

# fernal Report

- Assistant Secretary Roberson tours Fernald
- Sept. 11- One year later
- Back to school

Sept/Oct 2002



## Assistant Secretary Visits Fernald

**O**n July 7, Assistant Secretary of Energy for Environmental Management (EM), Jessie Roberson spent several hours touring the Fernald project. She also met with union leaders, regulators from both U.S. and Ohio EPA's as well as stakeholders from the Fernald Citizens Advisory Board and FRESH. Fernald was one of several stops made over a two-week period as the Assistant Secretary "walked her space," at the EM sites.



Our objective during the visit was to get the Assistant Secretary out in the field, to see the work our people are doing first-hand. During her tour she walked down all of the major projects and spoke to DOE and Fluor Fernald project managers. Following the tour, she told our employees that she was impressed and energized by the amount of work taking place.

Also during her visit, Ms. Roberson took the opportunity to meet one-on-one with representatives from each of Fernald's three main labor unions. Later, she talked to stakeholders about EM's accelerated cleanup strategy and issues pertaining to long-term stewardship. I think a solid level of mutual trust was established through these meetings.

The Assistant Secretary expressed her confidence that completing cleanup work by 2006 is achievable while reinforcing the need to do this work safely. On several occasions during the tour, I overheard Ms. Roberson remark how "doable" completing the cleanup by 2006 was. I couldn't agree more. As long

as we continue to safely plan and execute the work, our people have proven they can deliver. I congratulate everyone for the success of Ms. Roberson's visit.

Steve McCracken  
Director, DOE-Fernald

*On the cover: DOE-Fernald Associate Director Johnny Reising points out the wetlands area to Assistant Secretary Environmental Management Jessie Roberson as they stand atop Cell 1 of the On-Site Disposal Facility (7832-d0041).*

One by one, the buildings at Fernald are continuing to come down. To date, workers have demolished 109 of the 223 structures.

Crews recently completed decontamination and dismantlement (D&D) of the former Safety & Health Building (S&H), Thorium Warehouse and Old Plant 5 Warehouse. D&D of the S&H Building was significant because it was only the third administrative building to come down at the site. The next administrative building scheduled for dismantlement is the Laboratory Building with D&D activities expected to begin in December.

With D&D wrapped up at the S&H Building, Mactec, Inc. continues cleanup efforts on the General Sump, Pilot Plant and Plants 2, 3 and 8. Fluor Fernald awarded Mactec a Demolition Closure Contract in August 2001, which allows Mactec to complete all remaining major D&D work on site. The use of a single contractor is a new concept, which increases productivity by allowing for a smoother transition between projects. Work crews are able to work between the various projects as needs change.

Current D&D activities include: asbestos abatement; removal of equipment, piping, lead and interior transite; washdown and size reducing of debris and placement into roll-off boxes. Decontamination and dismantlement of Plants 2, 3, 8 and the General Sump will be completed by September 2003 and the Pilot Plant is scheduled for completion in March 2004, which will finish work on the 10 former production facilities.

## D&D cleanup efforts continue



*Above: The Safety & Health Building was the third major administrative structure to be demolished at the site. Removal of the structure allows clear view from the front of the administrative area to the back of the former production area (7565-d0176).*

