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Inside

Report

- Progress worth reading about
- New site access posture in place
- Can You Dig It?

November 1999



message from
Jack Craig

Results equal funding 2000 Budget on Track

Last month, President Clinton signed the FY 2000 Energy and Water Development Act approving \$5.8 billion for the Department of Energy Environmental Management Program cleanup. Of that total, about \$280 million has been set aside for cleanup at Fernald. This is good news for our site since it keeps us on pace to achieve our Accelerated Cleanup Plan. Under this plan we will complete most, if not all, of our work at Fernald by 2006.



Why do we continue to get the funding we requested from Congress? I think there are three basic reasons. First, we continue to make clear progress in cleaning up this site. Second, we have the strong support of our stakeholders. And third, our safety record continues to be among the best within the DOE complex. Without all three of these elements we would have an incomplete program.

A quick review of our visitor list from this past year reflects the amount of attention Fernald's cleanup is generating at DOE Headquarters. Secretary Richardson was here in March for the completion of Safe Shutdown. Assistant Secretary for the DOE's Office of Environmental Management, Dr. Carolyn Huntoon and Acting Deputy Assistant Secretary for the DOE Office of Science and Technology, Gerald Boyd were here in August to meet with program leaders and stakeholders.

Fernald continues to receive support from our elected officials. U.S. and state representatives have been eager to listen to our needs and support our funding requests. Our neighbors and advisory groups also solidly support our site, whether it's with Congress, DOE or their peers in other parts of the country.

Finally, DOE has set a very high standard in the area of safety. Not only must we do the job well, we must also do it safely. Fluor Daniel Fernald and their subcontractors have embraced this safety culture and the results are reflected in the safe and effective cleanup currently underway at Fernald.

Jack Craig
Jack Craig
Director, DOE-Fernald

On the cover: A-DEMCO employee (subcontractor to MACTEC) performs encapsulation of a walkway between Building 55A (Plant 5) and Building 55B (former Slag Recycling Pit/Elevator) to lock down any remaining residual loose contamination after gross washdown of the structure (6401-d).

Cleanup Progress

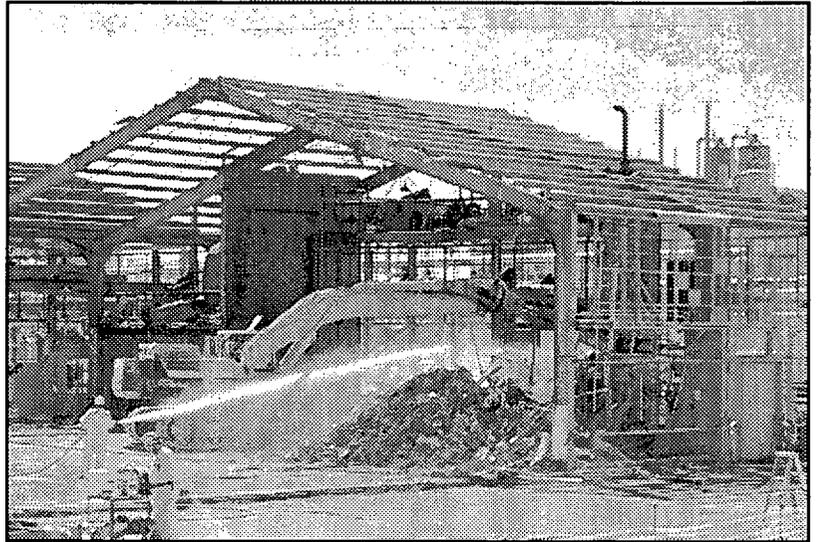
Signs of Fernald cleanup progress are clear, whether you're a worker walking to a meeting or a neighbor driving along the perimeter of the 1,050-acre site. Heavy equipment such as trucks, bulldozers and cranes are commonplace. Only foundations remain from 66 of the 200 plus structures that once supported Fernald's uranium production mission. The nuclear material stockpile is rapidly decreasing. Trains carrying low-level waste leave Fernald every few weeks for Envirocare. Tens of thousands of cubic yards of contaminated soil have been excavated and three cells of the On-Site Disposal Facility (OSDF) have been constructed and are accepting waste. In the midst of all this activity, an ecological park and re-created wetlands provide a glimpse of what the site will look like when cleanup is complete.

