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FERNALD REPORT - DECEMBER 1995

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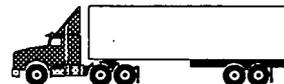
DOE-FN PUBLIC
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FACT SHEET

Fernald Report

December 1995

Fernald Waste Shipments to Nevada Test Site Resume

During the first quarter of fiscal year 1996 (October, November and December 1995), shipments of low-level waste to the Nevada Test Site (NTS) were deferred due to the continuing budget resolution. The funds were appropriated, and on Dec. 29, DOE sent four shipments. However, the low-level radioactive waste shipping schedule for fiscal year 1996 may be affected by the budget and by newly required documentation stemming from a recent NTS audit.



Thorium Overpack Project to Begin in Spring

The thorium overpack project is expected to begin in March or April. The remote units which will handle the drums during the overpacking process are in place, and personnel are being trained to operate the remote units. Personnel are conducting several studies to ensure compliance with all regulatory requirements and protection for all personnel when the project begins.

Mixed Waste Stabilization to be Completed by April

The mixed waste stabilization project is on schedule. As of Dec. 21, approximately one-third of the drums had been processed. This project should be completed by April 1996.

Engineering Study Initiated on Fernald's Scrap Copper

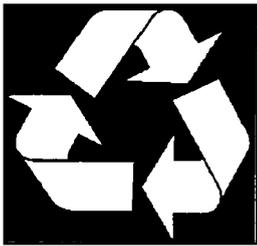
In September 1995, Fernald awarded a \$126,000 contract to Manufacturing Science Corp. (MSC) to conduct an engineering study on 30 tons of Fernald's containerized scrap copper. The purpose of the study is to determine if it is economically feasible and practical to decontaminate the copper for recycling and/or free release.

As part of the study, MSC will decontaminate, recycle, and free release the scrap copper, with a goal to free release at least 26 of the 30 tons. Fernald plans to ship the scrap copper to MSC's Oak Ridge, Tenn., facility in late January. The engineering study will be complete in May 1996. The alternative disposition for the copper is as a waste material.

U.S. Enrichment Corp. to Broker Portion of Fernald's Uranium Inventory

DOE and the U.S. Enrichment Corp. (USEC) are finalizing an agreement which will allow USEC to serve as DOE's broker to sell Fernald's 6-million-pound inventory of low-enriched uranium in the private sector. To meet the accelerated 10-year plan, this low-enriched uranium -- along with the remaining 10 million pounds of Fernald's entire inventory of depleted, normal and enriched uranium metal products -- must be removed by October 1997.

When production ended in 1989, Fernald's uranium product inventory was 31 million pounds. Since then, Fernald personnel have dispositioned 15 million pounds of the uranium product inventory, which was either relocated to other DOE sites for programmatic use, sold in the private sector, or returned to the U.S. Army. Enriched uranium at Fernald is in the form of metals and oxides and contains between 0.95 percent and 1.25 percent of the isotope uranium-235; normal uranium found naturally contains 0.7 percent uranium-235. Depleted uranium contains less than 0.7 percent uranium-235.



Fernald Develops Draft Recycling Methodology

To establish a site position and commitment for recycling and reuse of Fernald resources as decontamination and dismantling (D&D) activities progress, FERMCO has developed a draft recycling methodology for the Fernald site. The methodology is intended to be a decision-making tool to maintain a balance between the benefits of recycling/reuse of metal and the cost effectiveness of waste burial.

The DOE Fernald Area Office tasked FERMCO to develop a flexible, integrated, site-wide methodology for evaluating recycling versus disposal options for certain Operable Unit 3 D&D-generated metals. The methodology is to be a "living" document, so it can be modified frequently over time to incorporate changes in the relative costs of the available disposition options. On Dec. 15, FERMCO presented the draft methodology to the DOE Fernald Area Office. On Feb. 1, 1996, the document will be forwarded to DOE Headquarters. The final methodology is expected to be approved and in place by March.

Vitrification Pilot Plant to Begin Operating in March

The first phase of the pilot-scale vitrification plant operations is scheduled to begin by March 26, 1996. During this first phase, up to 90 metric tons of nonradioactive, surrogate materials will be used to demonstrate vitrification.

Phase I operations will verify the equipment and process. Nonradioactive surrogate materials will be utilized in the vitrification facility to perform integrated system operability testing prior to operating with actual silo residues. The surrogate materials will include silica, borax and alumina, to closely duplicate the actual silo materials.

