

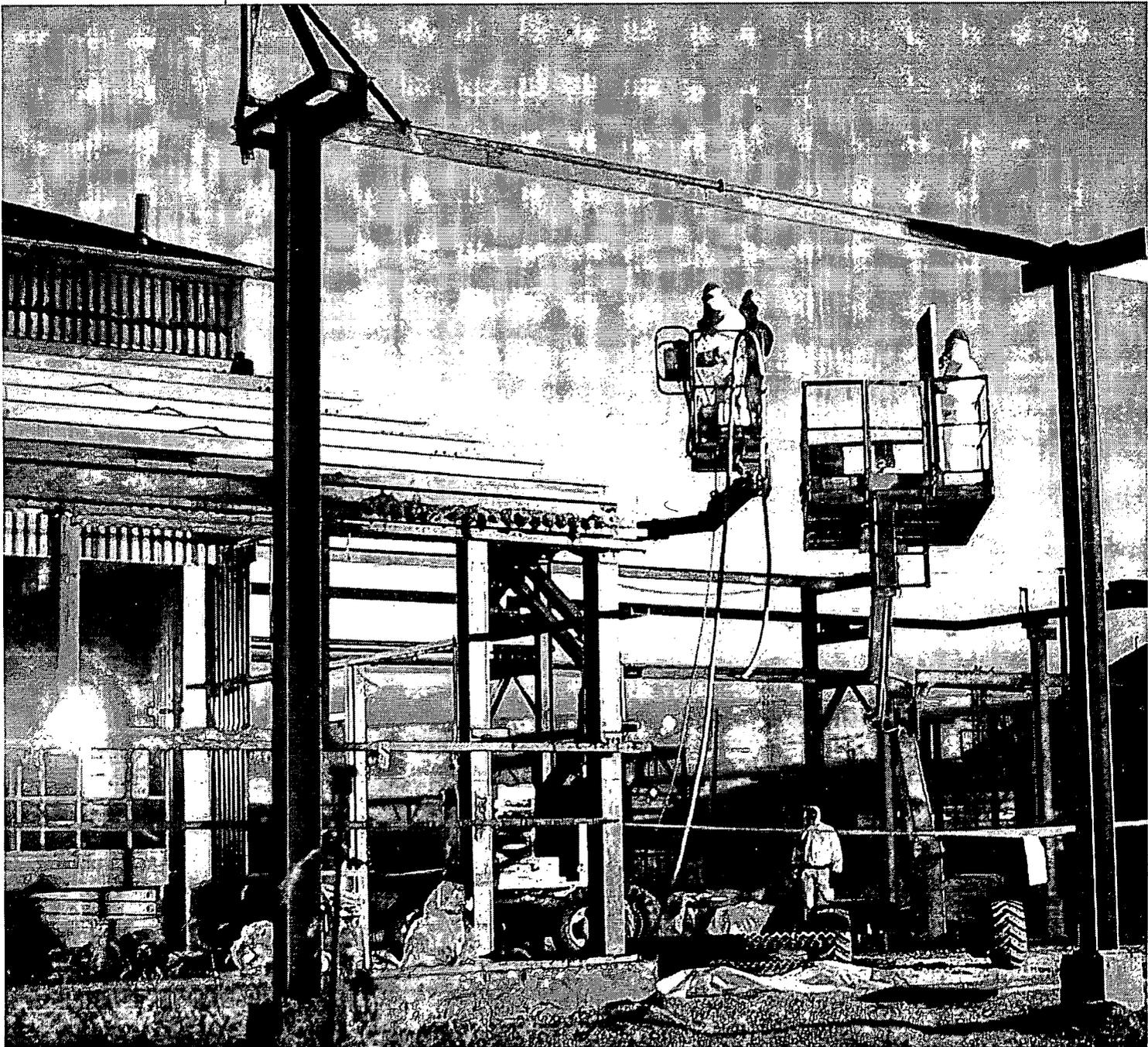
fernaid **Report**

Inside

- ▣ Training workers for waste pit cleanup
- ▣ Final Land Use
- ▣ Ready to respond - trench rescue

November 1998

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Waste removal a high priority in 1999

As we enter a new fiscal year and 1998 draws to a close, I am taking this opportunity to look at our priorities for 1999. Last year at this time I reflected on our "balanced approach" for waste disposal: We are shipping material with higher levels of contamination to off-site disposal facilities, while placing waste containing lower levels of contamination in the On-Site Disposal Facility (OSDF). Placing waste in the OSDF has been a major effort in the past year and will continue through project completion. But while 1998 saw the balance of activity focused toward on-site disposal, 1999 will see a shift toward waste leaving Fernald.

Following completion of a Nevada Test Site (NTS) audit of our waste shipping program, I expect waste shipments to resume early next year. We have taken a hard look at our waste management program over the past year and have made improvements in all facets of the process. We have pursued everything from better waste characterization to improved waste packaging. Removing Fernald's legacy waste is a critical step in moving forward with facility demolition.

Another major priority associated with waste removal is the Waste Pits Remedial Action Project (WPRAP). DOE, Fluor Daniel Fernald and its subcontractor, International Technology Corp., face a major regulatory milestone on March 1, 1999 to ship waste pit and other material off site via railcar. Considering the fact that 700,000 cubic yards of waste are impacted by this project, it is indeed one of our biggest challenges.

The Silos Project has become more visible in 1998 as we move forward on a number of significant activities. A contract will be awarded this year and work will begin on the Silo 3 Waste Stabilization Project. Following that will be contracts for Accelerated Waste Retrieval of Silos 1 & 2 material and a decision on the waste treatment technology based on Proof-of-Principle testing. Again, all of this waste

will be safely removed, treated and shipped off-site.

