

fernald

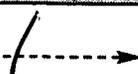
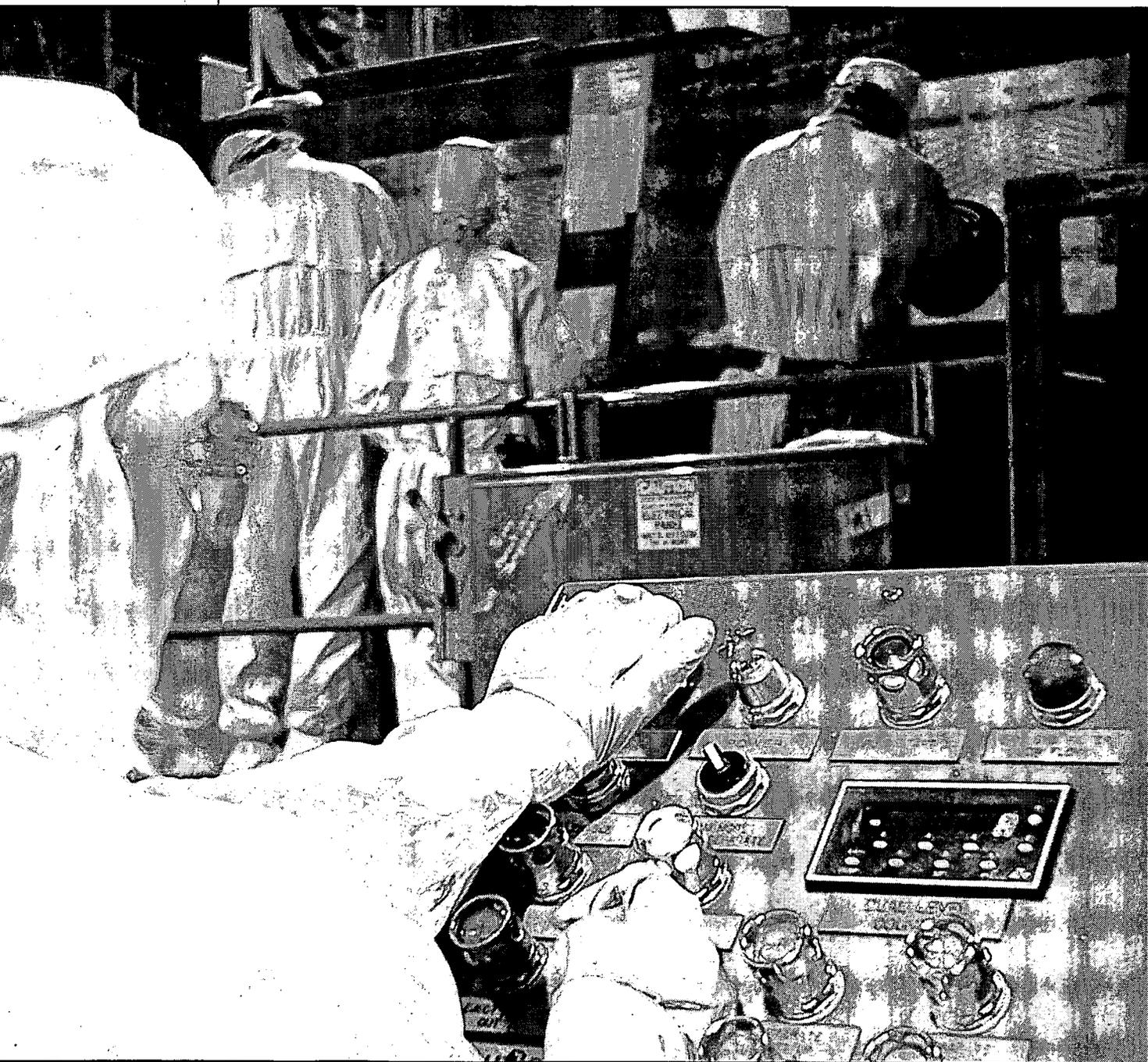
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Inside

# Report

- Safe Shutdown Complete!
- Silos Project Contract Awarded
- Diversity makes a difference

March 1999



message from  
**Jack Craig**

## Transportation - where we are headed

What is the best way to transport waste from Fernald? This question has been asked many times during the past few years by the Department of Energy (DOE), Fluor Daniel Fernald and the Fernald Citizens Advisory Board. The safety and efficiency of these shipments weighs heavily in this decision.

We have started loading railcars with contaminated soil from the waste pits project and expect to ship the first train to Envirocare in April or May. As you may know, preparation associated with this first shipment has been significant. Rail lines and infrastructure have been improved at Fernald and in the surrounding communities;

locomotives and gondola railcars have been procured to haul the waste; and most importantly, our workers have been trained to safely operate this system on-site.

We have also worked hard to keep stakeholders informed about the content of future shipments and how it compares to other material that typically travels through their neighborhoods. Rail shipments are a safe and efficient way to transport Fernald material and we are eager to get started.