"We are rapidly approaching the peak of cleanup activities at Fernald," said Johnny Reising, DOE-FEMP associate director for Environmental Management. "The majority of our workers are directly supporting cleanup projects in the field. The shift from office workers during the remedial investigation phase to field workers today has been dramatic and will continue to shift until cleanup is complete."

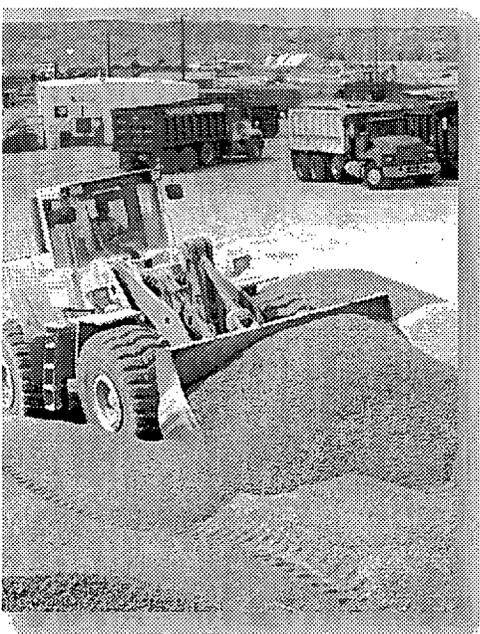
Over the remaining years of cleanup, DOE and Fluor Daniel Fernald estimate the site will generate approximately 83 million cubic feet of waste. Approximately 75 percent of this waste will be disposed of in the OSDF. Of the 25 percent slated for off-site shipment, approximately 65 percent will be transported to Envirocare of Utah by rail. "We've made great progress, however, we have a number of challenges ahead of us," said Reising. "We'll continue to count on our workers, neighbors, regulators and other stakeholders to help us reach the best solutions until our work at Fernald is complete."

"People will continue to see incredible cleanup progress at Fernald over the next several years."

— Johnny Reising



Above: Structural steel from Building 12 will be placed in the OSDF (7118-d156).



Busy summer at the On-Site Disposal Facility

The liner of Cell 3 of the On-Site Disposal Facility (OSDF) was completed in October, about two months ahead of schedule. The first waste, flyash from the Active Flyash Pile, was placed in Cell 3 in October. For the remainder of the construction season, more than 40,000 cubic yards of soil and debris will go in Cell 3. Cells 1 and 2 have been receiving contaminated soil and debris all summer. Cell 1 is approximately 70 percent filled and Cell 2 is about 40 percent filled.

The temporary leachate line installed in the spring has been working as designed. The permanent leachate conveyance system and manholes for the first five cells will be completed by Dec. 31, 2000.

As the OSDF continues to grow in length, the southern portion of the North Access Road will be impacted. Therefore, DOE and Fluor Daniel Fernald are evaluating the future of the road. Several factors including cost, traffic studies, road upgrades, and OSDF activities will be considered before a decision is made.

Left: The construction of the liner for Cell 3 took about 40,000 tons of gravel (6319-d2193).

