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fernald Report

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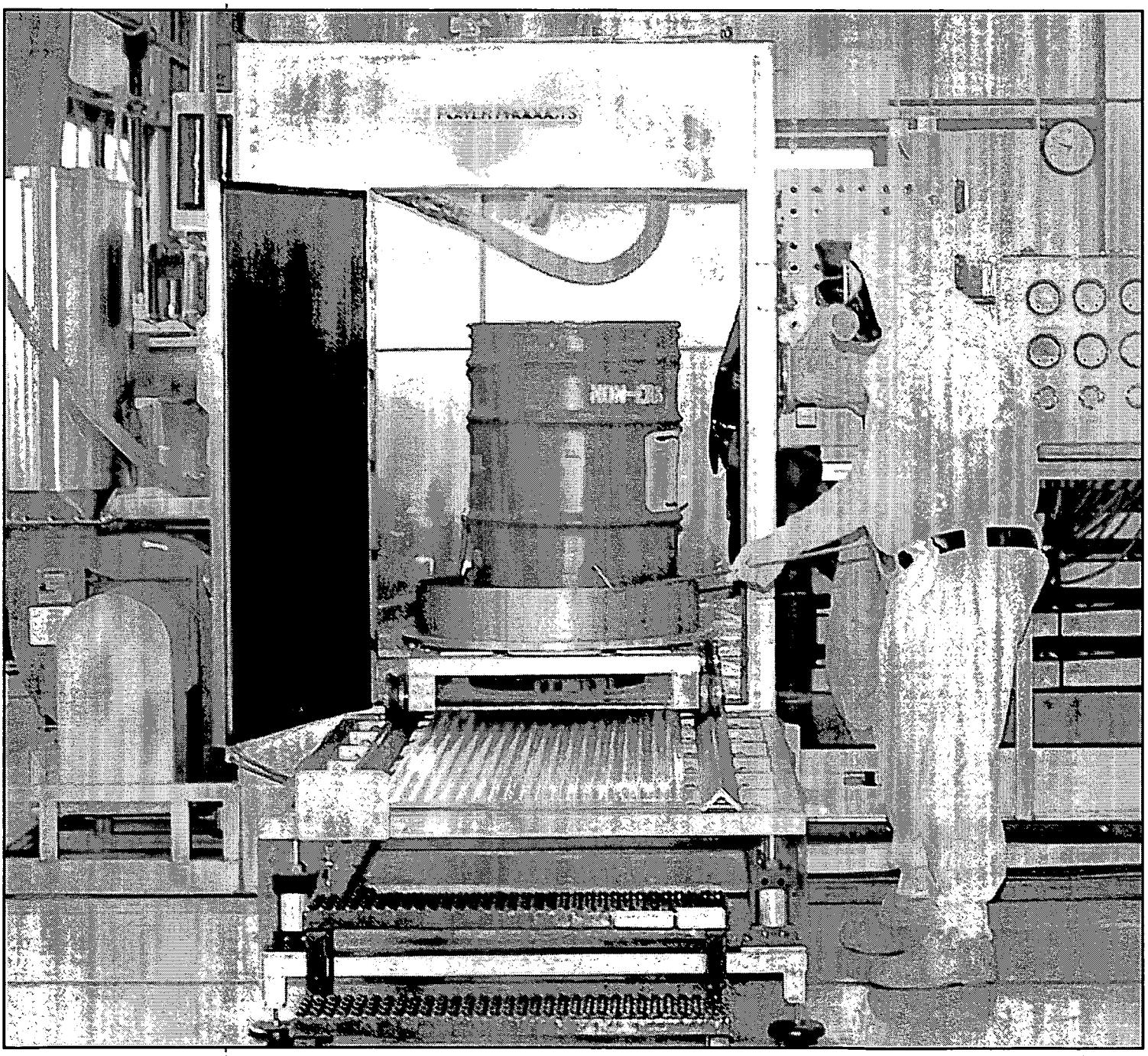
July/August 2001

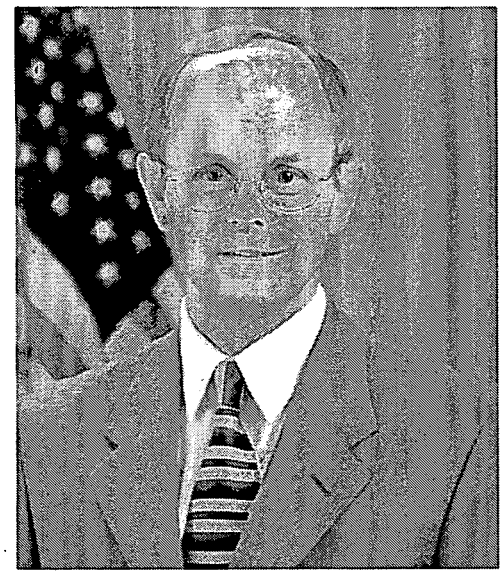


message from

Steve McCracken

Summer means lots of field work

Like most construction projects, work picks up at Fernald during the summer months. We've been busy as usual shipping waste from the pits, working on the Cell 1 cap at the On-Site Disposal Facility, demolishing Plant 6, developing conceptual designs for cleanup of the silos, shipping nuclear materials and waste offsite and treating groundwater. Fernald is an established DOE cleanup site well on its way to closure, and as we make unmistakable progress in the field everyone continues to work safely. Here is a snapshot of where our projects stand today.