# Cleanup **Progress** Update

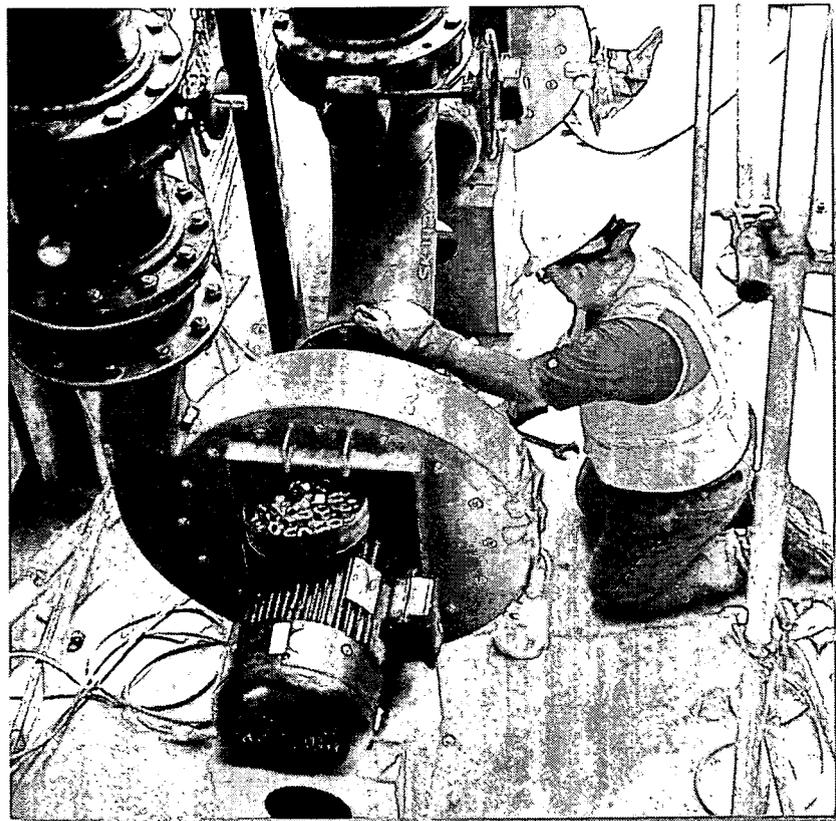


## Waste Pits Remedial Action Project (WPRAP)

- Safely transported trains (#61 - #65) to Envirocare of Utah during July/August
- Excavation continues in Pits 1, 3 and 5
- Waste dryers operating 24 hours per day, seven days a week
- Removed the hypalon cover on Pit 4 to begin excavation of the cap/cover material

## Silos Project

- Completed excavation of contaminated soil from footprints of the Silos 1 and 2 treatment facility, warehouse and rail spur
- Turned over the Accelerated Waste Retrieval electrical building, control room, dryer/chiller and carbon beds to operations personnel
- Continued work on the Silo 4 Reinforcement Project, a preliminary mock-up activity in preparation for Silo 3 waste retrieval operations
- Awarded a subcontract for construction for the Silos 1 and 2 treatment facility concrete mat foundation



*Above left: Workers remove the hypalon cover on Pit 4 before excavation of the clay cap (6944-d2193).*

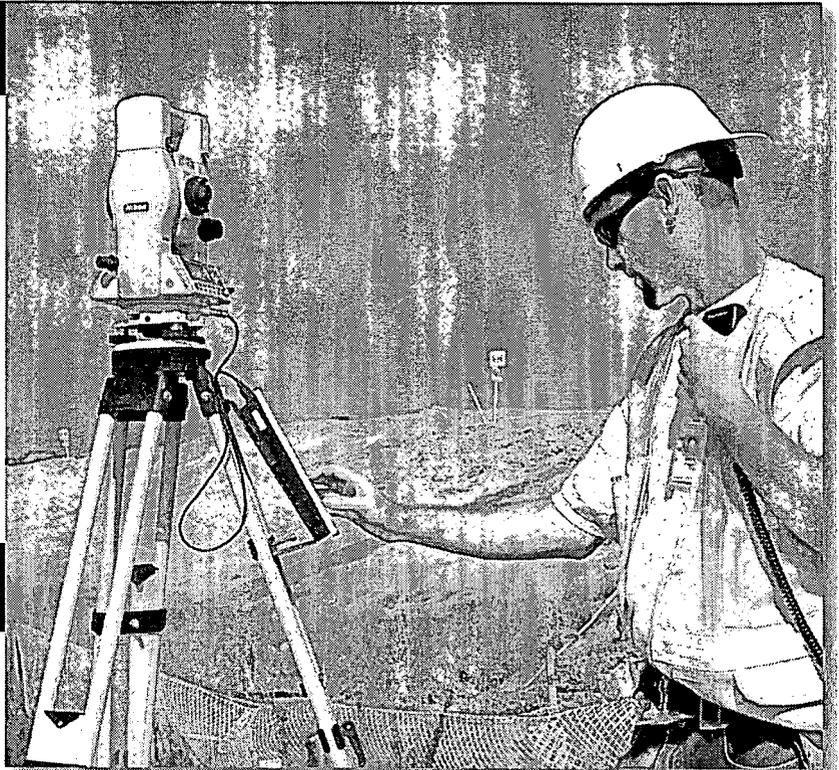
*Left: A pipefitter tightens a pipe flange on one of two Radon Control System Exhaust/Recirculation Fans (7385-d1969).*

## Soil and Disposal Facility Project

- Continued liner construction of Cells 4 and 5
- Continued clay screening in the Borrow Area for Cell 2 cap construction
- Continued excavation of soil in northeastern quadrant of the former production area
- Continued excavation of the two lime sludge ponds in the production area
- Continued operation of the bulk debris staging at the On-Site Material Transfer Area; over 1,461 roll-off boxes have been emptied to date
- Completed placement of D&D debris into Cells 2 and 3