Other areas of note during fiscal year 1999 will be waste placement in Cell 2 of the OSDF, construction of the Cell 3 liner and dismantling of the Plant 9 and Maintenance/Tank Farm facilities. Contracts will be awarded for demolition of two of our largest production buildings - Plant 5 and Plant 6. We will also mark the completion of the Safe Shutdown Program.

The coming year promises to be even more exciting than 1998 as the footprint of cleared buildings expands and our soil and aquifer move closer to final cleanup levels. But as this flurry of activity continues, safety will be our ultimate measure of success. Completing our mission and doing it safely is something in which we can all take great pride.



Jack Craig
Director, DOE-Fernald

On the Cover: In the early morning hours NSC laborers prepare Plant 9 for shearing. Plant 9 should be completely dismantled by March 1999 (6494D-0498).

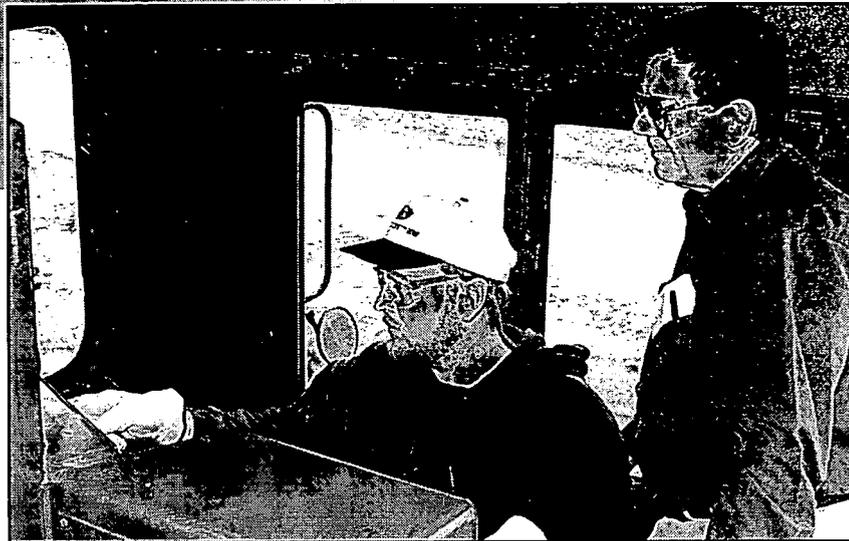
Training-A Waste Pits Cleanup Priority

With waste pit rail shipments scheduled to begin next spring, DOE and Fluor Daniel Fernald are ramping up efforts to train Fernald personnel who will be involved with waste processing or rail operations.

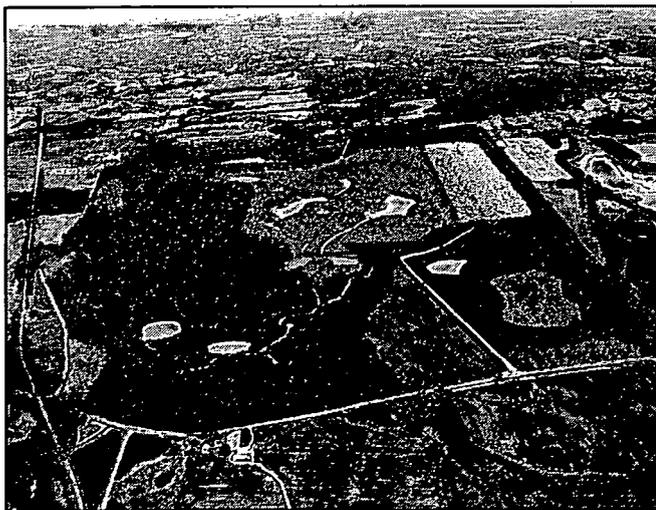
In October, 10 Fernald Atomic Trade and Labor Council (FAT&LC) members participated in an extensive training course designed for locomotive operators. The course was conducted by the Academy of Industrial Training (AIT), who held a similar course last April for 11 Waste Pits Project personnel at its Philadelphia training center.

This month, several other training courses are being held. AIT conducted a 40-hour training course for FAT&LC members on maintenance of locomotives and railcars along with rail safety operations training for Fluor Daniel Fernald and DOE project personnel. FAT&LC members who will be responsible for preparing and blending pit materials, processing the materials through the treatment facility, and loading the materials into railcars also participated in Heavy Equipment Operator training.

Under the contract with the International Association of Fire Fighters (IAFF), Fluor Daniel Fernald and DOE have also provided emergency response training to more than 40 locations along the rail route to Envirocare and the truck route to the Nevada Test Site. The 24-hour training program meets the intent of Occupational Safety and Health Administration requirements for emergency first responders. To target local responder groups, Fluor Daniel Fernald conducted courses at the Great Oaks Career Development Center and local fire departments including Reily Township and Covington, Kentucky.



Above: FAT&LC member Mike Brandes, left, is receiving hands-on training on locomotive operations safety from an Academy of Industrial Training instructor (6990D-0026).



Above: This artists rendition is one scenario of how Fernald could look after the cleanup is complete (6924.1A)

Public Involvement on Final Land Use

Over the last few months, DOE and Fluor Daniel Fernald have been soliciting comments and feedback from the public concerning how the site will look following cleanup. The response from meeting with several local groups and organizations, public comment periods on two documents, and two public meetings has been excellent. The transcripts from the two public meetings are available at the Public Environmental Information Center (513) 648-7480.