The Waste Pits Remedial Action Project (WPRAP) is moving along at a brisk pace. Train 41 departed for Envirocare in mid-July, and we expect another two trains to leave here before Labor Day. Crews have removed over 250,000 tons of waste from the northwest quadrant of the site; that's about one-third of the total waste volume of the pits. Workers are actively excavating Pits 1, 2 and 3 and we expect Pit 1 will be completed this fall. Work also recently began in Pit 5.

We're right on schedule for the Cell 1 cap at the On-Site Disposal Facility. Crews installed the clay portion of the cap and recently finished placing the geosynthetic liner. They are also incorporating monitoring equipment in the cap that will detect temperature, settling and any outside intrusion from plants or animals. The cap will be over 8.75 feet thick when finished and is slated for completion in September.

The demolition of Plant 6 is on schedule and over 70 percent complete. Crews are now removing interior transite from the walls, working on interior demolition and have cleared out most of the equipment, including the large rolling mill. In January, Plant 6 will join the growing list of Fernald buildings - Plants 1, 4, 7, 9, 12 and the Boiler Plant- that have been demolished and are now just concrete pads.

Despite problems with Accelerated Waste Retrieval, DOE approved Fluor Fernald's new plans for the project. We are currently developing a conceptual design for waste treatment of Silos 1 and 2 and working with the regulators to establish new milestones. The Silo 3 team is reevaluating treatment strategy with the EPAs, DOE's Critical Analysis Team and the Fernald Citizens Advisory Board.

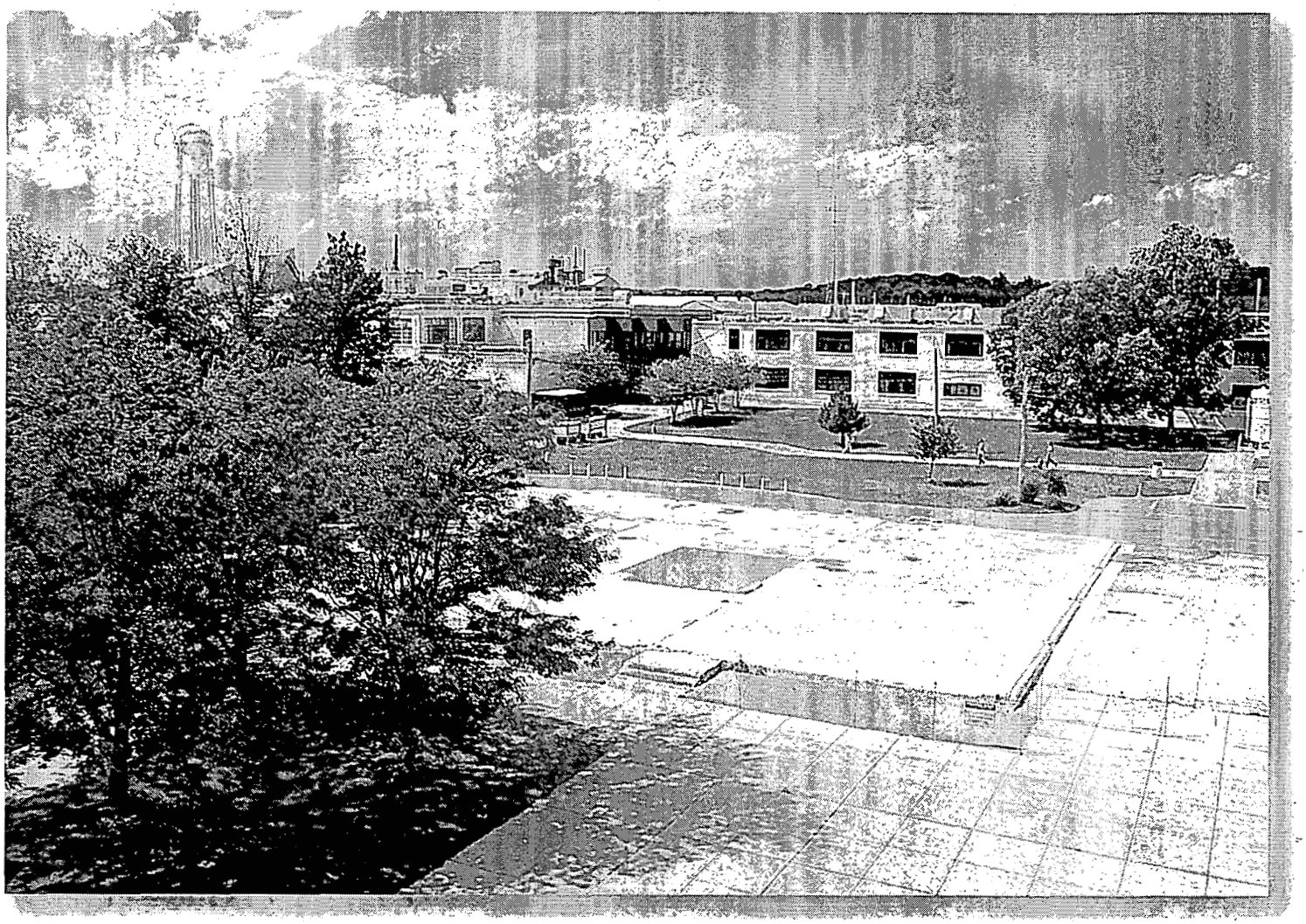
Waste and nuclear material shipments continue to leave Fernald at a steady pace. At one time, Fernald housed well over 100,000 drums of legacy waste. That number has been reduced to just over 10,000 and by June 2002 our nuclear material inventory will be completely removed.