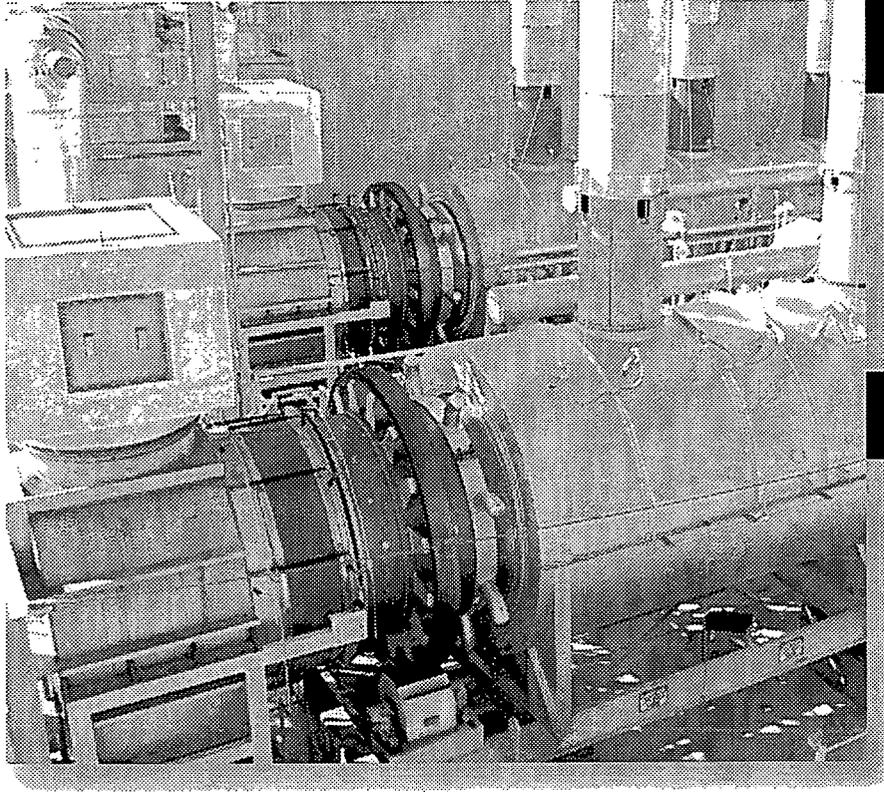
Cleanup **Progress** Update

Waste Pits Remedial Action Project (WPRAP)

- Shipped tenth and eleventh unit trains to Envirocar of Utah (see Fernald Shipments section for details)
- Continued preparations for Dryer Operations Standup Startup Review
- Continued excavation of material from Waste Pits

On-Site Disposal Facility (OSDF)

- Continued placement of materials in Cells 1 and 2
- Completed construction of primary liner system in Cell 3
- Began installation of one-foot protective cover in Cell 3



Above:
A view of the IT rotary dryers to be used to dry waste removed from the waste pits (6944-d959).

Right:
A dozer places one foot of protective material over the geotextile filter fabric in Cell 3 (6319-d2247).



Demolition Projects

Facilities Shutdown

- Continued work on General Sump Complex

Decontamination & Dismantlement (D&D)

- Plant 5 Complex —
 - ◆ Continued preparation of work area in Building 5A
 - ◆ Completed demolition of Buildings 5C and 5G
 - ◆ Began demolition of Building 5B