A Responsiveness Summary that will address all comments received is being prepared and will be made available to the public later this year. DOE will continue to provide updates as post-cleanup plans develop.

Cleanup Progress Update



Waste Pits Remedial Action Project (WPRAP)

- Began rail operations training
- Received final United States Environmental Protection Agency approval of Remedial Design package
- Continued treatment facility construction
- Continued negotiation of rail transportation for eventual shipment of pit wastes to Envirocare of Utah, Inc.

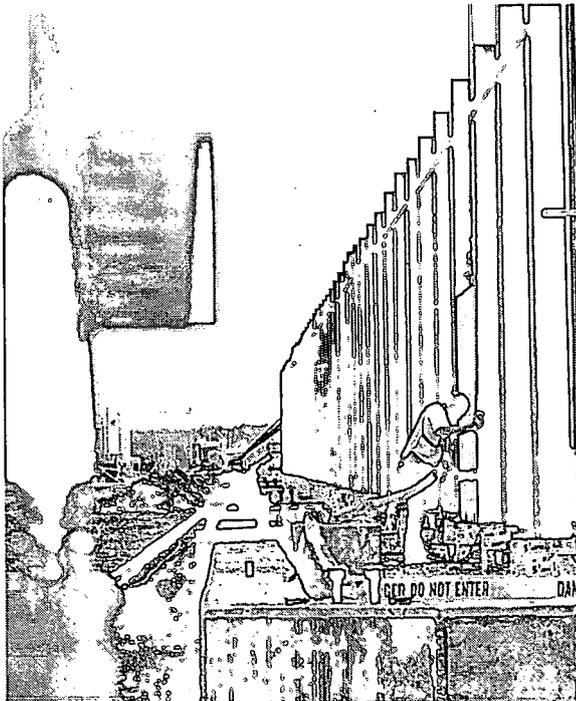
On-Site Disposal Facility (OSDF)

- Continued placing material into Cell 1
- Completed construction of primary and secondary liner systems for Cell 2
- Installed Leak Detection System drainage layer in Cell 2
- Installed Leachate Collection System in Cell 2

Above: Like a pilot reviewing his pre-flight checklist, engineers perform similar inspections before placing their train in operation (6990D-0009).

Right: Framework continues on the bin walls of the waste pit treatment facility. These bins will be used to segregate waste prior to treatment (6944D-0159).

Far right: Solmax employees place the geomembrane liner on top of the geosynthetic clay liner in Cell 2 of the OSDF (6319D-1599).



Facilities Closure & Demolition Project (FC&DP)

Safe Shutdown

- Continued holdup material removal in selected areas of Plant 6
- Completed isolation of sewage lines and electrical utilities at Building 81
- Continued piping disconnects in Tank Farm Complex

Decontamination & Dismantlement

- Thorium/Plant 9 Complex —
 - ◆ Completed final cleaning; applied "lockdown" coating to interior and exterior transite panels
 - ◆ Completed dismantlement of Buildings 9B, 9C, 9D and 81
- Sewage Treatment Plant Complex —
 - ◆ Submitted *Project Closeout Report* to regulatory agencies Oct. 28, 1998
- Maintenance/Tank Farm Complex and Water Storage Tank Project —
 - ◆ Issued authorization to mobilize to subcontractor for construction of new water tank
- Facility Demolition/Supplemental Environmental Projects —
 - ◆ Made arrangements to ship remaining track rail (225 tons), splice plates (130 tons) and rail spikes (6 tons) to DOE in Ashtabula, Ohio, for decontamination and unrestricted release—this accounts for all removed site rail except for 110 tons which were decontaminated and free-released at Fernald earlier this year
 - ◆ Began planning for transfer of 1,350 tons of copper windings to DOE in Oak Ridge, Tennessee



Left: Working in a difficult and cramped environment is nothing new for Safe Shutdown personnel. Here workers clear out a dust collector in Plant 6 (6639D-0097).

Below left: Building 81, the former Plant 9 Warehouse was the 48th structure dismantled at Fernald (6494D-0515).



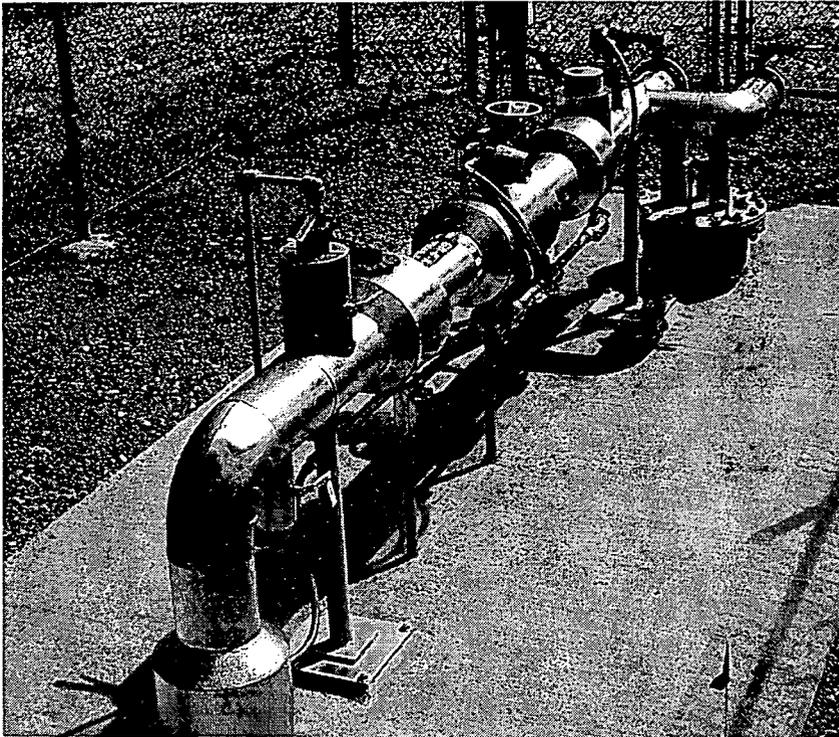
Below: University of Cincinnati Research Assistant Jay O'Hare monitors samples taken from the K-65 Silos as part of a study on effective radon barriers (6992D-0010).