## Aquifer Restoration/Wastewater Project

- Completed well drilling and development of relocated replacement injection wells 8 & 9 and new injection well 10A
- Awarded a new contract for the construction of infrastructure for three injection wells
- Completed construction of modifications and infrastructure enhancement to the three portable lab trailers located south of the AWWT, which will be used to provide a portion of laboratory functions when the existing lab is dismantled
- Began modification work on the Sewage Treatment Plant east aeration tank
- April/May totals: extracted 419,053,000 gallons of groundwater; treated 193,728,000 gallons of groundwater; removed 241 net pounds of uranium from the aquifer



*Top: An Estes Engineering surveying technician uses the remote control prismless total station to provide highly accurate measurements for development of the multi-layer liner and cap. This advanced system eliminates the need to enter potentially hazardous work areas (7385-d1969).*

*Above: To reduce the risk of spreading contamination, truck wheels are washed with a high-powered water sprayer before the trucks exit a contaminated area (7818-d0087).*

# Cleanup **Progress** Update



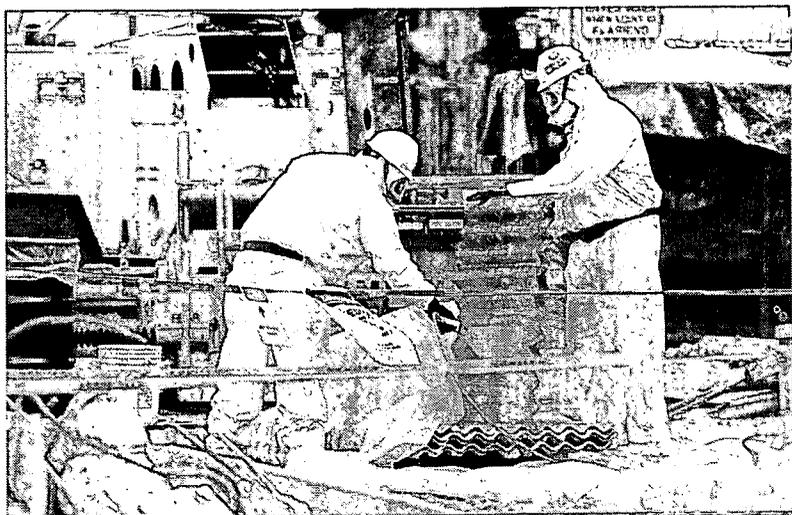
## Demolition Projects

### Decontamination & Demolition (D&D)

- Multi-Complex (Plants 2, 3, 8, Pilot Plant, Building 64/65, Health & Safety Building and General Sump)
  - ◇ Completed structural demolition of the Safety & Health Building
  - ◇ Asbestos abatement; removal of equipment, piping, lead and interior transite; gross washdown and size reducing debris and placement in roll-off boxes continues in Plants 2, 3 & 8
  - ◇ Continuing to establish building enclosures and temporary power in the Pilot Plant