The Advanced Wastewater Treatment Facility is pumping water from the aquifer at a rate of nearly 3,000 gallons a minute. Between Paddy's Run and the old Pilot Plant, crews are placing three more extraction wells that will help remove aquifer contamination detected by test wells and modeling. We are currently working with specialists to address the challenge of clogs in the reinjection wells. It affects the pump and treat system's efficiency because less treated water can be injected back into the aquifer, so not enough contaminated water can be directed toward extraction wells.

In summary, the Fernald cleanup is clearly moving forward. The Department of Energy offers Fluor Fernald incentives to complete the cleanup early and under budget, so work will likely accelerate. In fact, our Cost and Schedule Improvement Team received over 600 suggestions from employees on how to improve work, save money and do the job safer. That's outstanding. The project will certainly move even faster with that kind of employee interest and participation.

Steve McCracken
Director, DOE-Fernald

On the cover: *A worker in Building 56A repackages enriched uranium-bearing compounds in preparation for shipment as part of Nuclear Materials Disposition (7536D-0047).*



Where have all the buildings gone?

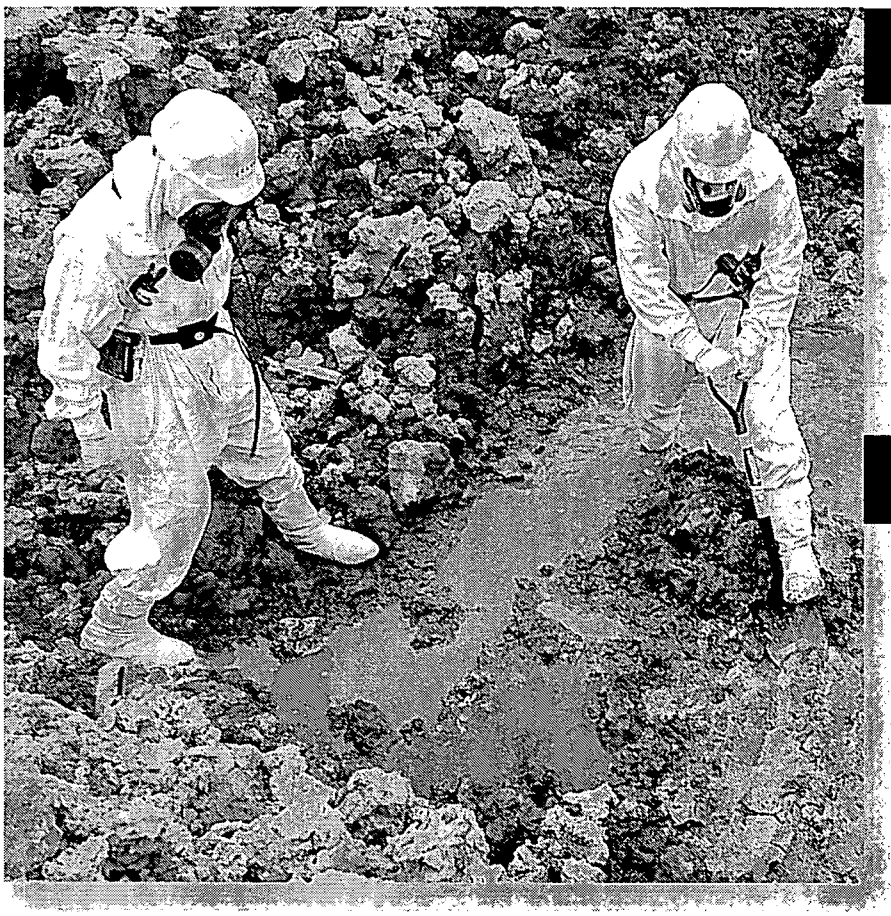
As the site approaches final closure, one thing is sure: Fernald's skyline will continually change. Crews have completed decontamination and dismantlement (D&D) of the former Metals Production Plant, also known as Plant 5, and the total number of dismantled structures continues to grow. The former Metals Fabrication Plant, or Plant 6, will soon be added to that list as well. To date, workers have demolished 92 of the more than 250 structures. Of those 92 structures, only two have been in the site's administrative area. That will change, however, with the demolition of the Safety and Health Building (S&H).

The S&H Building currently houses some very important services which must be relocated prior to dismantling activities. Most of the employees on the second floor, including the Dosimetry Department, have already moved to other areas of the site. The Medical Department, which now resides on the first floor of the building, will relocate to a 6-plex facility while the Communications Center, which presently occupies the basement of the building, will probably move to a facility near the site's badging trailer.

Fluor Fernald and DOE expect to award a demolition contract sometime in late August. Building demolition should begin in late December. "The majority of the work continues in the former production area and may not be readily visible to our stakeholders, " said Johnny Reising, DOE-FEMP Associate Director. "Demolition of the S&H building will certainly be very visible and show that we're continuing to make progress in the overall scope of the site's remediation."

Above:
The Safety & Health Building was built to accommodate a larger workforce by expanding the Services Building (7565D-0032).

