safe Shutdown, Removal Action No. 12, was held from May 27 - July 11, 1992. The announcement ran in three local newspapers. There were no oral or written comments submitted.

Highlights of Community Relations Activities

Community concerns regarding the Safe Shutdown Removal Action suggest an active FEMP community relations effort with the following objective:

- Maintain an active effort to keep interested community members informed throughout the implementation of the Safe Shutdown Program about the status of stored waste materials and plans for transportation and disposal.

The following specific activities have been identified to support the community relations objective for this removal action:

1. Prepare one or more fact sheets or updates for the purpose of providing information about the removal action answering key concerns and distribute them at the quarterly public meetings.
2. Devote some portion of future community meetings to this issue; update the RI/FS exhibit to include new information as it becomes available. (Community meetings are held at regular intervals on dates selected by DOE.)
3. Include coverage about safe shutdown in the Fernald Project Cleanup Report as needed during the removal action.
4. Offer a roundtable presentation on the Safe Shutdown Program.
5. Provide a 24-hour phone line at the FEMP so concerned citizens can contact a FEMP representative during a time of alarm. The number is 513-738-6295, which is FEMP Security.

6. Make appropriate additions to the Administrative Record and publicize their availability at the Public Environmental Information Center, JAMTEK Building, 10845 Hamilton-Cleves Highway, Harrison, Ohio, 45030.

Timetable

The preparation of materials for all community relations activities will be tied to the removal action schedules. For a complete list of schedule dates and activities, please see the safe Shutdown Work Plan which is in the Administrative Record, located at the PEIC. Since the removal action is in multiple phases, these activities will be scheduled to provide the maximum flexibility and information to the public. The work plans for this removal action have been submitted to EPA.