Silos Project

- Approved *Silos 1 and 2 Proof-of-Principle Testing Work Plan* from EnVitCo (joule-heated vitrification technology testing contractor)
- Observed oral presentations from potential Silo 3 Project contractors and received their final technical and price proposals
- Continued evaluation of proposals for Accelerated Waste Retrieval Project
- Began dismantlement of Silo 3 Small Scale Waste Retrieval System



Cleanup **Progress** Update



Aquifer Restoration/ Wastewater Project

- Completed Sludge Removal System design
- Began design activities (to be performed by Lockwood Greene Technologies) for expansion of Advanced Wastewater Treatment Facility laboratory
- Completed two-year revision of *Integrated Environmental Monitoring Plan* and submitted revised document to regulatory agencies

Soil Characterization & Excavation Project

- Completed excavation of Inactive Flyash Pile and continued hauling impacted material to the OSDF
- Issued Certified-for-Construction drawings and specifications for Trap Range Stabilization Package (part of Area 1 Phase II — southern portion of East Field); also issued *Request for Proposal* to procure subcontractor
- Awarded contract for Site Preparation portion of Area 1 Phase II to Petro Environmental
- Began discussions with property owners in Area 9 (Off-property area east of Fernald property line) to obtain access to these areas for precertification sampling
- Natural Resource Restoration
 - ◆ Held Final Land Use public hearing on Oct. 13, 1998
 - ◆ Received public comments on *Environmental Assessment for Proposed Final Land Use* at Fernald; comment period ended Oct. 20, 1998
 - ◆ Initiated planting of trees for Aesthetic Barrier Project located along Willey Road
 - ◆ Began construction of On-Property Public Access Habitat Area

Top:
Treated groundwater is sent from the AWWT to injection wells and pumped back into the aquifer at a rate of 200 gallons-per-minute (6261D-490).



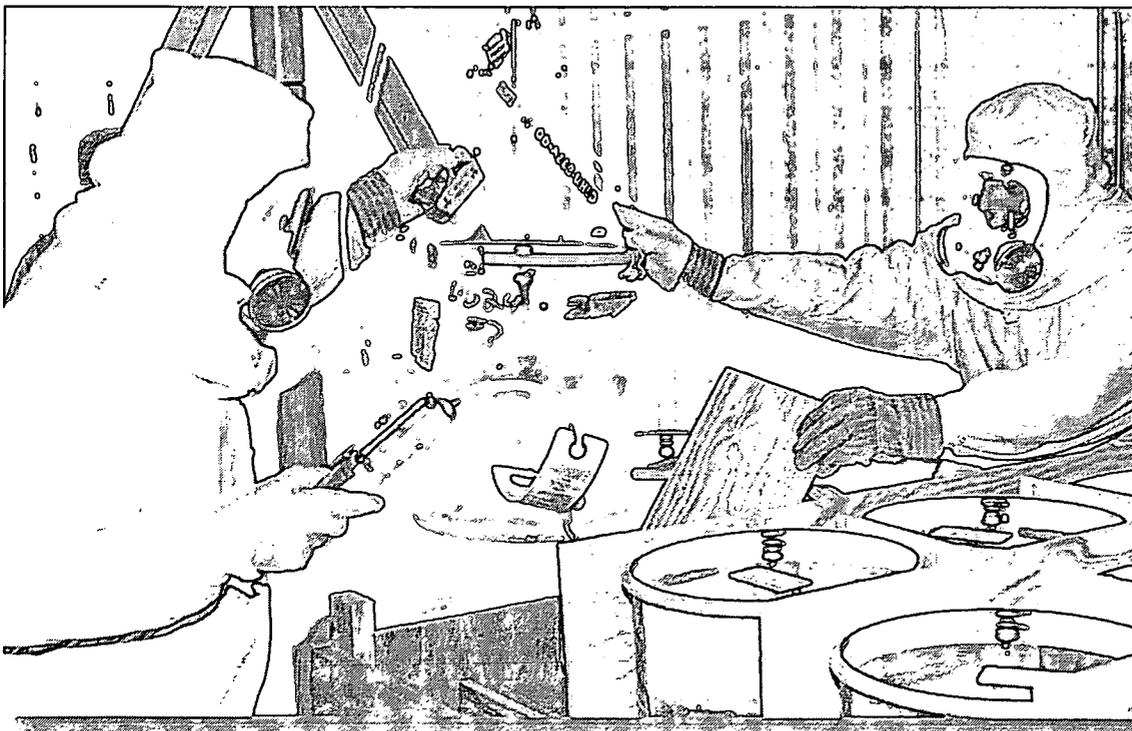
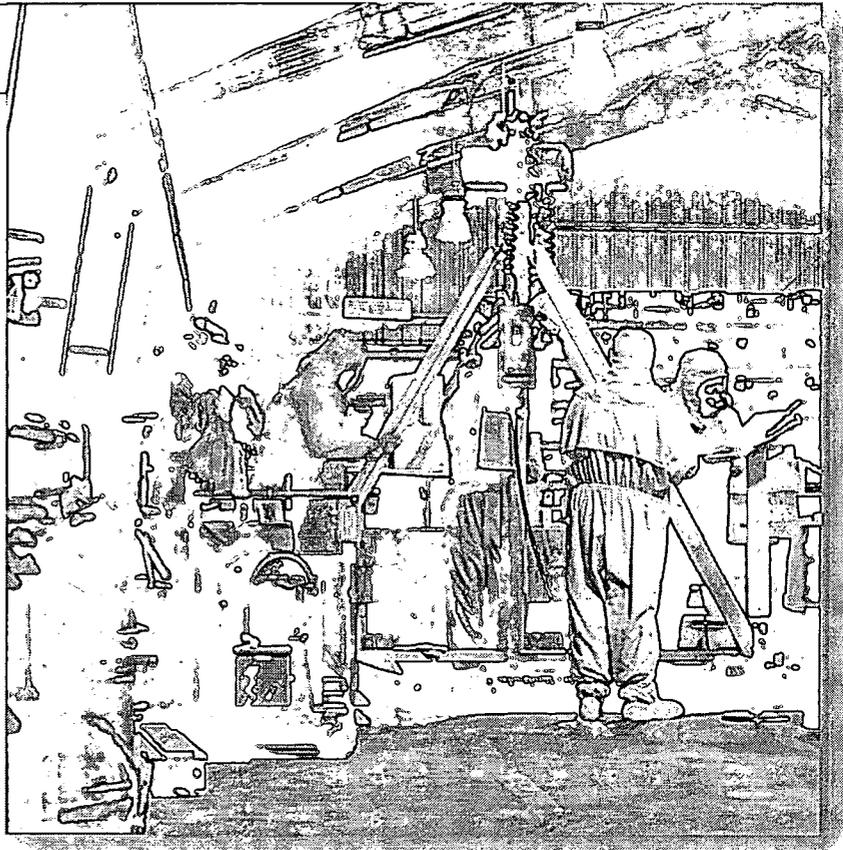
Center:
Excavation work is now complete in the Inactive Flyash Pile portion of the Southern Waste Units (6734D-0866).