While moving waste by rail is new at the site, truck transportation has been used for the past 10 years. The route from Fernald to the Nevada Test Site (NTS) is 220 miles or three days long. Though travel by truck has been a safe and reliable mode of transportation, the heavy volume of traffic crossing the Hoover Dam, specifically trucks carrying radioactive cargo, has caused concern to residents in Las Vegas.

It is our desire to be proactive on this issue, so we are working with different motor carriers to identify routes that avoid the Las Vegas area.

We have met with representatives from Nye County, the home of the NTS, and we have responded to their request for additional emergency response training and improved emergency resources.

One other option for waste shipping combines rail and truck, commonly referred to as Intermodal Transportation. Railcars could be used to move waste to Nevada where a facility could be built to transfer the material to trucks. At this time, plans

have not been finalized to build such a facility, but we will continue to look at this option and consider feedback we get from interested stakeholders.

Delivering waste safely to the NTS and Envirocare is essential to the success of the Fernald cleanup. DOE Fluor Daniel Fernald will continue to look for ways to improve this process until the last shipment of waste has left the site. In the meantime, we will continue to exercise our options and look at other modes of transportation combinations therein that address stakeholder comments and add the most value to reach our goal.



  
Jack Craig  
Director, DOE-Fernald

*On the cover: An operator (left) at the trash compactor moves contaminated trash into the conveyor system for segregation (7017-D0036).*

## Safe Shutdown complete

**F**luor Daniel Fernald has taken a giant step closer to achieving its goal of cleaning up the Fernald site by completing the Safe Shutdown Project. To understand the enormity of this accomplishment, consider this: over the past six years, employees have prepared 10 complexes to be demolished that required removing more than a half million pounds of hazardous material in the process.

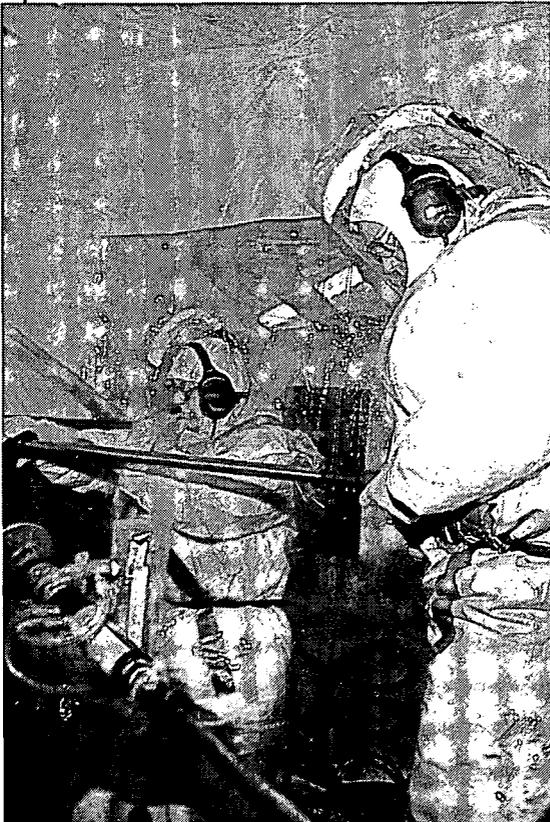
"The completion of this project required a monumental effort from a lot of people," said Monty Morris, Fluor Daniel Fernald Safe Shutdown project manager. "Working under adverse conditions, these folks really pulled together as a team to get the job done safely and ahead of schedule. We are very proud of them."

One source of pride for the group was receiving the Tri-Star Award, Fluor Daniel's highest award for safety. Safe Shutdown earned this recognition by working 250,000 hours without a recordable incident. "Even though we were working under tight deadlines, safety was always our top priority," said Amber Perry, the project's safety specialist. "I think we were able to achieve the kind of results we did because we looked for input from the people doing the work."

And get the job done, they did. The majority of the employees responsible for the completion of Safe Shutdown have moved on to other projects, with a small group remaining to focus on Facilities Shutdown, which prepares the site's non-nuclear facilities for demolition. This effort should take approximately three years to complete.



*Above: Safe Shutdown workers turned off the jack-hammers for a minute while removing material from Plant 6 (6639-D0142).*



## Silos Subcontract Awarded

**I**n late February, a \$50 million, four-year subcontract was awarded to Foster Wheeler Environmental Corporation, based in Livingston, NJ, for the Silos 1 and 2 Accelerated Waste Retrieval (AWR) Project. Foster Wheeler will design, construct and operate a waste retrieval system and a transfer tank storage system to remove the nuclear program legacy waste from Silos 1 and 2 and will store it safely, prior to final remediation. The material will be removed from the silo ports by using a hydraulic retrieval process. Foster Wheeler will then transfer it directly into four 750,000-gallon storage tanks and a 250,000-gallon decant/supernate collection tank. The tanks are made of steel and will be shielded within a building with 24-inch thick concrete walls. The AWR Project will be complete in September 2003. In parallel with this effort, DOE and Fluor Daniel Fernald will continue to work closely with regulators and stakeholders to determine the final cleanup approach for the silos, which is being developed through a Record of Decision Amendment to be completed in FY01. Foster Wheeler has extensive experience in environmental restoration projects and has subcontracted specific tasks to COGEMA, Grey Pilgrim, Oceaneering, Battelle and XL Associates. The company will also use the skills and experience of current Fernald employees to operate and maintain the new facilities.