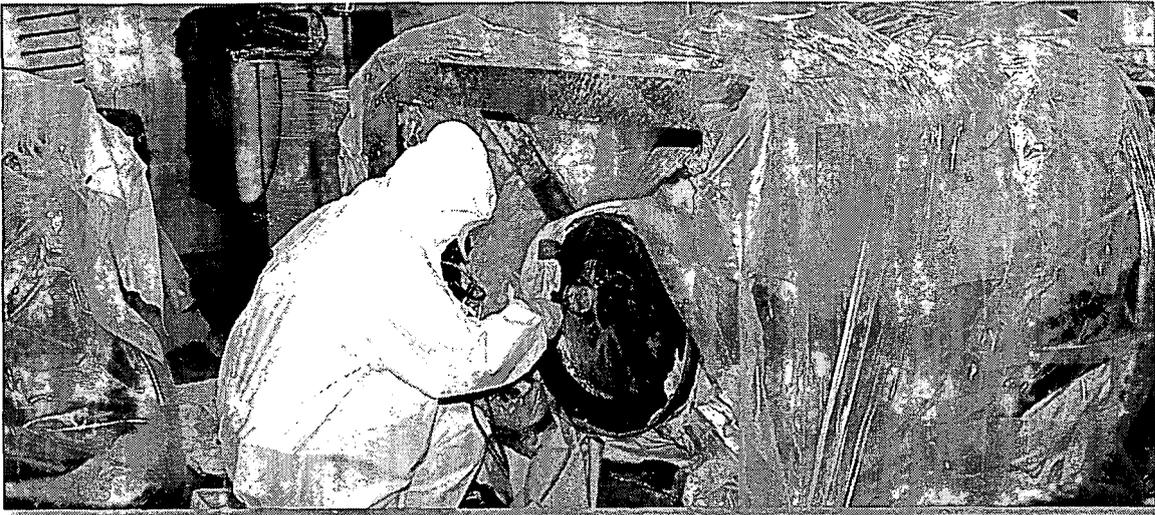
## Waste Management Project

- Low Level/ Uranium Waste Project
  - ◇ Continued characterization and visual inspection of containers
  - ◇ Continued packaging of materials for shipment to the Nevada Test Site
  - ◇ Completed shipment of non-hazardous, non-radiological contaminated excess solids
  - ◇ Completed shipment of silver recovery solutions
- Liquid Mixed Waste Bulking Project
  - ◇ Submitted Batch 12 liquid mixed waste application to the Toxic Substance Control Act (TSCA) Incinerator and the State of Tennessee for approval
- Inorganic Treatment Project
  - ◇ Awaiting application approval for Batch 12 liquid mixed waste to the Toxic Substance Control Act (TSCA) Incinerator and the State of Tennessee for approval



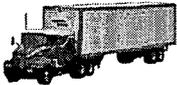
*Top left: A Mactec laborer sprays an encapsulant on the former Pilot Plant. The encapsulant significantly reduces the spread of asbestos fibers/contamination during dismantlement (6254-d0275)*

*Left: Mactec laborers remove exterior transite from Building 39A. The transite is placed on pallets and transported to the On-Site Facility for Disposal (6254-d0275).*



Left: Bryan Cornett, a Waste Management hazardous waste operator sprays an encapsulant on the inside of a T-hopper to control the spread of contamination. The T-hopper will be re-wrapped and placed in storage until disposal at a later date (7855-d0003).

## Fernald Shipments – July / August 2002

Contents / Destination	Shipment Mode	Number of Shipments	Monthly Total	FY02 Total	Approximate Project Totals	
<div style="border: 1px solid black; padding: 2px; display: inline-block;">Contents / Destination</div> <b>Low-Level Waste</b> (Nevada Test Site)		23	33,123 cu. ft.	220,722 cu. ft.	6.18 million cu. ft.	
<b>Mixed Waste - Materials &amp; Energy Corporation at Oak Ridge</b>		0	0 cu. ft.	1,039 cu. ft.	1,039 cu. ft.	
<b>Liquid Mixed Waste - Toxic Substance Control Act Incinerator at Oak Ridge</b>		0	0 gal.	5,465 gal.	147,360 gal.	
<b>Nuclear product/materials (Portsmouth)</b>		<b>COMPLETED</b>			451,305 net lbs. or 181.6 metric tons uranium	9,083,388 net lbs. or 3,541.1 metric tons uranium
<b>Soil and debris - On Site Disposal Facility</b>		N/A	60,000 in-place cubic yards	182,000 in-place cubic yards	815,000 in-place cubic yards	
<b>Waste Pits Project (Envirocare of Utah, Inc.)</b>		5 unit trains (301 railcars)	32,397 tons	123,578 tons	409,164 tons	

Graphics # 5949

## Cold loop test: exactly what does that mean?

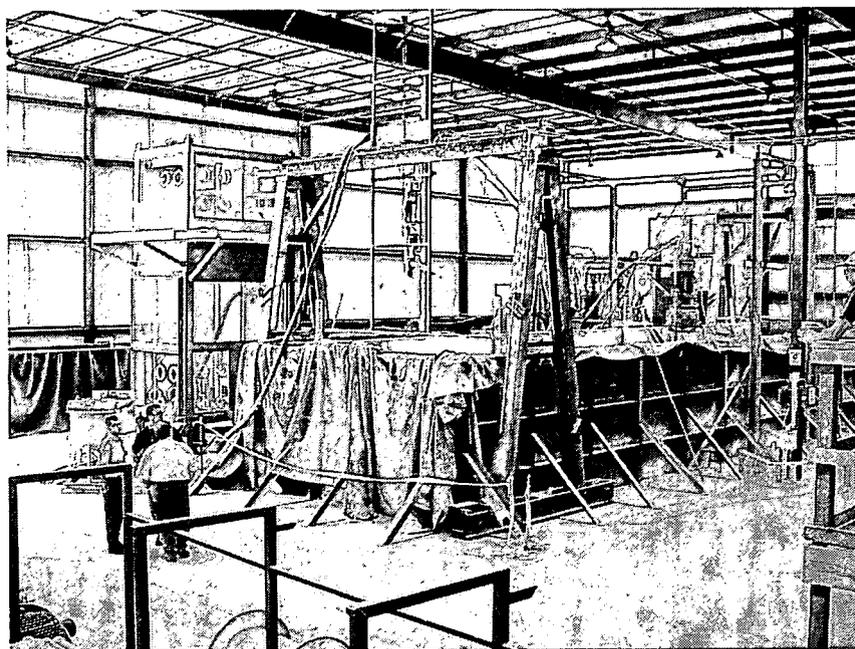
A few months ago, the Fernald Silos Project started a series of cold loop tests to evaluate the proposed Silos 1 and 2 Accelerated Waste Retrieval system. To conduct a cold loop test, engineers must build small-scale test systems and run non-radioactive surrogate material through them. The resulting data collected is then used to validate, modify and optimize system component design.