Bottom:
The R-Trak performs real-time radiological monitoring as work continues in the field (6734D-0850).



Waste Management Project

- **Waste Minimization/Pollution Prevention** — Alaron Corporation completed processing of 95.9 tons of shredded copper from Fernald; 100 percent of the copper was determined to be eligible for unrestricted free-release
- **Liquid Mixed Waste Project** — Received approval from Toxic Substance Control Act Incinerator (TSCAI) and State of Tennessee to ship Batch #8 (18,100 gallons newly generated and recharacterized low level waste) to TSCAI in Oak Ridge, Tennessee; approval to ship Batch #7 (19,000 gallons mixed waste) has already been received and preparations for shipment are underway
- **Nuclear Materials Disposition** — Completed loading of International Shipping Organization (ISO) containers with uranium trioxide as part of contract for sale of low enriched materials; began shipments Oct. 16, 1998, and shipped total of 32 containers as of Oct. 30, 1998



Above:
Waste Management personnel in the 4B Warehouse package uranium trioxide as part of a project that includes the transfer of 3,600 ten-gallon drums to a commercial vendor (6731D-0026).

Left:
The ten-gallon drums are overpacked into containers similar to those used to overpack thorium. Vibration and stress tests proved the benefits of using wood to stabilize the load (6731D-0033).

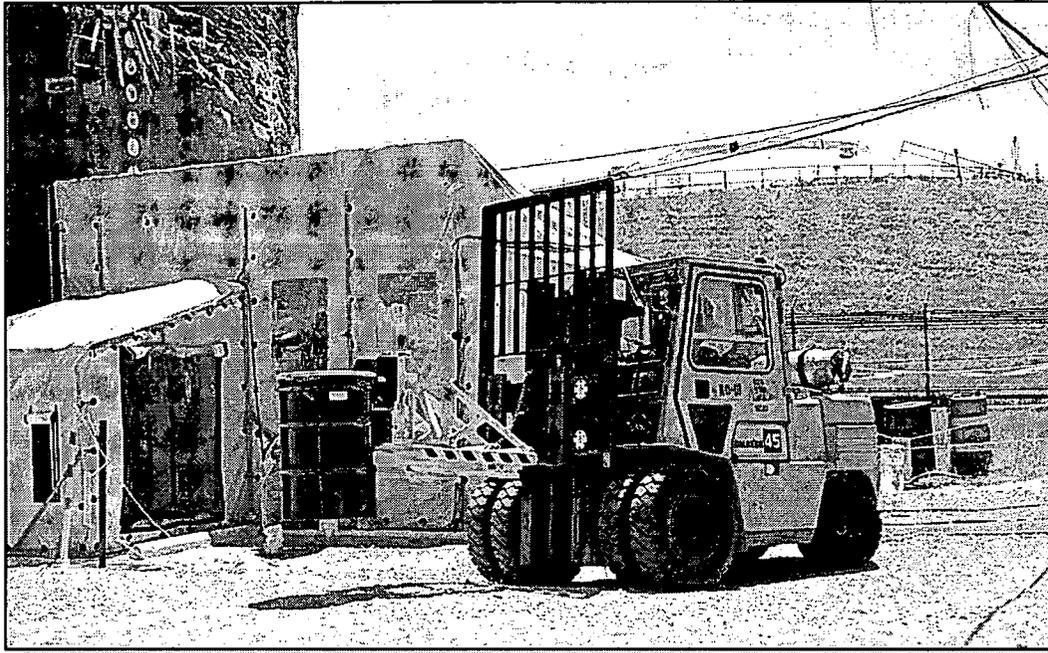
Conclusion of Silo 3 Small Scale Waste Retrieval Project

If you have been keeping up with the Silos Project you are well aware that the plan to remediate the contents of Silo 3 has been accelerated. The Silo 3 Project is being completed in two phases. The first phase, Small Scale Waste Retrieval, has been safely completed.