Cleanup **Progress** Update

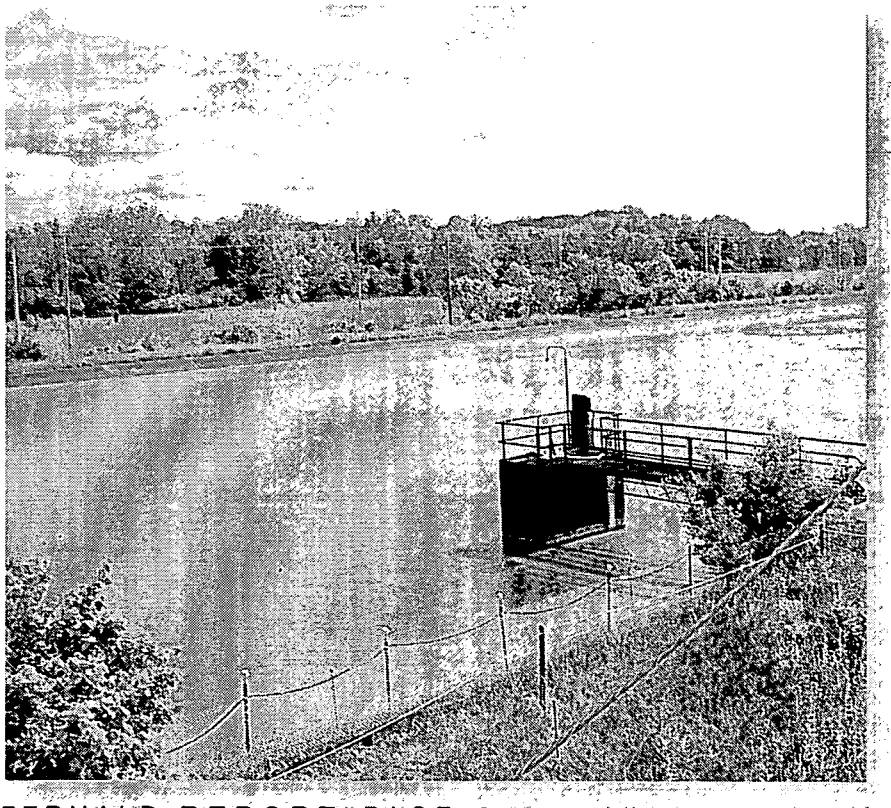


Waste Pits Remedial Action Project (WPRAP)

- Six unit trains (#36 - #41) safely transported over 33,000 tons of material to Envirocare between April and July
- Excavation continues to focus on Pit 1 (80 percent complete) and Pit 3 (50 percent complete); recently began Pit 2 excavation (5 percent complete)
- Both indirect rotary dryers are operating

Silos Project

- Approved subcontractor's final design for the Silos 1 and 2 Accelerated Waste Retrieval Project.
- Subcontractor initiated transfer activities for Accelerated Waste Retrieval.
- Initiated Conceptual Design for Silo 3 Project.
- U.S. EPA approved DOE's request for extension of the May 1 milestone for submittal of the RA Work Plan for the Silo 3 Project.
- DOE and Fluor Fernald working together with stakeholders to establish new milestones which will be submitted to EPA for review.
- Currently developing Conceptual Design for the Silos 1 and 2 Final Remedation Project.



Above left: Workers verify the integrity of the Pit 3 liner (6944D-1665).

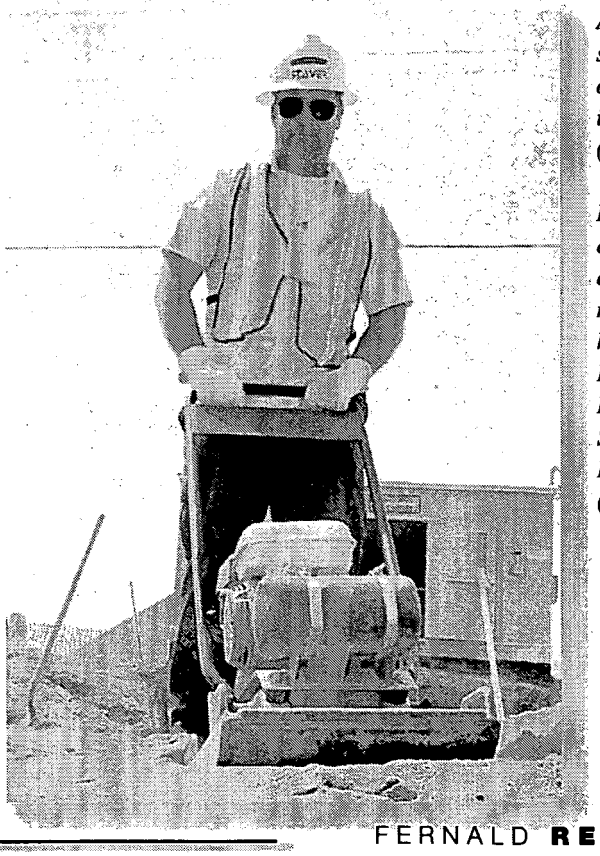
Left: Pit 5, where crews have recently begun limited excavation activities (6944D-1565).

Soil and Disposal Facility Project

- Excavated 21,000 cubic yards of soil in the South Field to meet Final Remediation Levels
- Planted 650 seedlings in Area 8 Phase II; developing closeout report for DOE
- Received 100,000 tons of stone/rock for the Cell 1 cap drainage layer and biointrusion barrier
- Continued operation of the bulk debris transfer expansion area

Aquifer Restoration/ Wastewater Project

- Submitted the Design for Remediation of the Great Miami Aquifer in the Waste Storage and Plant 6 Areas to U.S. EPA and OEPA ahead of schedule
- Began extraction well installation for Phase I of the Waste Storage Area Aquifer Restoration Module and the addition of one new well to the Phase I South Field Restoration Module
- Completed the installation and startup of the Enhanced Permanent Leachate Transmission System for the On-Site Disposal Facility
- Transmitted the *CERCLA Five-Year Review Report* to U.S. EPA
- Issued the *2000 Integrated Site Environmental Report*
- April/May: extracted 322,486,000 gallons of groundwater; treated 204,569,000 gallons of groundwater; removed 151 net pounds of uranium from aquifer



Above: Field technicians sample the soil in support of new extraction well installations (6860D-230).