At Fernald, it all began with an effort by the Department of Energy (DOE) and prime contractor Fluor Fernald to verify and make required modifications to material retrieval concepts previously proposed by former silos subcontractor Foster Wheeler. In October 2001, the DOE Office of Science and Technology (OST) helped organize a technical meeting between Fluor Fernald and experts from private industry, universities, National Labs, and other DOE facilities. The team spent two days discussing sluicing and pumping systems design and then recommended that Fluor Fernald and its collaborators build a trial system to run tests on surrogate material.

The group subsequently wrote a test plan and developed a schedule so that results could be delivered to engineers in time for them to incorporate any changes into the final design.

The cold loop tests, conducted in Oak Ridge, Tennessee, utilized two separate test loops. The Integrated Test Loop evaluated the waste retrieval operation as a whole, and the Component Test Loop evaluated individual equipment components. To ensure accuracy, engineers calibrated all the pressure, flow and mass flow instruments before the testing began.

It was truly a collaborative effort. Representatives from Oak Ridge National Labs and Battelle, both sponsored by OST, developed the formal test plan. Jacobs Engineering provided Accelerated Waste Retrieval design oversight and captured lessons learned in real time during the test runs. Fernald Atomic Trades and Labor Council (FAT&LC) members observed some of the tests and Fluor Fernald not only served as the design authority but was responsible for project management and transferring operations and maintenance results to Accelerated Waste Retrieval personnel. Representatives from DOE, Fluor, Jacobs Engineering, the US Environmental Protection Agency, the Ohio Environmental Protection Agency, the Defense Nuclear Facilities Safety Board, and FAT&LC all visited the Oak Ridge site during the cold loop test.



*Above: Engineers will use the recent Fernald Silos Project cold loop test to evaluate Silos 1 and 2 Accelerated Waste Retrieval system component designs (7862-01; photo by Gene Jablonowski).*

## Night of the Roundtable

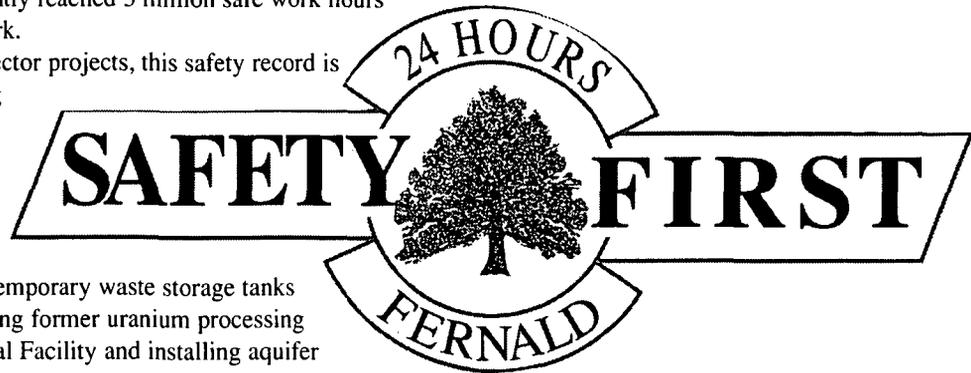
Fernald stakeholders, regulators and project personnel gathered on site Tuesday evening, September 10, 2002 for a Silo 3 Technical Roundtable meeting. After a short introduction by DOE-Fernald Project Manager Nina Akgunduz, the group discussed licensing and regulatory issues, the proposed remedial process, facility design, operations, worker safety and transportation.