Small-Scale Waste Retrieval began in October 1997.

Six 30-gallon drums of material were safely retrieved by auger from decant ports on the west side of Silo 3. Additional samples from the bottom decant port were also collected to characterize the material particle size, density, and percent moisture.

On Aug. 14, 1998, potential contractors identified to remediate Silo 3 were shipped one 30-gallon drum of Silo 3 material to conduct treatability tests. These tests were important for helping the contractors define their proposed stabilization process and system design. Fluor Daniel Fernald used the test results to evaluate each potential contractor for award of the full-scale retrieval contract.



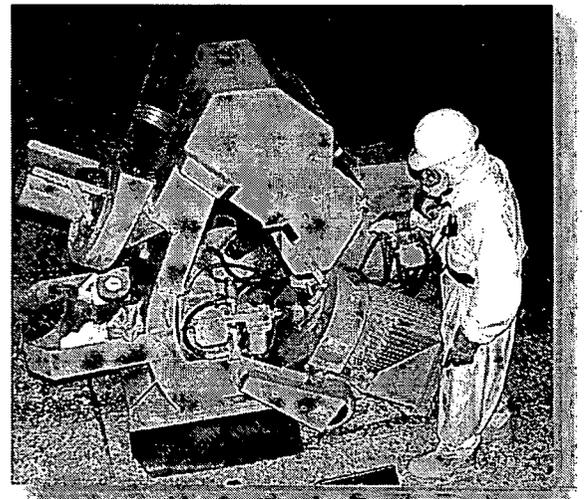
Above: Small Scale Waste Retrieval provided additional information about the contents of Silo 3 and added momentum to the safe and successful completion of the Silo 3 Project. Closeout activities will be completed by the end of November and a contract for the remediation of Silo 3 is scheduled to be awarded this spring (6759D-308).

The Small Scale Waste Retrieval Project successfully met its objectives: retrieving material for treatability testing and obtaining information regarding the condition of the material at the bottom of Silo 3. Since the objectives have been met, the Small Scale system has been demobilized.

Technology eases concrete removal

As part of a Large-Scale Technology Demonstration and Deployment Project, DOE's Office of Science and Technology and Fernald Technology Programs sponsored a demonstration of centrifugal shot blasting, which involves propelling hardened steel shot at high velocities onto concrete surfaces causing the concrete to fracture. Compared to other methods of concrete removal — diamond wire sawing, jack hammering and rotating pneumatic piston heads — centrifugal shot blasting breaks concrete more quickly and collects dust effectively. The shot is continually reused until it is essentially reduced to the size of dust and is then captured in a dust collection system.

The shot blasting demonstrations have proven useful at Fernald not only in assessing this technology and its potential for improving safety and reducing costs, but also in accomplishing the removal of technetium-99-contaminated concrete in Plant 8. Once a formidable challenge for DOE and its contractors, concrete removal can now be conducted in a controlled, dustless manner.



Above: The centrifugal shot blast machine in action inside Plant 8 (6917D-32).

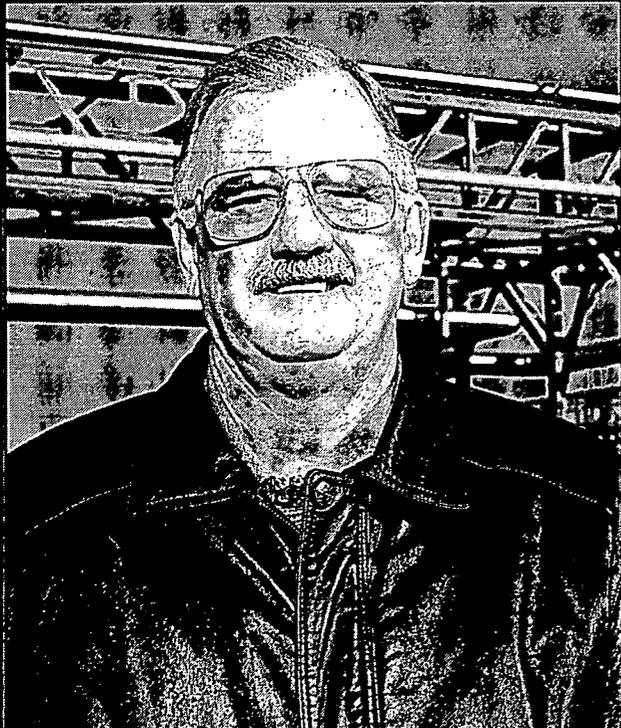
Plant 9 set to come down

Plant 9 is a skeleton of what it once was. Its transite siding has been removed and NSC Inc. personnel are preparing to begin the demolition of the building's structural steel. The project is on schedule to be complete by March 1999.