*Left: Unlike the Small Scale Waste Retrieval Project, which was designed to take samples of Silo 3 material, the Accelerated Waste Retrieval Project will remove all waste from Silos 1 and 2 and store it safely until a final treatment option is selected (6759-88).*

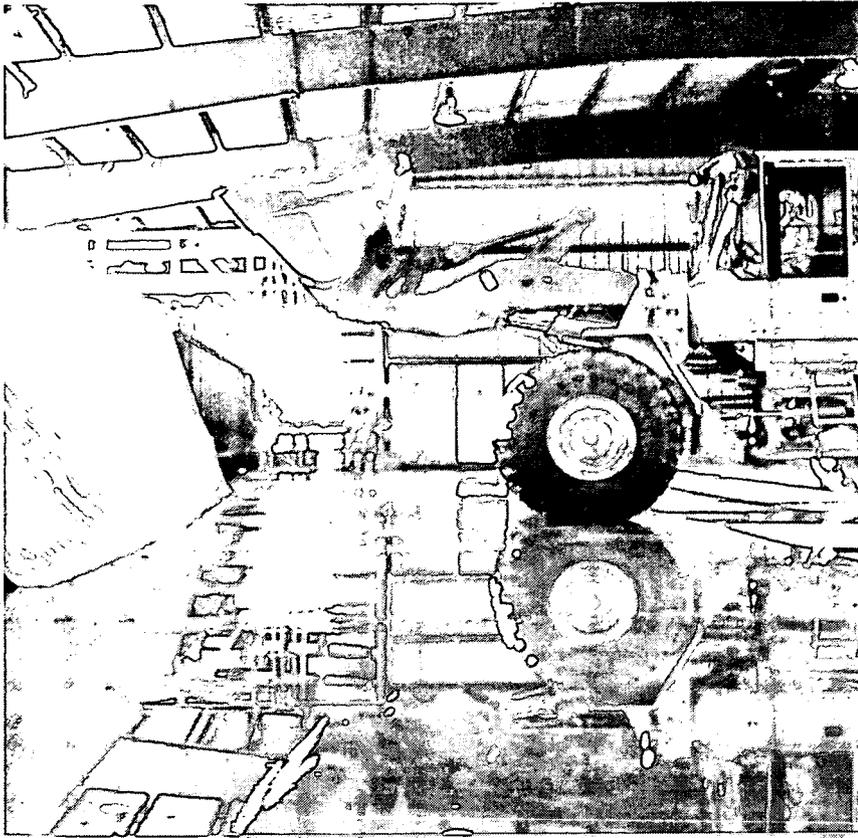
# Cleanup **Progress** Update

## Waste Pits Remedial Action Project (WPRAP)

- Completed construction and Standard Startup Review activities associated with first waste loadout and initiated operations in February, completing a major regulatory milestone
- Continued building waste processing facilities
- Continued review of rail tender (for transportation of waste to Envirocare)

## On-Site Disposal Facility (OSDF)

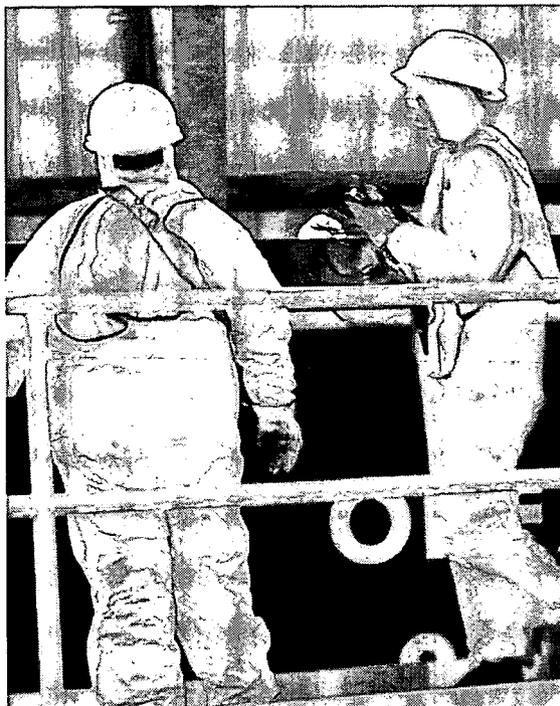
- Detected leaks in the Leachate Conveyance System line; identified locations and began repairs
- Initiated alternate leachate removal methods in Cells 1 and 2 in accordance with the OSDF Contingency Plan