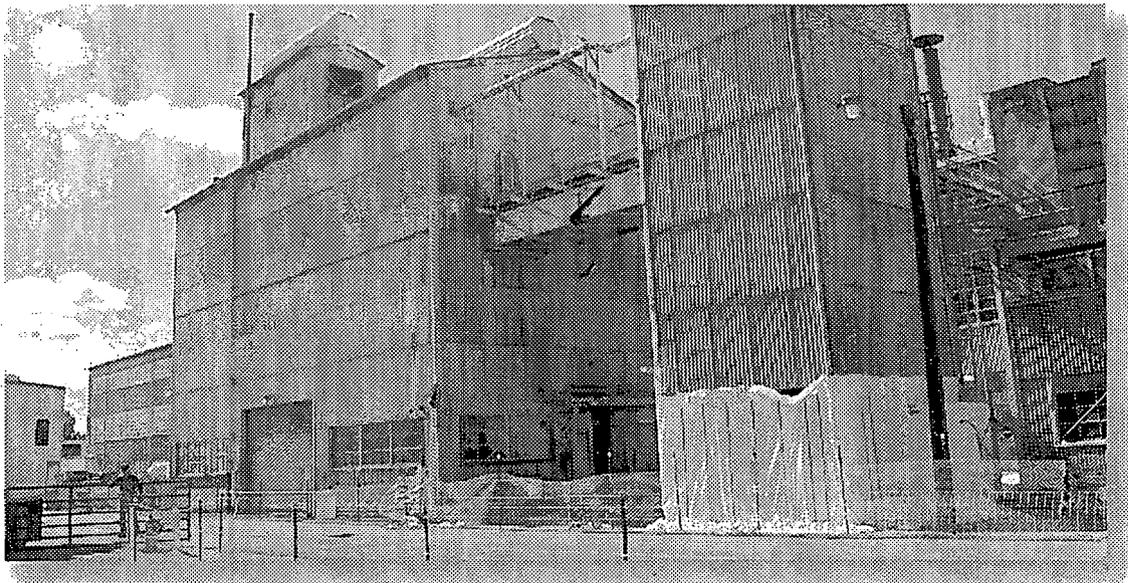
Silos Project

- Conducted a public workshop on detailed analysis of alternatives for *Silos 1 and 2 Draft Revised Feasibility Study (FS)*
- Finalized contractor's schedule for Silos 1 and 2 Accelerated Waste Retrieval Project
- Completed Critical Analysis Team, DOE Independent Review Team and DOE-FEMP review of *Silos 1 and 2 Draft Revised FS*
- Received Critical Analysis Team comments on Silo 3 Project preliminary design



Above: DEMCO employees remove light fixtures in Plant 5A adjacent to the Rockwell furnaces in preparation for D&D (6401-d290).

Left: A view of 55A (left) and 55B (right) which are the next two structures to be removed as part of the Plant 5 D&D project (6639-d245).

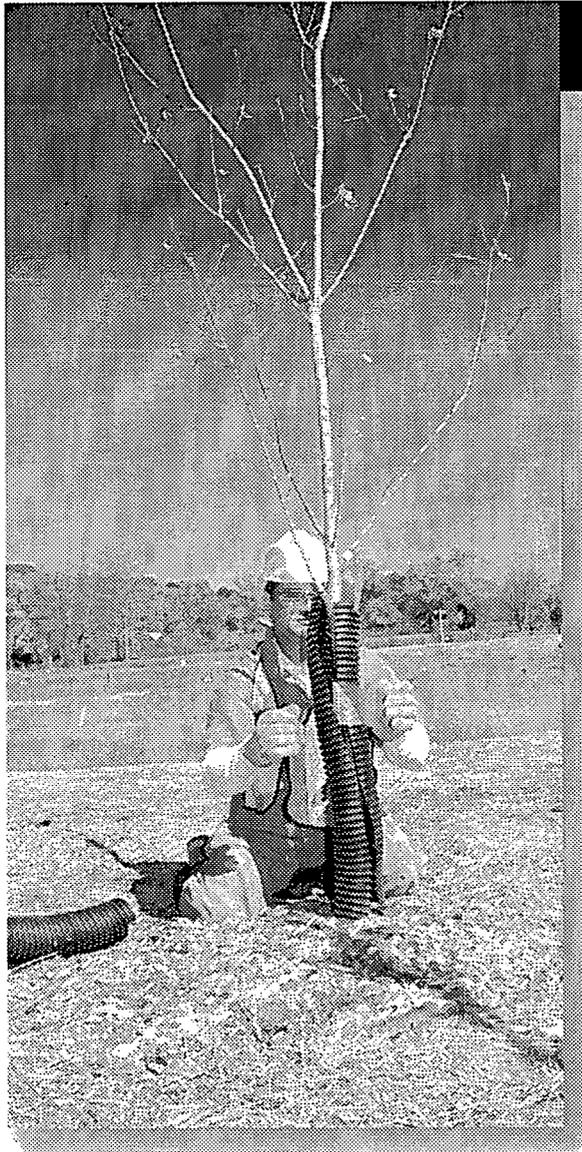


Cleanup **Progress** Update



Top:
A visual inspection is necessary to keep prohibited items excavated at the Southern Waste Units from being transported to the OSDF (6734-d1053).

Right:
A Wise laborer installs deer protection around a sapling planted in the Wetlands Mitigation Project (7081-d180).