Of particular note is NSC's attention to safety. Personnel have accumulated more than 70,000 hours without a recordable incident and only seven first aid cases. "We've been very pleased with this team's safety record," said Dave Balzan, Plant 9 project manager for Fluor Daniel Fernald. "The work we're doing is labor intensive and requires detailed planning and implementation. It's really been a total team effort to make sure we are putting the absolute highest priority on safety."



Above: Building 81 (pictured), part of the Plant 9 Complex, has already been demolished along with Buildings 32, 69 and 78. The demolition of Plant 9 is approximately 60 percent complete (6494D-525).



Jameson to lead field operations

To bring added focus to Fluor Daniel Fernald's accelerated cleanup activities and strengthen its commitment to excellence in project execution, John Bradburne, Fluor Daniel Fernald president and CEO, recently appointed Jamie Jameson to a role dedicated to the coordination of all site field operations. Project leaders will look to Jameson for day-to-day guidance and direction. This arrangement addresses the need for a central point-of-contact to enhance uniformity, coordinate field operations and resolve issues quickly. Bob Nichols will replace Jameson as acting head of FC&DP.

Left: Jamie Jameson has been in the construction business for over 30 years. Prior to taking over as head of Facilities Closure and Demolition Projects, Jameson had worked in six different countries (6528-3).

Enhanced Response - Fernald team tackles trench rescue

Trench rescue and confined space entry are some of the most dangerous situations that responders face. Statistics show that nearly 60 percent of fatalities that do occur are rescuers, often friends or co-workers, who enter a situation unprepared. That's why two years ago, Fernald invested \$30,000 in the purchase of a trench rescue trailer complete with shoring panels, pneumatic shores and excavation tools. The only other fire department in the area that can provide this level of service is Anderson Township, so Fernald is regarded as the response organization for the western part of Cincinnati.

"It is tedious work, because you have to stabilize the trench first to make it safe for the responder, then you dig by hand and extract dirt from the trench," said Steve Miller, Fluor Daniel Fernald fire inspector. "Heavy equipment is out of the question since you're likely to make a bad situation worse for the victim."

Urban Search and Rescue (USAR) is a quickly growing facet of the fire service spurred by the Oklahoma City bombing. Three Fernald fire inspectors are on the newly formed Hamilton County team with one more expected to complete training early next year. To qualify participants must complete a training program that includes: search and rescue, confined space, high angle and trench rescue.

A recent Fluor Daniel Fernald donation will be used to help the newly formed Hamilton County USAR purchase equipment.



Above: Fernald ERT members must first stabilize the collapse by shoring the sides of the trench, creating a safe work area where digging can begin. Petro provided the equipment and personnel to ready the trench for this on-site training (6152D-0436).



Generosity abounds at DOE Sites

It's easy to forget there are people in our country that live very meagerly. However, for the past two years, employees from Fernald and Miamisburg have responded by providing for the basic needs of the Loyal Shawnee Native American Tribe located in Oklahoma.

Coordinating the assistance program are Teresa Fort from Mound and Carolyn Roehrig and Joe Schomaker from Fernald. Both Schomaker and Fort made the trip last year to help with distribution. "It's a good feeling to know what we are doing may help some people this winter," said Schomaker. "Life on the reservation can be difficult, especially for children and the elderly."

"The project grows bigger each year," noted Fort. "I don't know what we would have done without the Landstar Ranger Trucking Company. They donated a truck and driver the last two years."

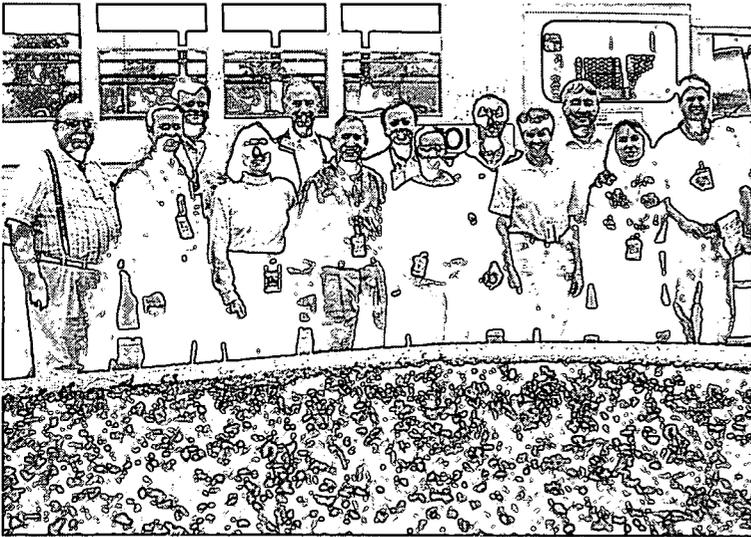
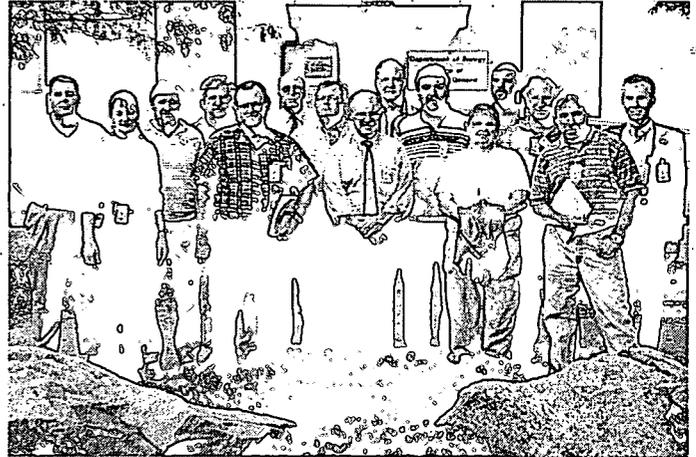
Volunteers loaded the semi which left Cincinnati on Thursday, Nov. 5, and arrived in Oklahoma on Nov. 7. Joe Schomaker and others from the Harrison, Ohio area met the truck and helped distribute donated items to the reservation. "It's a custom for the Shawnee to give something in return to anyone bringing gifts, even though they have very little," said Schomaker. "They're proud of their heritage and they keep their traditions and customs alive by making sure they are passed on to the next generation." It looks like Fernald and Mound may have started a tradition of their own.