Left: A subcontract employee runs a compactor over sand at a newly-constructed valve house along the Enhanced Permanent Leachate Transmission System for the On-Site Disposal Facility (7399D-0678).

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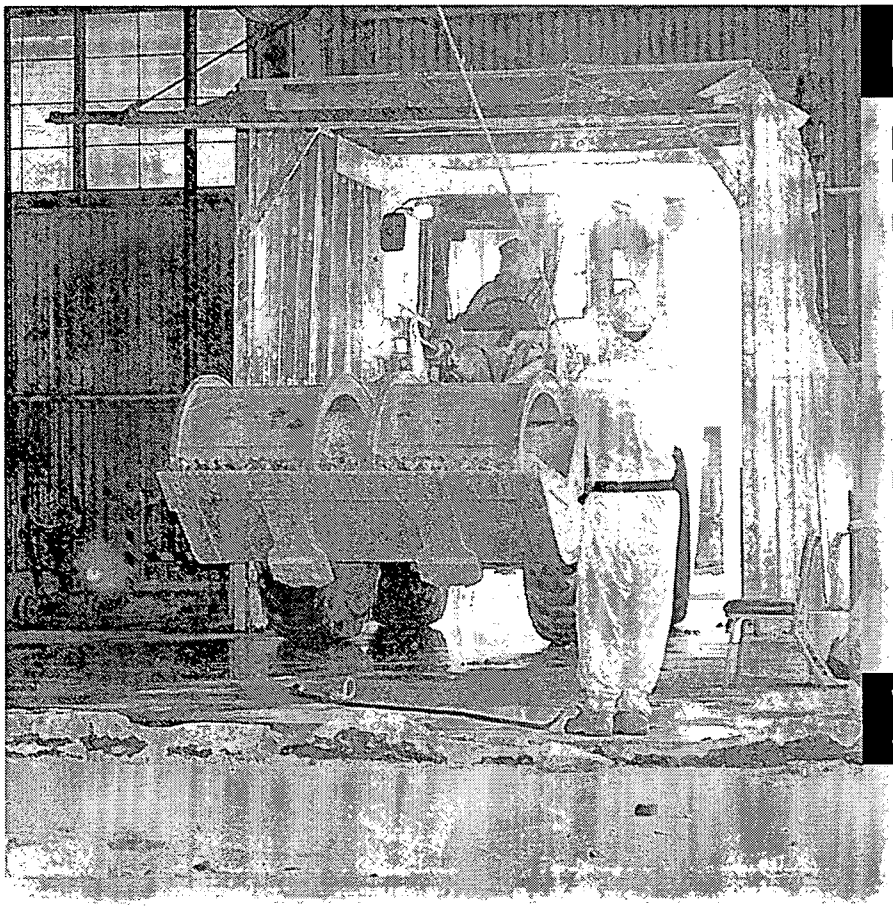
Cleanup **Progress** Update



Demolition Projects

Decontamination & Dismantlement (D&D)

- Plant 5 Complex —
  - Completed punchlist items and decontamination of all construction equipment
- Plant 6 Complex—
  - Continue interior demolition, below grade demolition and removal of equipment and asbestos contaminated material in Building 6A
  - Continued roof removal activities
- Facilities Shutdown
  - Continued isolation activities in the General Sump area
  - Providing construction support for Plant 2/3

Waste Generator Services

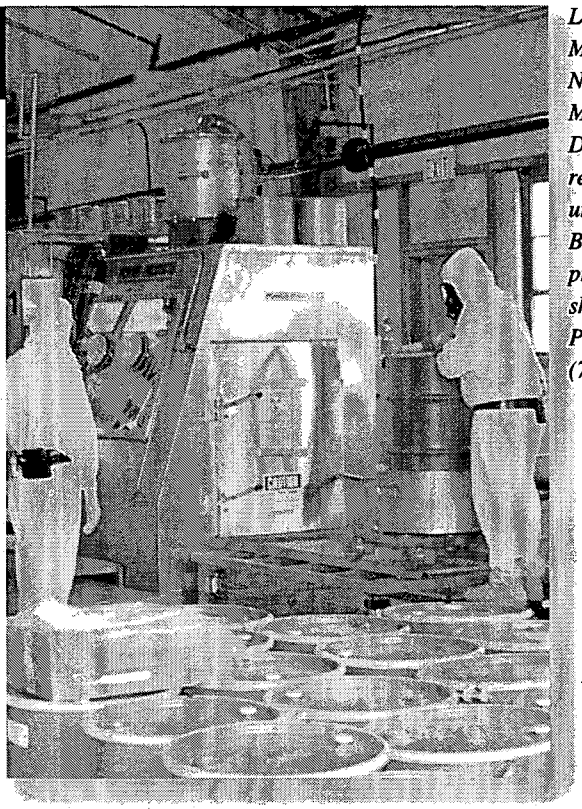
- Product shipments to DOE-Portsmouth
  - Total of 154.7 metric tons uranium (MTU) shipped in FY01 as of June 30
  - Approximately 3,336.5 MTU transferred since June 1999, representing 88 percent of the 3,801 MTU inventory destined for Portsmouth
- Other product disposition activities
  - Successfully completed Standard Startup Review of the Drum Repackaging Station in Building 56A
  - Began repackaging of miscellaneous enriched metals
- Uranium Waste Disposition activities
  - Continuing characterization and visual inspection of containers
  - Planning for repackaging of depleted metal for shipment to Nevada Test Site
  - Preparing samples of fissile metal to ship to Nuclear Fuel, Inc., in Erwin, Tennessee for treatability testing

Above: A MACTEC operator brings a load of gravel into Plant 6 to backfill the subgrade areas of the rolling mill (7414D-0025).