A few out-of-town guests were also in attendance. Brian Pittenger, representing Jenike and Johanson, discussed material handling; Ken Alkema, from Envirocare of Utah, spoke about worker safety at his facility in relation to the Silo 3 material; and Jhon Carilli presented possible plans for safe Silo 3 waste disposal at the Nevada Test Site. For further information, please contact Gary Stegner at (513) 648-3153 or by e-mail at [gary.stegner@fernalddoe.gov](mailto:gary.stegner@fernalddoe.gov).

## Five million and counting

The Greater Cincinnati Building and Construction Trades Council, which represents 400 construction craft workers at the Fernald site, recently reached 5 million safe work hours without a lost-time day from work.

When compared with other private sector projects, this safety record is even more noteworthy because working with Fernald's low-level radioactive materials presents a unique challenge. Over the last 10 years, the Building Trades Council has supported the site's major cleanup projects by dredging material from waste pits, constructing temporary waste storage tanks for three aging concrete silos, dismantling former uranium processing plants, constructing the On-Site Disposal Facility and installing aquifer injection wells.

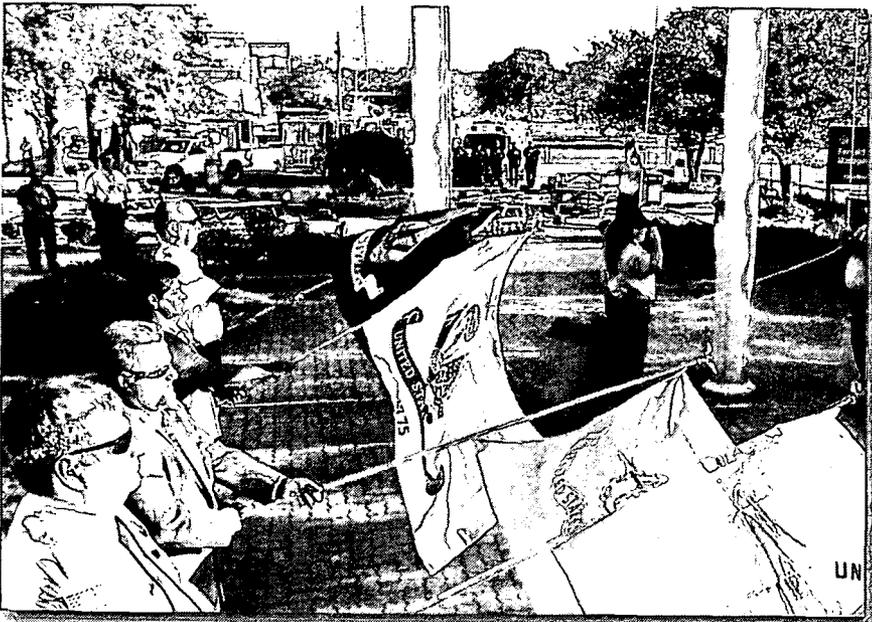


## Workforce skills and numbers change as cleanup progresses

Identifying the immediate and long-term skills needed to safely carry out the Fernald cleanup is a difficult task. Each project is different from beginning to end. Some jobs require extensive engineering and safety analysis, while others require regular field quality assurance checks and significant labor support. Each division director must know where the people are needed to make optimum use of the Fernald workforce.

The number of Fernald employees has changed significantly over the last six years. In the past, Fluor Fernald relied on normal attrition to control labor costs and responded to specific skill needs by moving employees into job vacancies. Attrition and voluntary separation programs have been successful, but two involuntary separations were needed this year due to decreased needs within some support functions. In all, these involuntary separations affected approximately 140 employees.

Project management regularly reviews the skills needed to reach safe closure by 2006 and as the project moves toward closure, Fluor Fernald will try to match employees in decreasing job categories with positions best suited to their skills.



Above: During Fernald's September 11 Remembrance, employees from each branch of the military took part as Brett Kyle (background) plays Taps (7859-d0015).

## Fernald remembers

Almost 500 Fernald employees gathered near the Cold War Garden on September 11, 2002 for a ceremony to commemorate the first anniversary of the terrorist attacks on our nation. Fernald paid tribute to those who lost their lives in the tragedy and honored site security, fire and emergency response teams.

Roxanne Masters, who has been affiliated with the Cincinnati Red Cross for 19 years, was the guest speaker. Ms. Masters spent three weeks in New York City immediately following the attacks. She gave a first-hand account of Red Cross activities at Respite One, a safe and quiet haven just one block from Ground Zero, where rescue workers could go for food and relaxation. "It was awesome to work with volunteers from all over the country and be a part of the team that helped feed the fire and police departments, the military personnel and the hundreds of union workers at Ground Zero," she said.