During Phase II, radioactive materials from Silos 2 and 3 will be utilized. Silo 2 materials will be removed by a manually operated slurry pumping device suspended from a mobile crane. The device will be deployed through an existing manway; a glovebag will be used to maintain a seal and prevent radon escape. Materials from Silo 3 will be removed pneumatically.

Pilot-scale Vitrification Plant Construction to be Completed by End of January

The Vitrification Pilot Plant Program is a test project being conducted to obtain detailed design, cost and performance data prior to construction and operation of a full-scale plant. During this research-and-development phase, Fernald management expects to develop the data for the full-scale facility and to expose and resolve design and operations problems.

The Vitrification Pilot Plant Program is being conducted as part of the remediation of Operable Unit 4. The radioactive waste from Fernald's silos will be treated in the full-scale facility once construction is complete. The radioactive waste material will be superheated and encapsulated in glass (vitrification).

Operable Unit 4 includes: Silos 1 and 2 (K-65 Silos), which contain radium-bearing, low-level radioactive wastes dating back to the 1950s; and Silo 4 (empty), which was never used.

United States Radium-226 Sources

A curie (Ci) is equivalent to one gram of radium.



- approximately 1,800 Ci at Niagara Falls Storage Site;
- 3,770 Ci at Fernald;
- over 100,000 Ci elsewhere.

UC Submits Draft Radium Report to DOE

The University of Cincinnati (UC) has determined, based on available information, that numerous sources of radium-226 exist worldwide, and that K-65 material stored at the Niagara Falls Storage Site and the Fernald site provides the richest, most concentrated supplies of unrefined radium-226 in the United States.

In a draft document titled *University of Cincinnati Support for Fernald Environmental Management Project Radium Initiatives*, UC reported the findings on its investigation of alternative radium-226 sources for potential cancer treatment. In support of DOE's initiative to investigate sources of the needed radioisotopes for medical research, FERMCO subcontracted UC in October 1995 to conduct the worldwide investigation.

On Dec. 14, Dr. Roy Eckart and Eugene Rutz, lead researchers on UC's project team, presented the results to date to DOE, FERMCO, and a Fernald Citizens Task Force representative. DOE and FERMCO are currently reviewing the draft report.

Copies of the final report will be available at Fernald's Public Environmental Information Center, 10485 Hamilton-Cleves Road. For more information on the document's availability, stakeholders should call Fernald's community access line, 513-648-6272.



Worldwide Radium-226 Sources

A curie (Ci) is equivalent to one gram of radium.

- more than 450,000 Ci in tailings from previous uranium mining;
- an estimated 670 Ci associated with currently available uranium reserves.

In early 1996, UC will begin studying the feasibility of potential processes for recovering radium from vitrified K-65 material. DOE and FERMCO are fully committed to the EPA-approved legal agreement to remove the material from the silos and vitrify and dispose these wastes at NTS.

The UC researchers will complete their investigation of other radium-226 sources, including previously refined radium-226 used for medicinal and industrial purposes, in late January 1996.

Plant 4 D&D Work Continues at Steady Pace

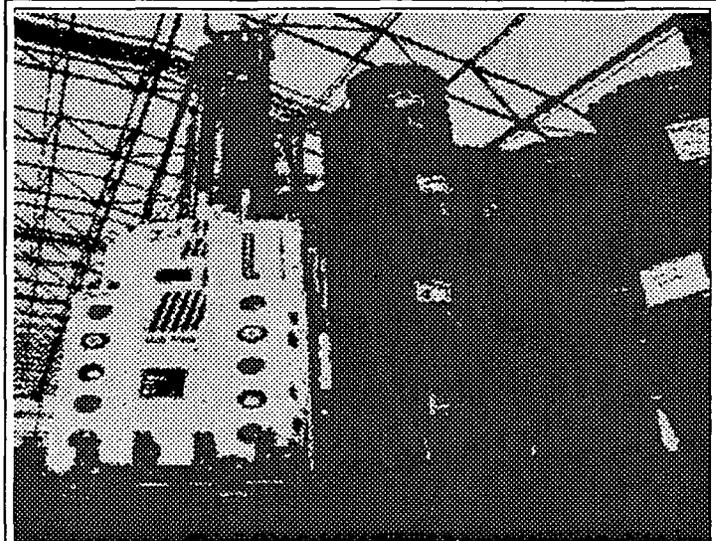
The friable (easily crumbled) asbestos work in Plant 4 is complete. This involves removal of interior and exterior process piping insulation and miscellaneous equipment insulation. Also approximately 99 percent of the building's nonfriable interior transite has been removed. Removal of Plant 4's exterior asbestos, including nonfriable transite walls and the roof system, is scheduled to begin next spring. Major equipment removal is approximately 90 percent complete. Interior cleaning -- to prepare for opening the building -- began in late December.