Right: HAZWATs vent drums on the Plant 1 pad (6639D-0838).

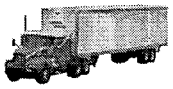
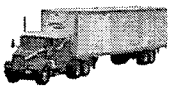
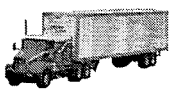
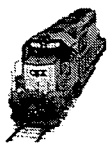
Waste Generator Services

- Thorium Legacy Waste Project —
  - Completed final shipment of thorium residues to the Nevada Test Site (NTS)
  - Completed processing and shipment of 51 containers of thoria gel
- Waste Treatment and Storage—
  - Preparing for near-term shipment of liquid mixed waste to the Toxic Substance Control Act Incinerator, contingent upon final State of Tennessee approval
  - Preparing for shipment of other selected mixed wastes to the Material and Energy Corporation at Oak Ridge
  - Completed Site Treatment Plan milestone for the shipment/disposal of legacy Advanced Wastewater Treatment Facility waste



Left: Members of the Nuclear Materials Disposition team repackage uranium in Building 56A in preparation for shipment to Portsmouth (7536D-0022).

Fernald Shipments Through June 2001

Contents / Destination	Shipment Mode	Number of Shipments	Monthly Total	FY01 Total	Approximate Project Totals
Low-Level Waste (Nevada Test Site)		34	67,337 cu. ft.	196,627 cu. ft.	5.76 million cu. ft.
Liquid Mixed Waste - Toxic Substance Control Act Incinerator at Oak Ridge		0	0 gal.	0 gal.	197,000 gal.
Nuclear product/materials (Portsmouth)		59	24,730 net lbs. or 8.5 metric tons uranium	394,626 net lbs. or 156.1 metric tons uranium	8.53 million net lbs. or 3,328.5 metric tons uranium
Soil and debris - On Site Disposal Facility		0	0	0	594,102 in-place cubic yards
Waste Pits Project (Envirocare of Utah, Inc.)		2 unit trains (124 railcars)	13,349 tons	72,615 tons	246,582 tons

Silos Project moving forward

On June 5, Fluor Fernald, Inc. and Foster Wheeler Environmental Corporation negotiated and finalized an agreement on the termination of the Silos 1 and 2 Accelerated Waste Retrieval (AWR) Project contract. As a result of this agreement, Fluor Fernald assumes management responsibility for the AWR Project, including construction of new waste tanks, installation of a radon control system and transfer of Silo 1 and 2 wastes into the new tanks. Fluor Fernald expects to provide greater integration of all silos work, reduction in overall costs and a shorter schedule. Under the terms of this agreement, Fluor Fernald and Foster Wheeler have already begun transferring subcontracts required for AWR project work continuation.

DOE and Fluor Fernald are currently working together with regulators and stakeholders to establish new milestones for the Silos Project. Conceptual design work is underway on both Silo 3 and the Silos 1 and 2 Final Remediation Project.

Wireless transmission of radon monitoring data

Fernald is presently installing and developing the Wireless Integrated Radon Monitoring System, a wireless data transfer technology. The current system relies on wire phone lines and cables to transmit real time radon data for only 12 of the 34 monitors, while the new system continuously and automatically collects radon data in real time from monitoring locations at the property boundary and K-65 area. The upgrade will prevent accidental disruption in service due to severe weather and construction activities and also transmits real time voltage signals that indicate if each air particulate monitor is operating correctly. Workers have already installed the wireless hardware system at ten monitoring locations. The data management software is under development, and once the software is functional at each of those ten locations, Fernald plans to expand the technology to all 34 monitors. The wireless technology and custom software package will serve as a superior unified system, reduce manpower by decreasing the need for field inspections and data downloads, improve data quality, and provide cost savings. This technology may also be applicable for Fernald's Long-Term Stewardship monitoring needs.

Above:
New wireless data transfer technology will reduce the need for field inspections (7601D-0002).

Aquifer Restoration Project expanding wellfields

Fernald began several projects this construction season that contribute to the restoration of the Great Miami Aquifer. In June, crews installed a new extraction well in the northeast corner of the South Field to address a portion of the plume that is not adequately responding to the existing extraction system. In July, workers at the Waste Storage Area Extraction System - Phase I installed three extraction wells just south of the waste pits and silos to retrieve contaminants from the plume that underlies the Pilot Plant drainage ditch.

At another project, the South Field - Phase II Predesign, crews are preparing a Remedial Design Report on the Southern Waste Units, where excavation of contaminated soil is almost finished. Workers will soon expand the South Field Extraction System into this area. The first step will be collecting and evaluating data from direct-push sampling and routine groundwater monitoring. Then, crews can determine the extent of the contamination and define the number and location of wells needed in that area.

Yearly geoprobe sampling of the aquifer downgradient of reinjection wells began this summer. Workers collect groundwater samples along the breadth of the contamination in the same location using a direct-push technique at various depths, so a monitoring well does not need to be installed. The horizontal and vertical data combines to represent an up-to-date cross-section, and engineers compare this to previous cross-sections to evaluate the effectiveness of the reinjection.

Above: Two major subcontractors will work on the construction of the Waste Pit Area Extraction System: one for the drilling, installation and development of the wells, and another for the construction of the system infrastructure including, piping, well houses, and roadways. Here, a worker clears an extraction well (6261D-0566).