## United Way wins during Fernald golf outing

With the Fluor Fernald United Way Campaign fast approaching, the \$100,000 goal got a little bit closer as Fernald Golf Outing hole sponsors and participants kicked in nearly \$6,000. "Our people have always been willing to give back, even when times are tough," said Jamie Jameson, Fluor Fernald executive project director. "It's gratifying to see what these folks will do when you ask." More than \$1,000 of the total raised by the outing will go to New Beginnings, a home for abused girls.

The United Way Campaign officially begins Sept. 26 and runs through October. Fernald's campaign is the second largest in the Middletown region, surpassed only by A.K. Steel's.

Right: Cookouts have long been a staple of Fernald United Way campaigns. The Fluor grill team includes (from left to right) Rodney Joash, maintenance laborer; Nelson Cornist, maintenance oiler and Dan Billingsley, hazardous waste technician (7660-d0028).

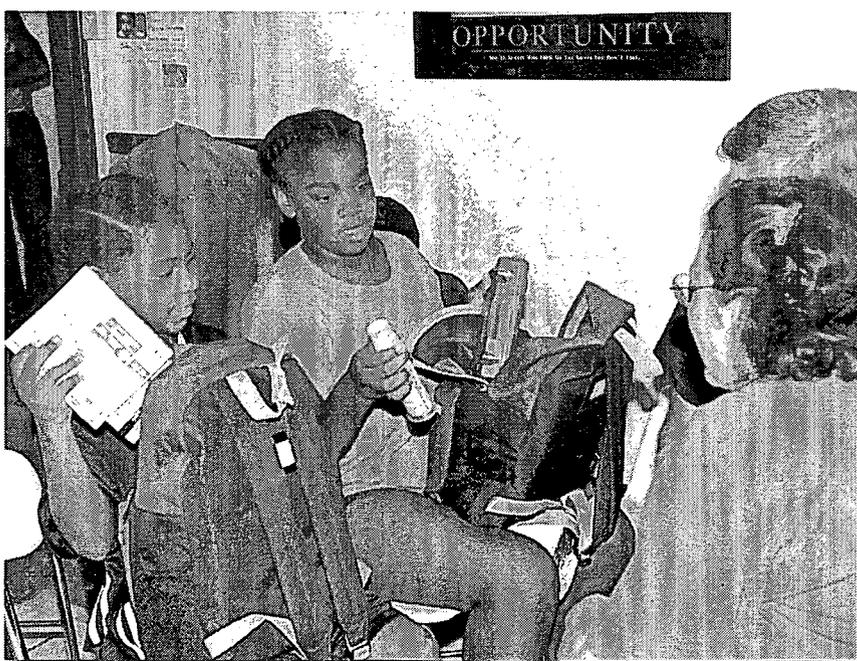
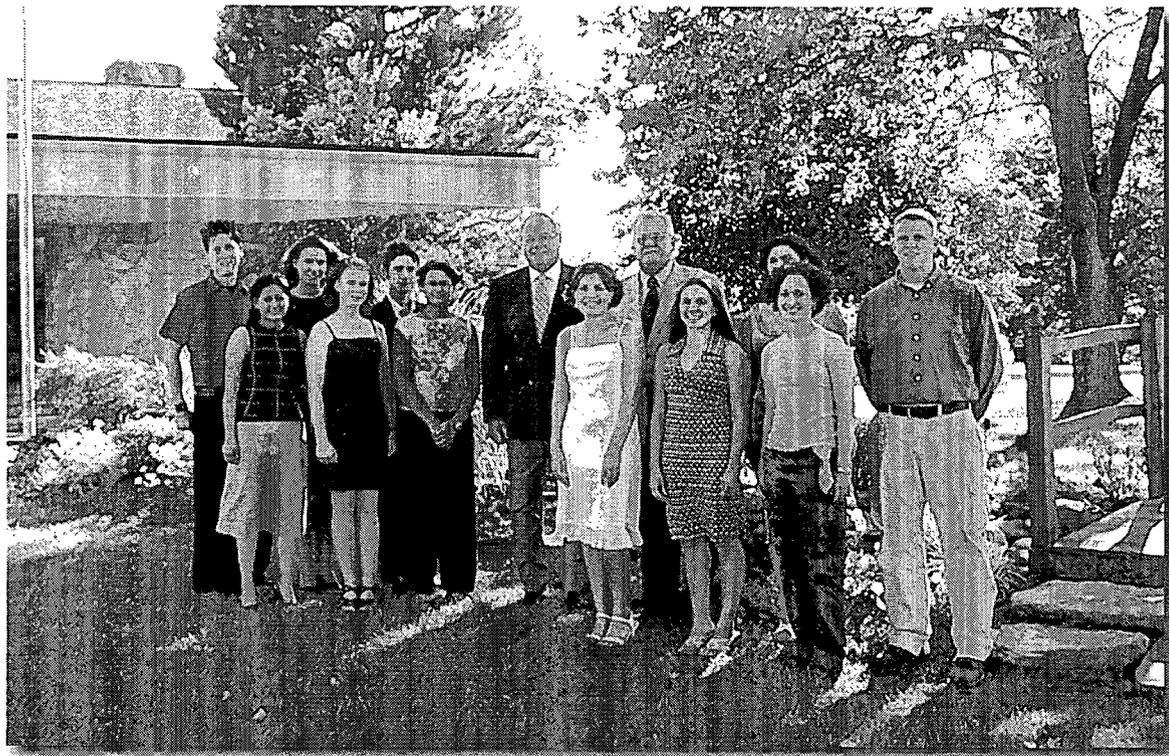