*Above: During mock loadout material is placed into railcars. The disposable liner, seen draped over the side, is sealed, then the car lid is secured (6944-D0600).*

*Right: Waste Management personnel inspect loaded material as it is being placed in railcars (6944-D0607).*

*Far right: Water from the Leachate Conveyance System is manually pumped while repairs are being made to the system piping (6319-D1767).*



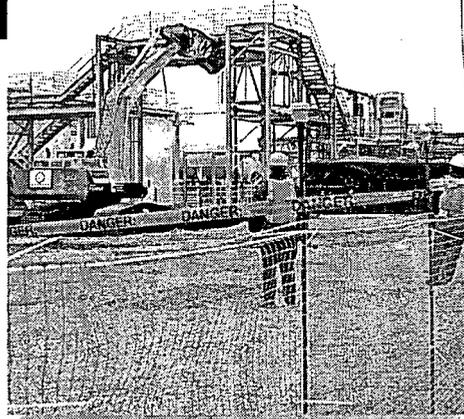
## Facilities Closure & Demolition Project (FC&DP)

### Safe Shutdown

- Completed holdup material removal in selected areas of Plant 6
- Transferred 120 drums of holdup material from Plant 6 to the Plant 1 Pad

### Decontamination & Dismantlement

- Thorium/Plant 9 Complex —
  - ◆ Subcontractor completed all D&D activities
  - ◆ Continued preparation of Project Closeout Report
- Boiler Plant/Water Plant Complex —
  - ◆ Submitted Project Completion Report to regulatory agencies in February
- Maintenance/Tank Farm Complex and Water Storage Tank Project —
  - ◆ Initiated D&D of Tank Farm and Pipe Bridge components
- Facility Demolition/Supplemental Environmental Projects —
  - ◆ Completed shipments of approximately 534 tons of steel to Alaron Corporation for recycling
  - ◆ Continued shipping boxes containing copper motor windings to DOE-Oak Ridge for recycling



*Left: Shear operations on the Tank Farm are nearly complete (7025-D0032).*

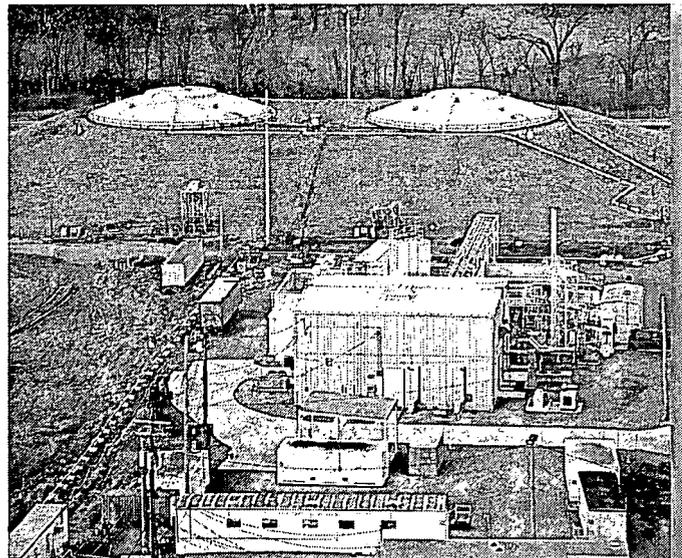
*Below left: Safe Shutdown personnel remove material by hand using a Hepa-Vac to control dust (6639-D0220).*

*Below: The area around the Silos Project will significantly change as work begins on the Accelerated Waste Retrieval Project (7053-37).*



### Silos Project

- Awarded Silos 1 and 2 Accelerated Waste Retrieval contract to Foster Wheeler Corporation in February
- Received regulatory approval of Design Package for Roads and Electrical Upgrade portion of Silos Infrastructure Project; issued Notice to Proceed/Authorization to Mobilize to Staver Group
- Received draft work schedule from Rocky Mountain Remediation Services, the Silo 3 Project contractor
- Received Project Plan from Theta Engineering, the Vitrification Pilot Plant Waste Disposition contractor



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# Cleanup **Progress** Update

## Aquifer Restoration/ Wastewater Project

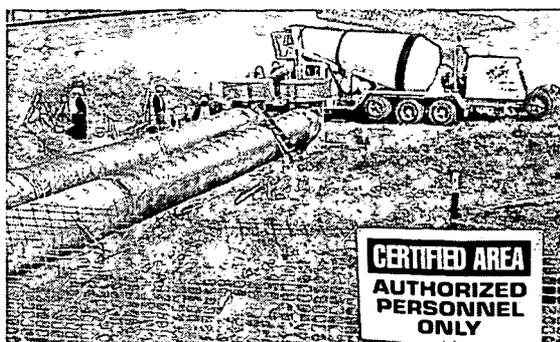
- Continued to construct Sludge Removal System
- Continued to construct Biosurge Lagoon Ozone Injection System
- Continued to construct Bionitrification Bypass Project
- Continued geoprobe operations in South Field area in support of groundwater remedy performance monitoring program