Fernald Demonstrates Waste Inspector Robot Capabilities

On Dec. 6 and Dec. 7, as part of a joint technology development effort with Lawrence Livermore National Laboratory and the Savannah River Technical Center, Fernald hosted special demonstrations of a self-navigating robot designed to automate regulatory-mandated inspections of hazardous and low-level radioactive drummed waste. Conducted in Fernald's Plant 1 Pad tension support structure -- an enclosed mixed-waste storage area -- the Stored Waste Automated Mobile Inspector (SWAMI) II robot's capabilities were tested for Fernald staff and DOE Headquarters representatives.

Equipped with special cameras, software and bar code readers, SWAMI II can simultaneously read identification labels on four levels of drums to verify the presence and location of the waste; identify any rust streaks, paint blisters, dents, bulges and corrosion; and detect elevated radioactivity levels on the floor.

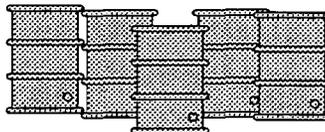
The robot adjusts the position of sensors from left to right and front to back so it can take six pictures of each drum, even when the drum stacks are irregular. Data obtained by the robot include details on each drum's location by row, stack, level, and placement on the pallet. The data are also time-stamped and archived, thus improving record keeping.



Developed at the Savannah River Technology Center as part of the Office of Science and Technology (EM-50) Robotics Technology Development Program, SWAMI II was designed specifically for drum warehouses at Fernald, due to the site's large, drummed, mixed-waste inventory.

Two other drum inspection robots are included in a new effort to foster this application, supported by the EM-50 Waste Focus Area. They include the Autonomous Robotic Inspection Experimental System (ARIES), developed by the University of South Carolina and Clemson, and the Intelligent Mobile Sensing System (IMSS), developed by Lockheed-Martin Aerospace. Demonstrations of both robots are scheduled at Fernald in fiscal year 1996. Robotics Program personnel will assess whether subcomponents of the three systems should be integrated into a final system.

Robotic inspections significantly reduce worker exposure to potential hazards and are more cost-effective because time required for inspections is reduced.





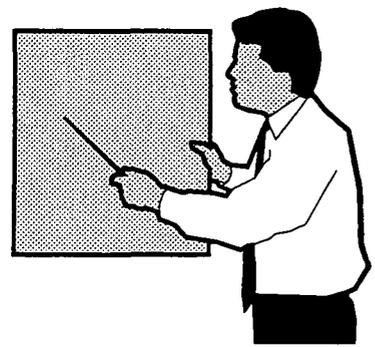
Fernald Work Continued Through Budget Impasse

Although many government agencies across the country were adversely affected by the budget impasse, Fernald work could have continued through Feb. 25. If an agreement had not been reached by Feb. 25, Fernald management may have been forced to consider employee furloughs.

Operable Unit 3 Public Participation Opportunities to Begin Soon

On Dec. 13, DOE submitted a comment-response package with change pages to U.S. EPA to address the agency's comments on the draft *Operable Unit 3 Remedial Investigation/Feasibility Study (RI/FS) Report* and the draft *Proposed Plan for Operable Unit 3's Final Remedial Action*.

U.S. EPA submitted comments on the documents in November. EPA's approval of the documents will kick off the beginning of public participation opportunities for Operable Unit 3's final cleanup plans, including a 30-day public comment period and a public hearing on the proposed plan. For more up-to-date information on Fernald public participation, call the Fernald community access line, 513-648-6272.



On-site Disposal Facility Public Workshop to be Held Jan. 24

In response to community interest, DOE will hold a public workshop on Jan. 24 to discuss the remedial design of Fernald's on-site disposal facility. The meeting will begin at 7 p.m. and will be held at the Plantation, 9660 Dry Fork Road, Harrison. At the workshop, Fernald representatives will provide updates on the design of the on-site disposal facility and will respond to stakeholder questions and concerns.