## A winning combination

The Fluor Foundation recently awarded scholarships to 143 students from all over the world as part of the 2002 Fluor Scholarship program. Eleven of those recipients are sons and daughters of Fluor Fernald employees: Aaron Airgood, Jessica Anderson, Andrea Hughes, Amber Limerick, Elizabeth Maurer, Shannon Patterson, Jenna Rump, Joshua Singhoff, Anjuli Sinha, Warren Sizemore, and Sara Wertman.

Citizens Scholarship Foundation of America (CSFA), the nation's largest private-sector scholarship and educational support organization, selected the recipients of the 2002 Fluor Scholarship Program. The organization manages the program and maintains impartiality during the selection process. Selection is based upon nonacademic pursuits such as extracurricular activities, work experience, career goals and outside references as well as purely academic factors.

*Left: Fluor scholarship winners and their parents are treated to a dinner at Beckett Ridge Country Club (7833-d0001).*



*Above: New backpacks filled with supplies will give these eager students a fresh start for the school year, thanks to the generosity of Fernald employees (7849-d0008).*

## I love the smell of crayons

Going back to school should be an exciting experience for all children. Unfortunately, having the required supplies and owning new backpacks, things generally taken for granted, are only dreams for many children.

Once again Fernald employees teamed up with Project Connect, an agency that works with homeless families, to ensure disadvantaged students are prepared for the new school year. Fernald volunteers stepped up to the challenge and distributed backpacks, crayons, markers, folders, scissors, pencils to eight homeless shelters in Cincinnati. They also dispersed extra funding to purchase shoes and other essentials for that all-important first day of school. Fernald employees generously donated the school supplies and the Fluor Foundation furnished the new backpacks.

## 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):

- Waste Pits Remedial Action Project
  - ◇ USEPA Approval – Direct Haul of Additional Bulk Materials to the Waste Pits Remedial Action Project
- Soil and Disposal Facility Project
  - ◇ OEPA Approval – Final Southern Waste Units Accelerated Natural Resource Restoration Design Plan and Response to Comments
  - ◇ OEPA Approval – Baseline Groundwater Conditions at the On-Site Disposal Facility
- Decontamination and Demolition Project
  - ◇ USEPA Approval – Commingling of Debris in the Administration Complex
  - ◇ OEPS Approval – D&D Plan for the Lab Complex
- Silos Project
  - ◇ Draft Revised Remedial Design Package for the Silos 1 and 2 Accelerated Waste Retrieval Project

*Note: This does not represent the complete list of new documents added to the PEIC. Contact the PEIC, 513-648-5051 for a complete list of new documents.*

## We've moved!

The Public Environmental Information Center (PEIC) has moved from its former location on Hamilton-Cleves Highway to the Fernald site near the Security Offices. The Administrative Record, DOE Public Reading Room and Post Record of Decision files are still available in the new space. The PEIC is open 2 days a week or by appointment, 513-648-5051.



### Fernald Report

Gary Stegner, Public Affairs Officer  
U.S. Department of Energy  
Fernald Environmental Management Project  
P.O. Box 538705, Cincinnati, OH 45253-8705  
Telephone: 513-648-3153,  
E-Mail: [gary.stegner@fernaldd.gov](mailto:gary.stegner@fernaldd.gov)  
Fernald Web site: [www.fernaldd.gov](http://www.fernaldd.gov)

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