Top: Employees from Fernald and Mound take a break while loading the semi trailer. Picking up and collecting the donations from several storage areas involved many hours of work from volunteers (6763-3).

Recent Tours

On Sept. 29, the Society of Manufacturing Engineers (SME), held their monthly meeting at Fernald. Before their meeting, they toured the site with Fluor Daniel Vice-President, Dennis Carr.

Right: The SME just celebrated its 60th anniversary this year. There are 600 members locally covering all aspects of interest in manufacturing (6810D-0130).

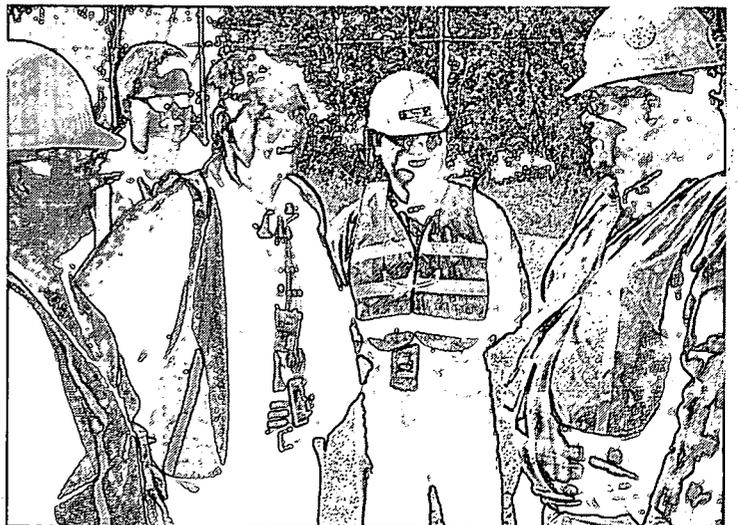


On Oct. 6, the National Academy of Sciences spent the day at Fernald to learn more about ongoing cleanup projects and the path forward for final closure.

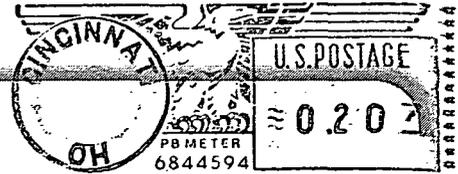
Left: After a full day at the site, the group attended a public workshop that evening conducted by the Community Reuse Organization to get stakeholder input on economic development issues (6810D-131).

The Ohio Environmental Protection Agency (EPA) and the U.S. EPA have been overseeing the work at Fernald since cleanup started. They make frequent trips to Fernald to meet with DOE and Fluor Daniel Fernald management. On Oct. 14, several representatives from both agencies visited the site for an extensive tour which included stops at the On-Site Disposal Facility and the Southern Waste Units where they saw a demonstration of the R-TRAK.

Right: Once outside of the OSDF construction area, Lee McDaniels (far right), Fluor Daniel Fernald construction manager talks with (starting at left) Gene Jablonowski, U.S. EPA; Jim Saric, U.S. EPA; Tom Schneider, OEPA; and, J.D. Chiou, Fluor Daniel Fernald project manager (6810D-1248).



BULK RATE



New documents added to the Public Environmental Information Center

The following information was recently added to the Public Reading Room, Administrative Record files and Post Record of Decision files at DOE's Public Environmental Information Center (PEIC):

- On-Site Disposal Facility and Soil Characterization & Excavation Project
 - ◆ Technical Memorandum for the On-Site Disposal Facility
 - ◆ Technical Specifications for the Remediation of Area 1, Phase II Sewage Treatment Plant Excavation Package
 - ◆ Implementation Plan for Area 1, Phase II Soil Characterization and Excavation Project.
 - ◆ Project Specific Plan for Waste Acceptance Criteria Attainment Sampling of Area 7 Soils

- Facilities Closure and Demolition Project
 - ◆ Task Order #384 Completion Report for the Above-Grade Decontamination and Dismantlement of Miscellaneous Small Structures
 - ◆ Integrated Remedial Action Miscellaneous Small Structures Implementation Plan for Above-Grade Decontamination and Dismantlement
 - ◆ Project Completion Report for Surface Concrete Removal Demonstration in the Plant 8 Muffle Furnace Area

- Silos Project
 - ◆ Work Plan for Silos 1 and 2 Proof-Of-Principle Testing from Vortec Corporation
 - ◆ Quality Assurance Plan from Vortec Corporation for the Remediation of Silos 1 and 2 by Using the Cyclone Melting System
 - ◆ Envitco Proof-of-Principle Test of Joule-Heated Vitrification Proof-of-Principle Testing Work Plan
 - ◆ Envitco Project Specific Quality Assurance Plan for Silos 1 and 2 Proof-of-Principle Testing

- Aquifer Restoration Project
 - ◆ Development and Verification of VAM3DF: A Numerical Code for Modeling Flow and Transport in Groundwater, a Documentation and User's Guide



Fernald Report

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