Waste Programmatic Environmental Impact Statement Public Comment Period Extended

On Dec. 19, 1995, DOE published a notice in the *Federal Register*, announcing the 60-day extension of the public comment period for the draft *Waste Management Programmatic Environmental Impact Statement* (WM PEIS). The extension time frame is Dec. 21, through Feb. 19, 1996. All comments received by Feb. 19 will be considered when preparing the final PEIS. A public hearing on the WM PEIS was held for the Fernald site on Oct. 26, 1995.

DOE WM PEIS Contacts

Mike Jacobs, 513-648-3043
or
Ed Skintik, 513-648-3151

A notice of availability of the draft document was published Sept. 22, 1995, and amended Oct. 25, to revise the schedule of public hearings. All other information contained in the notice of availability remains unchanged. The WM PEIS is available at the Fernald Public Environmental Information Center, 10845 Hamilton-Cleves Road. Comments can be mailed directly to the following address:

U.S. Department of Energy
Waste Management Programmatic
Environmental Impact Statement
P.O. Box 3790
Gaithersburg, MD 20885-3790



Public Updated at Dec. 12 DOE Community Meeting

On Dec. 12, approximately 100 people attended the DOE community meeting at the Plantation, in Harrison, Ohio. Breakout session topics were the "Remedial Design Process -- Opportunities for Public Involvement" and the "Accelerated 10-year Cleanup Plan."

Following the breakout sessions, updates from U.S. EPA, Ohio EPA and FRESH representatives were presented. A transcript of the meeting is available at the Public Environmental Information Center.

New Economic Development Stakeholder Group Being Formed

At the Dec. 12 community meeting, DOE Fernald Area Office Public Information Officer Gary Stegner announced plans to convene the Community Reuse Organization (CRO). This new stakeholder group will provide a forum for public dialogue on community transition and economic development issues affecting final disposition of Fernald property. Efforts are underway to convene the group during early 1996.

New Member Appointed to Fernald Citizens Task Force

On Dec. 7, approximately 20 people attended the quarterly meeting of the Fernald Citizens Task Force. During the meeting, Chair John Applegate introduced new, ex-officio task force member French Bell, of the Agency for Toxic Substances and Disease Registry.

Speaking for the membership committee, Applegate summarized the membership solicitation process and suggested that Gloria McKinley be recommended to DOE for appointment to the task force board. McKinley, a Butler County resident, has several years of environmental engineering experience. She is also a trustee for the Pristine Facility Trust Fund, which was established by more than 100 companies, institutions and individuals to pay for the cleanup of the Superfund site.

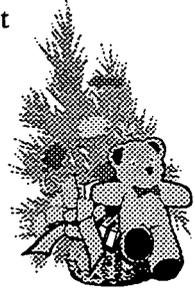
First Fernald Health Effects Subcommittee Meeting to be in January

According to Steve Adams, Centers for Disease Control, the first meeting for the Fernald Health Effects Subcommittee will be held some time in January. The date, time and place for the meeting will be publicized by the Centers for Disease Control.

Fernald Employees' Project Benefits Local Families in Need

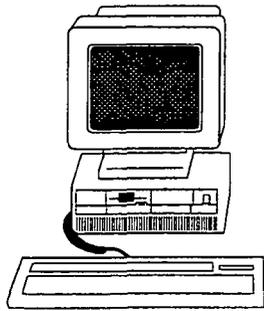
This year, a group of Fernald employees launched the "Giving Tree" project to benefit 29 local families in need; the families were identified by the local school districts. Paper "ornaments" with children's names were hung on a Christmas tree located in the Fernald Administration Building lobby.

Employees who participated in the project chose ornaments to fill the needs and wants of between 75 and 100 children. In support of the Giving Tree effort, the Fernald Employee Credit Union also accepted cash donations for the project.



DOE Donates Computers to Local Organizations

During the months of November and December, DOE donated 71 used computers to local, nonprofit organizations. The computers were declared excess federal property because they do not have sufficient memory to run many of the programs in place at Fernald. Recently, 10 computers were donated to the Hamilton Chapter of American Red Cross, the Bright (Indiana) Fire Department, and the Butler County Emergency Management Agency. In November, four local township governments and two local school systems also received computers.



Fernald Report

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

The *Fernald Report* is prepared by the Fernald Environmental Restoration Management Corp. for the U.S. Department of Energy to inform the community about activities at the Fernald Environmental Management Project. Address all inquiries regarding the *Fernald Report* to:

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