Thorium legacy waste shipment campaigns continue

In May, Fernald sent the last of 29 thorium residue shipments to the Nevada Test Site (NTS) as part of a campaign begun in August 2000. In April, the Thorium Legacy Waste Project began the processing and real-time radioscopy of 51 thoria gel containers. Real-time radioscopy is a process in which each container is x-rayed. The x-rays reveal materials that do not meet the NTS Waste Acceptance Criteria. In July, Fernald finished processing and real-time radioscopy and has shipped all 51 containers to NTS.

Originally, the site's thorium inventory weighed in at about 2 million pounds. The Thorium Overpack Project, which ran from 1995 to 1997, shipped 861,454 pounds of thorium to NTS for disposal. Since the latest campaigns within the Thorium Legacy Waste Project started up in May 2000, crews have shipped over 1 million pounds of thorium, further reducing the inventory to approximately 150,000 pounds.

Fernald's thorium inventory is yet another legacy from the past. The numbers show that the site is handling the disposal of this material quickly, safely and efficiently.

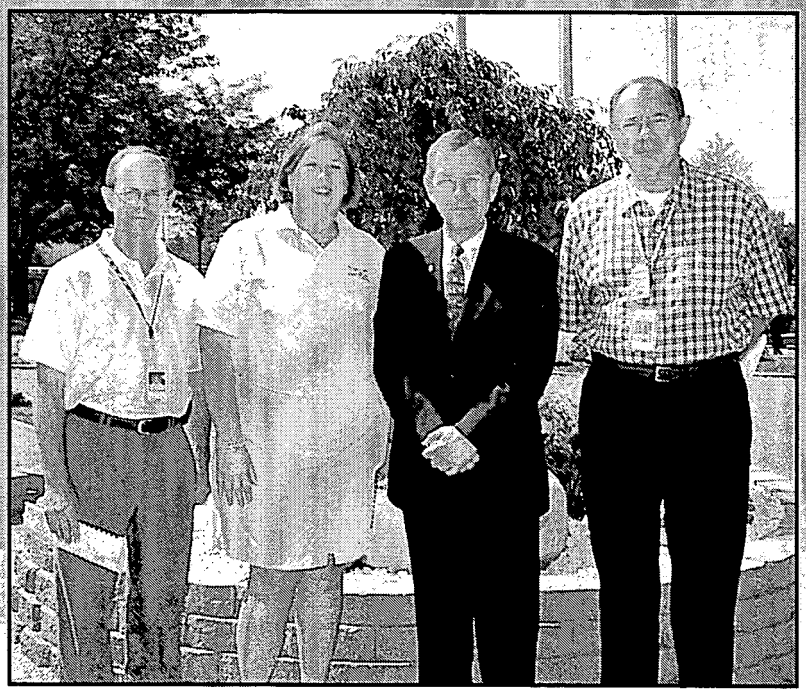
Russian technology at work

In June, four scientists from Russian national laboratories and former nuclear material production facilities visited Fernald.They toured the site, observed deployment results of their product "Gubka," and participated in a three-day workshop sponsored by Fernald's Technology Programs Division.

The Russian researchers recently developed a porous crystalline material from Siberian coal power plant fly ash waste that stabilizes actinide residue solutions. "Gubka," which means "sponge" in Russian, absorbs metal salts, including radionuclides, from waste and acidic liquid residues at room temperature. The Russians observed the results of the Gubka technology in Fernald's lab, where technicians were using it to stabilize liquids that would later be shipped to the Nevada Test Site for disposal.

The exchange was successful and will likely lead to further collaboration with Russian industry. "Working cooperatively with two entities like this is unquestionably beneficial for both parties," said Dennis Carr, Fluor Fernald Executive Project Director. "DOE and Fluor Fernald would like to see continuation of these types of partnerships."

Above: (From left) Albert Aloy, Olga Sharanova, Alexandre Tretyakova, Dieter Knecht and Serguei Silichtchev listen as Terry Daniels (far right) explains how Fernald has deployed the Gubka technology. Not shown: Alexander Anshits (6810D-0540).



Above: Steve McCracken, DOE-Fernald Director, Susan Brechbill, DOE Ohio Field Office Manager and John Bradburne, Fluor Fernald President and CEO, with U.S. Senator George Voinovich in the Cold War Garden (7526D-03).

Senator Voinovich visits Fernald

Senator George Voinovich visited the Fernald Project in June and met with Fluor Fernald and DOE officials, the EPA, and the site's union representatives and neighbors. The Senator was very interested in how Fernald retrained and re-educated former workers from the production era to work in site cleanup, because he is concerned about the difficulties the government sector faces in attracting talent to public service.