## Soil Characterization & Excavation Project

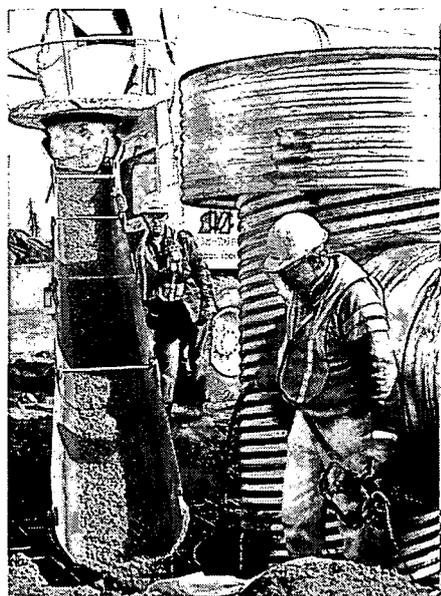
- Completed RTRAK (Radiation Tracking System) scan of Inactive Flyash Pile
- Began treatability study associated with Trap Range Stabilization subcontract
- Negotiated contract with Petro Environmental Services for Sewage Treatment Plant Excavation
- Natural Resource Restoration
  - ◇ Completed final Phase I Wetland Mitigation design
  - ◇ Prepared a summary of responses to public comments received on the *Environmental Assessment for Proposed Final Land Use* at the Fernald Environmental Management Project
  - ◇ Awarded Ecological Restoration Case Study to Texas Southern University
  - ◇ Began field activities on Identification and Control of Invasive Species and Area 1 Phase I Vegetation Plots projects



*Top:*  
Here, residue from the Slurry Dewatering Facility is routinely removed from the systems filter press (6882-D048).



*Center:*  
Petro personnel build the system designed to move collected rainwater away from the clay borrow area toward Paddys Run (6319-D1881).



*Right:*  
Concrete is used to set the risers in place in the borrow area water retention basin. This system, used to move rainwater from excavation, will be fully operational this spring (6319-D1879).

## Waste Management Projects

- **Thorium Legacy Waste Project** — Repackaged 55 boxes for shipment to Nevada Test Site; total of 103 boxes repackaged
- **Nuclear Materials Disposition** —
  - ◆ Continued repackaging approximately 14,500 10-gallon cans of depleted uranium tetrafluoride (UF<sub>4</sub>) to be shipped to DOE-Oak Ridge; 84 of an estimated 500 boxes have been packaged
  - ◆ Shipped 673,134 net pounds of enriched UF<sub>4</sub> (representing 231.4 metric tons uranium) in support of contract for sale of low enriched uranium



*Above: Contaminated trash from waste operations is unloaded outside the Super Compactor (7017-D0020).*

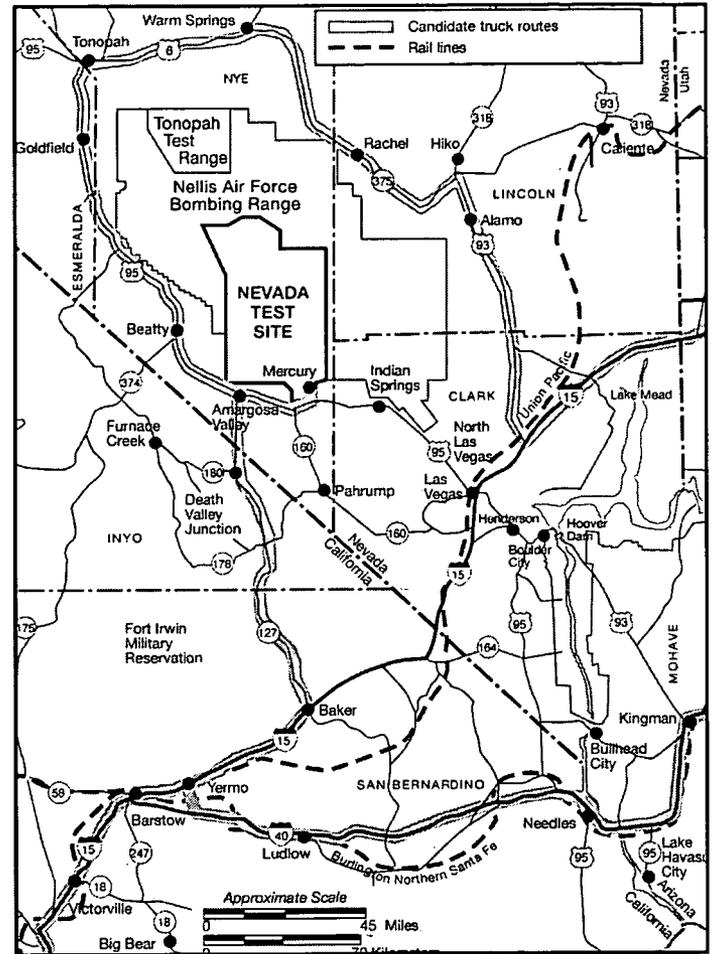


*Left: Waste Management personnel use a glove box to separate material that can be compacted, including used disposable anti-contamination clothing, tape, respirator cartridges and paper products (7017-D0025).*