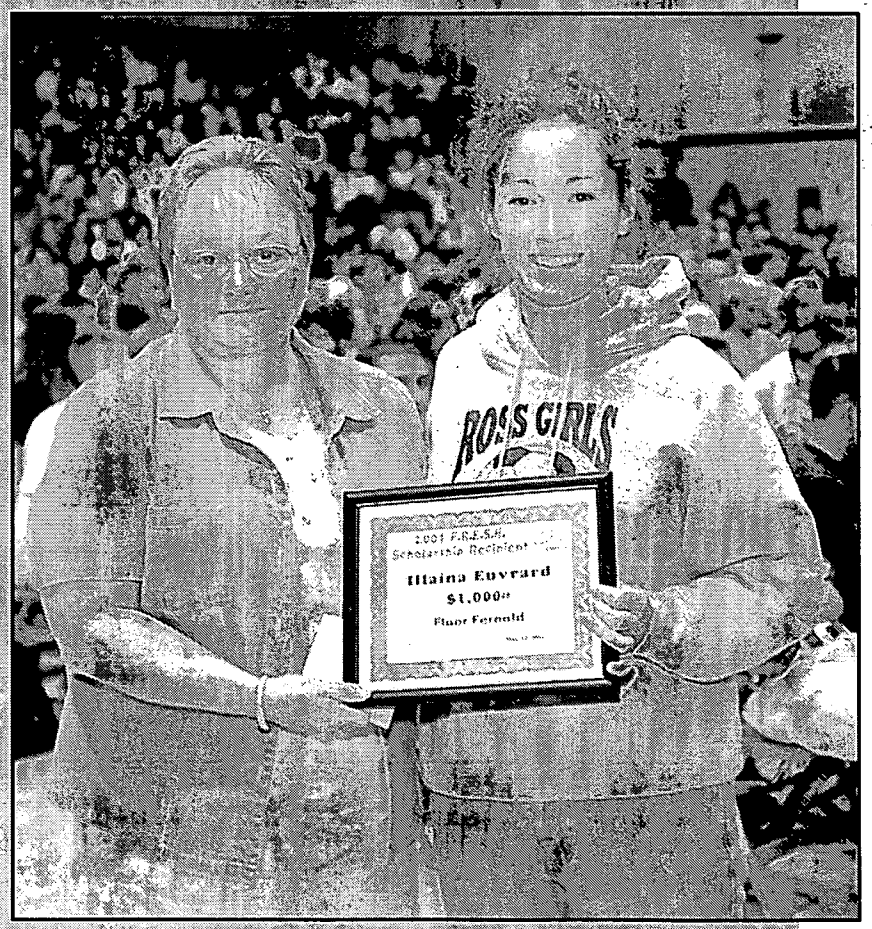
The Senator was impressed with the site's cleanup progress, and took the time to sit down and talk with stakeholders and members of the Fernald Citizens Advisory Board about their concerns and views on the cleanup. "It's not often that we are able to get the government, a private sector contractor, and the local citizens to sit down and hammer out solutions to significant issues," Lisa Crawford, president of FRESH, told Senator Voinovich. "We have had that kind of interaction on this project."

Scholarly pursuits

Fluor Fernald awarded college scholarships to two recent area high school graduates this summer. In honor of the Fernald Residents for Environmental Safety and Health (FRESH), Fluor awarded Illaina Euvrard $1,000 in honor of her dedication and commitment to her community. Illaina, salutatorian of this year's Ross High School graduating class, is active in the Sierra Club. She plans to attend Ohio State University and hopes to become a veterinarian.

Brandon Cole, also a Ross High School graduate, won the $1,000 Earl Branham Memorial Scholarship, which is given each year to the child of a Fernald Atomic Trades and Labor Council (FAT&LC) member. Brandon, son of Fernald employee Bob Cole, will attend Miami University this fall and begin his education as an accounting major.

"Both are outstanding young people and excellent community representatives," said Peggy Stitt, Ross High School counselor. "I'm sure they will do well as they pursue their college degrees."



Above right:
Gene Branham, vice president of the Fernald Atomic Trades and Labor Council, congratulates Brandon Cole, recipient of the 2001 Earl Branham Memorial Scholarship. Brandon's father Bob Cole, who works at Fernald, looks on (7627D-0005).

Right:
Lisa Crawford, president of FRESH, presents the scholarship award certificate to Illaina Euvrard at the Ross High School Awards Assembly (7613D-0007).

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 and Excavation Project
  - Construction Quality Assurance Plan – On-Site Disposal Facility
  - Technical Specifications for Area 2, Phase I Non-Waste Unit Perimeter Area Remediation
  - OEPA Letter: Approval Management Plan for the On-Site Disposal Facility Material Transfer Area, Rev. C
  - USEPA Letter: On-Site Disposal Facility Material Transfer Area Revised Management Plan
  - USEPA Letter: Area 2, Phase I Perimeter Area Integrated Remedial Design Package

- Facilities Closure and Demolition Project
  - Task Order Implementation Schedule for Above-Grade Decontamination and Dismantlement of Buildings 3B, 3C and Plant 3 Complex Pipe Bridges & Racks Under the Miscellaneous Small Structures Decontamination and Dismantlement Project
  - USEPA Letter: Approval of the Task Order Implementation Schedule for Above Grade D&D of Buildings 3B, 3C and Plant 3 Complex Pipe Bridges & Racks Under the Miscellaneous Small Structures D&D Project
  - Task Order Implementation Schedule for Above-Grade Decontamination and Dismantlement of Building 62 Under the Miscellaneous Small Structures Decontamination and Dismantlement Project
  - OEPA Letter: Approval Pilot Plant Complex Implementation Plan

- Silos Project
  - Request for Extension for Response to Comments on Draft Remedial Action Work Plan for Radon Control System Phase I Operation
  - Silo 3 Project – Rescoping Evaluation and Recommendation, Rev. 2, June 4, 2001
  - Responses to Review Comments on the Silo 3 Project Rescoping Evaluation and Recommendation
  - DOE Letter: Silos Projects Regulatory Milestone Strategy

- Aquifer Restoration Project
  - USEPA Letter: Aquifer Remediation Design for the Waste Storage Area
  - OEPA Letter: Conditional Approval – Request to Modify Monitoring Well 22198
  - April 2001 Re-Injection Operating Report
  - OEPA Letter: Approval March 2001 Re-Injection Operating Report

- Miscellaneous
  - 2000 National Emissions Standards for Hazardous Air Pollutant (NESHAP) Annual Report May 2001
  - 2000 Integrated Site Environmental Report May 2001
  - RCRA Part B Permit Application
  - DOE Letter: Baseline

Note: This does not represent the complete list of new documents added to the PEIC. Contact the PEIC, 513-648-7480 for a complete list of new documents.

Fernald Report
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