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## Waste shipping- Fernald priority

**D**OE-Fernald and DOE-Nevada continue to work together to ensure safe shipments resume from Fernald to the Nevada Test Site (NTS). Shipments from Fernald have been suspended for more than a year due to an incident in Kingman, Ariz. where a shipping container had leaked a small amount of water. Since that time, the work at Fernald related to waste shipments has focused on improving containers, studying absorbent materials, reviewing emergency response protocols, and revising waste packaging procedures. On Dec. 15, 1998, DOE managers from Fernald and Nevada, along with the Ohio Field Office, recommended to DOE-Headquarters that waste shipping be resumed. In early January 1999, DOE-Fernald changed its plans for restart of shipments. Preliminary information received from motor carriers indicated that they would provide tenders specifying alternate truck routes. As a result, a second request for tenders from motor carriers regarding the possibility of shipping by an alternate route was issued. The response to this request has been positive. Several different routes have been proposed by a number of motor carriers that will avoid the Hoover Dam and downtown Las Vegas. DOE-Fernald and DOE-Nevada are updating stakeholders about the selection of tenders. DOE continues to inform stakeholders on the use of Intermodal Transportation.



Above: This map shows some of the options being discussed to avoid the Las Vegas area (5457A.10).

## Leachate line undergoes repair

**A** double-walled Leachate Conveyance System was installed during construction of the On-Site Disposal Facility to collect rainwater and material that percolates through impacted materials from the cells, for eventual treatment at the Advanced Wastewater Treatment (AWWT) facility. During a routine walkdown of the system, water was found in a manhole indicating a leak. Using a miniature camera and excavating equipment, a number of leaks have been identified, each one located at a pipe fusion point. All fusion points or joints are being reinforced, and any water found in the manholes is manually pumped and transported for treatment at the AWWT.

Right: Fernald is working closely with the Ohio Environmental Protection Agency to remedy this situation. The disposal facility has been closed until all repairs are complete (6319-1763).



## Record turnout for BIG event

About 200 people attended the 4th Annual African American History Month Awards Gala sponsored by the Greater Cincinnati/Miami Valley Chapter of Blacks in Government (BIG). The event included the presentation of two scholarships to students and five honorary awards. Rev. Donald H. Jordon, pastor of Allen Temple A.M.E. Church, served as keynote speaker.

The event also received a special City of Cincinnati proclamation from Mayor Roxanne Qualls proclaiming February 27 as "Greater Cincinnati/Miami Valley Chapter of Blacks in Government Day" in Cincinnati.

Nancy Mazzuckelli, DOE; Rachel Luckey, Fluor Daniel Fernald; Ray Knight, Babcock & Wilcox; Darlene Hicks, Missionary Outreach Services, and Dr. Barbara Twitty, House of Refuge Missions, Inc., received Honorary Awards for their community involvement work.

BIG was organized in 1975 as a non-profit organization that functions as a knowledgeable, problem solving organization for black civil servants.



Above: Diversity Award recipient Rachel Luckey stands with Ed Zobrist, Fluor Daniel Fernald vice president (left) and Donald Lee (right) who served as master of ceremonies (7070-D0011).



Left: African rhythms fill the Services Building conference room during Black History Month as drummer Marcel Monroe gets some help from the audience (7051-D0018).

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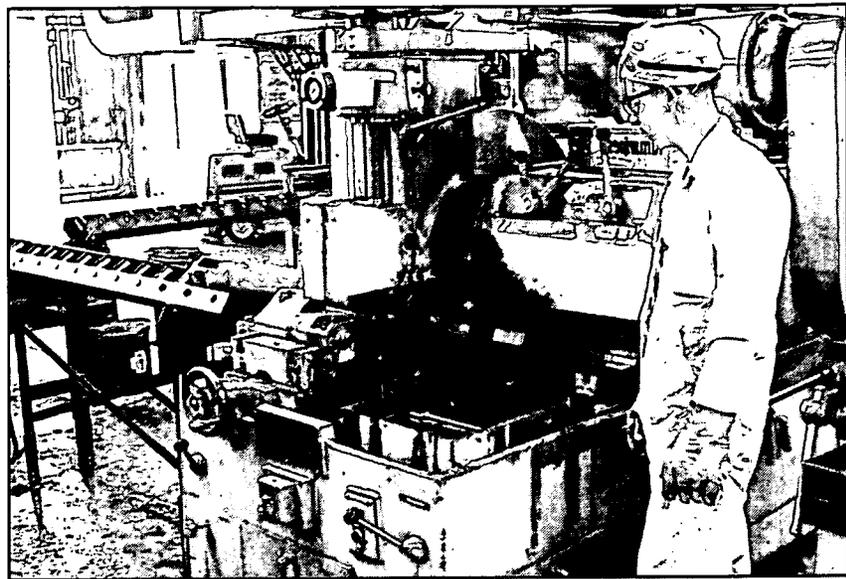
## Fernald Health Effects Subcommittee

A Citizens' Advisory Forum on Public Health Issues

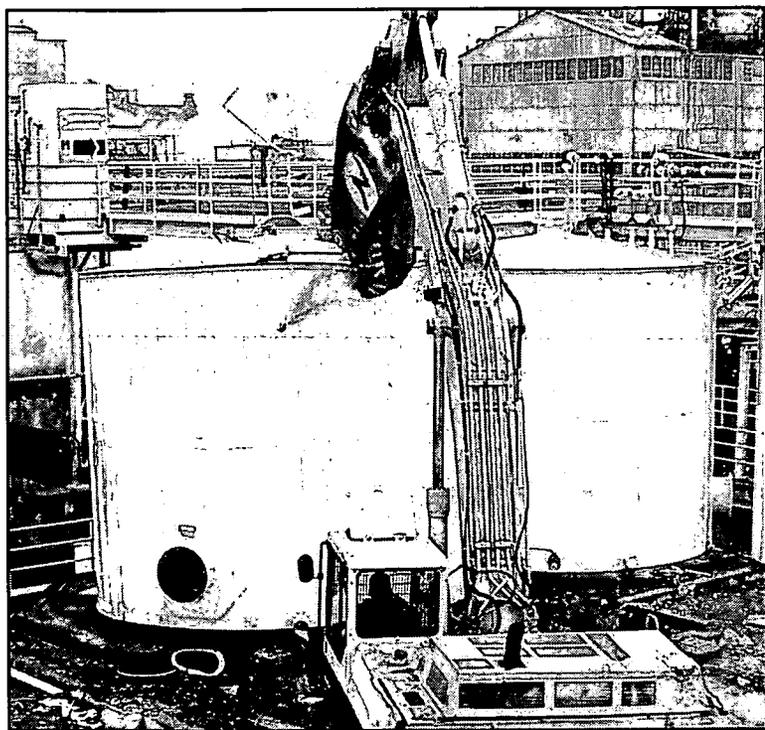
Since the spring of 1996, thirteen members of the community have sought to provide community-based advice and recommendations to the Centers for Disease Control and Prevention (CDC) and the Agency for Toxic Substances and Disease Registry (ATSDR) concerning the agencies' public health activities at the former Feed Materials Production Center (FMPC).

These citizens continue to look into issues to determine if historic releases from the site adversely affected the health of workers and communities surrounding the plant. At a recent meeting, presentations were made on several upcoming reports. The Fernald Medical Monitoring Program will issue its report in May 1999 and an ATSDR study on possible chemical exposure in the Fernald community will be available in September. In addition, another study is being conducted by the National Institute of Occupational Safety and Health (NIOSH) to look into workers who processed uranium and a possible link to kidney disease and cancer.

Meetings are held quarterly and are open to the public. For more information, contact Steven Adams from the CDC at (770) 488-7040.



*Above: This 1954 photograph was taken in Plant 5 where the tops were cut off ingots to remove impurities. The tops were later recycled (89-212-1).*



## Seeing is believing

If you would like to see Fernald cleanup activities firsthand, plan to attend the May 11, Cleanup Progress Briefing bus tour.

The bus will depart from the Alpha Building, 10967 Hamilton-Cleves Highway, at 6 p.m. and return around 8 p.m. Some of the projects you will see on the tour include: the Waste Pits waste handling/treatment facilities and rail yard; construction of the On-Site Disposal Facility and soil excavation activities, and demolition of the Tank Farm.

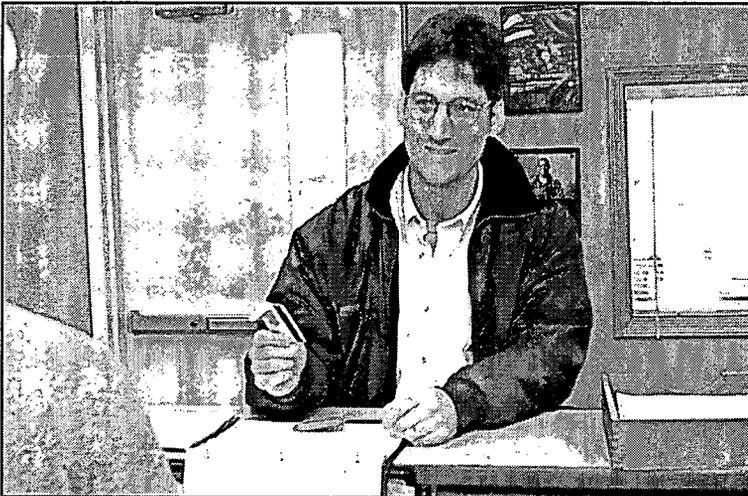
To tour the Fernald site, all guests must preregister by Friday, May 7. Contact Jeannie Foster, at 513-648-5883 or email: [jeannie\\_foster@fernald.gov](mailto:jeannie_foster@fernald.gov).

*Left: One of the projects that will be completed prior to the tour is the Tank Farm, which stored chemicals and wastewater during Fernald's production years (7025-D0040).*

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# Recent Tours

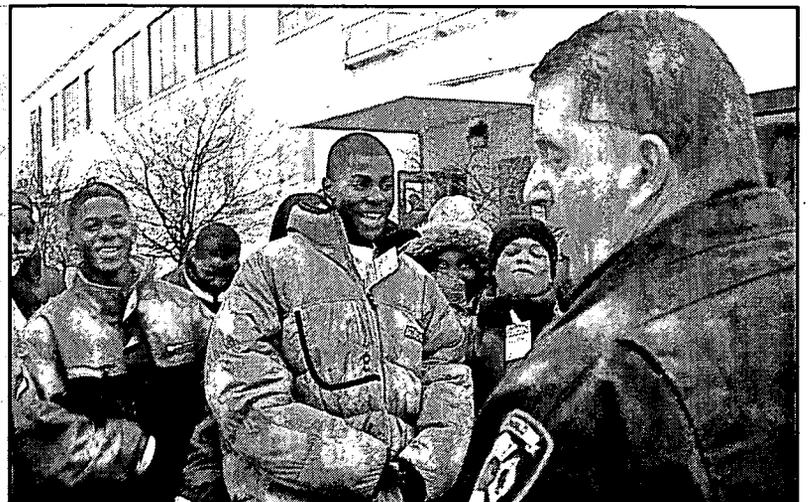
**O**n February 24, the Board of Directors for the International Technologies (IT) Group held their quarterly meeting at Fernald. Upon arriving, they were welcomed by Jack Craig, DOE director and John Bradburne, Fluor Daniel Fernald president and CEO. IT was awarded an eight-year subcontract in 1997 to excavate and treat the waste pits (6810-0188).



**J**osh Silverman is a PhD. candidate at Carnegie Mellon University in Pittsburgh, PA. and is currently working on his dissertation entitled: *No Immediate Risk: Environmental Safety in American Nuclear Weapons Production, 1942-1996.* Mr. Silverman is doing an analysis of changing environmental safety knowledge, standards and practices at selected former nuclear weapons production facilities.

*Left: Besides his tour of Fernald, Silverman has visited Hanford and the Nevada Test Site to gather information on worker safety and public health (6810-D0189).*

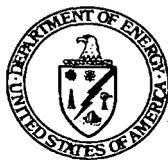
**R**on Williams of the Fernald Fire Department discusses emergency preparedness activities with students from Mt. Healthy High School during a recent tour (6810-D0186).



## New documents added to the Public Environmental Information Center

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

- Soil Characterization & Excavation Project
  - ◊ U.S. Environmental Protection Agency (EPA) enforceable milestone met, placement of one foot protective cover in Cell 2
  - ◊ Revised Project Specific Plan for Area 9, Phase I Precertification Physical Sampling
  - ◊ Revised Project Specific Plan for the Area 9, Phase I Precertification Real-Time Scan
  - ◊ Waste Acceptance Criteria Attainment Report for Area 7 Soils (Silos Project Area)
  - ◊ Addendum to the Waste Acceptance Criteria Attainment Report for Area 7 Soils (Silos Project Area) - Waste Acceptance Criteria Characterization of a Section of the Pilot Plant Drainage Ditch
  
- Facilities Closure and Demolition Project
  - ◊ Operable Unit 3 Plant 5 Complex Implementation Plan for Above-Grade Decontamination and Dismantlement
  
- Silos Project
  - ◊ Silo 3 Project Remediation Contract Award
  
- Aquifer Restoration Project
  - ◊ Operating Report for the Re-Injection Demonstration
  - ◊ Notification of an Exceedance of 20 ug/l Monthly Average Uranium Concentration at the Parshall Flume
  
- Miscellaneous
  - ◊ EPA response to issues regarding the National Emission Standards for Hazardous Air Pollutants and Air Monitoring Stations
  - ◊ The Integrated Environmental Monitoring Status Report for the third quarter of 1998
  - ◊ Resource Conservation and Recovery Act/Comprehensive Environmental Response, Compensation and Liability Act Integrated Closure Implementation Document for the Crane Incinerator, UNH Tanks and Hot Raffinate Building
  - ◊ Site Treatment Plan Annual Update
  - ◊ DOE Responses to U.S. and Ohio EPA Comments on the Draft Integrated Environmental Monitoring Plan
  - ◊ Ohio Environmental Protection Agency Discharge Monitoring Report for Fernald
  - ◊ Draft Community Transition Plan.



### Fernald Report

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