Aquifer Restoration/ Wastewater Project

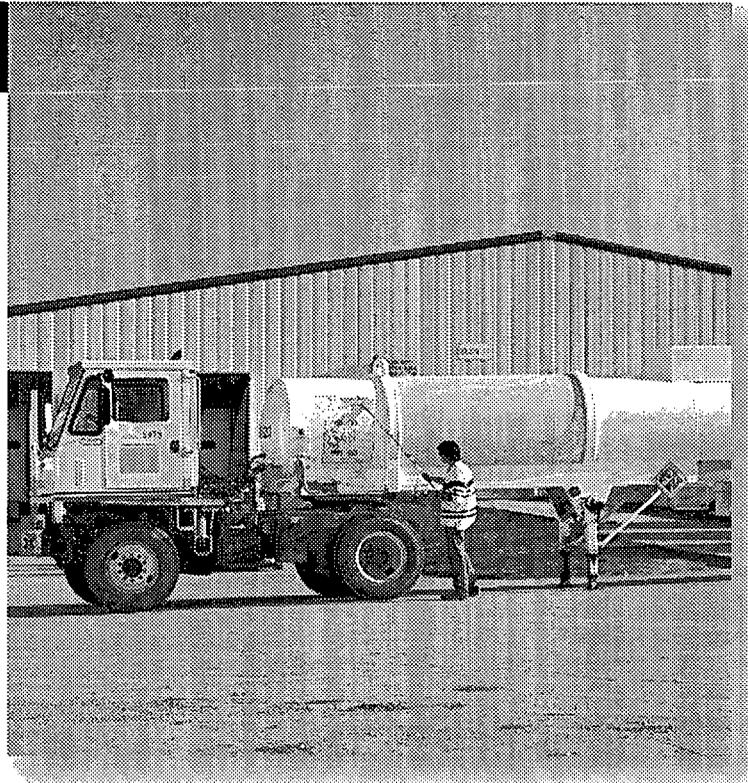
- Completed drilling, installation and development of two additional extraction wells in the South Field
- Completed plan to conduct pre-design geoprobing in Waste Storage Area and Plant 6 Area
- Gave Notice-to-Proceed to Staver Group for piping, housing and infrastructure for the two new additional wells

Soil Characterization and Excavation Project

- Area 2 Phase I — Southern Waste Units Southern Portion of East Field
 - ◆ Completed excavation of South Field stockpile
 - ◆ Continued excavation of South Field
 - ◆ Began excavation of bottom half of Active Flyash pile
- Area 2 Phase III — South Central Portion of Fernald Site
 - ◆ Began real-time scanning and field demonstration of hand held ground-penetrating radar
- Areas 3, 4 and 5 — Former Production Areas
 - ◆ Continued efforts to create single contract for On-Site Disposal Facility and Area 3A/4A excavation
- Natural Resource Restoration Projects
 - ◆ Wetland Mitigation – Phase I: project is 90 percent complete; fall planting to be complete by late November
 - ◆ Ecological Restoration Case Study: draft final report from Texas Southern University is being reviewed

Waste Management Projects

- **Thorium Legacy Waste Project** —
 - ◆ Continued real-time radiography of boxes containing thoria gel to support shipment of thorium waste to Nevada Test Site
- **Nuclear Materials Disposition** —
 - ◆ Continued repackaging of depleted uranium tetrafluoride (UF4) for shipment; total of 501 of an estimated 540 boxes repackaged
 - ◆ Continued movement of uranium to DOE-Oak Ridge site at Portsmouth, Ohio



Left: A radiological technician takes a survey of a tanker trailer that will transport consolidated liquid mixed waste to the TSCA incinerator in Oak Ridge, Tenn. (6898-d36).

Fernald Shipments — October 1999

Contents / Destination	Shipment Mode	No. of Shipments	Monthly Total	FY00 Total*
↓ Low-Level Waste (Nevada Test Site)		0	0 cu. ft.	0 cu. ft.
Liquid Mixed Waste - Toxic Substance Control Act Incinerator at Oak Ridge		0	0 gal.	0 gal.
Nuclear product/materials (Portsmouth)		15	418,808 net lbs. or 144.0 metric tons uranium	418,818 net lbs. or 144.0 metric tons uranium
Waste Pits Project (Envirocare of Utah, Inc.)		2 unit trains (113 railcars)	12,112 tons	12,112 tons (113 railcars)

New site access requirements

In response to a complex-wide DOE initiative to enhance security measures at all sites, Fernald has adopted new access requirements. As a result of the change, individuals attempting to enter the site must present their DOE identification badges to the security officer on duty at the guard post. The officer will physically inspect the badge to verify that it has not been altered and that it belongs to the individual. Individuals who do not have DOE badges will need to obtain a temporary badge before entering the site. Additional officers are on hand to assist community members gaining access to the site for public meetings.



Above: Mike Keyes, president of the International Guards Union of American at Fernald, inspects the badge of a team member entering the site (7232-d05).

Sharing Lessons across the complex

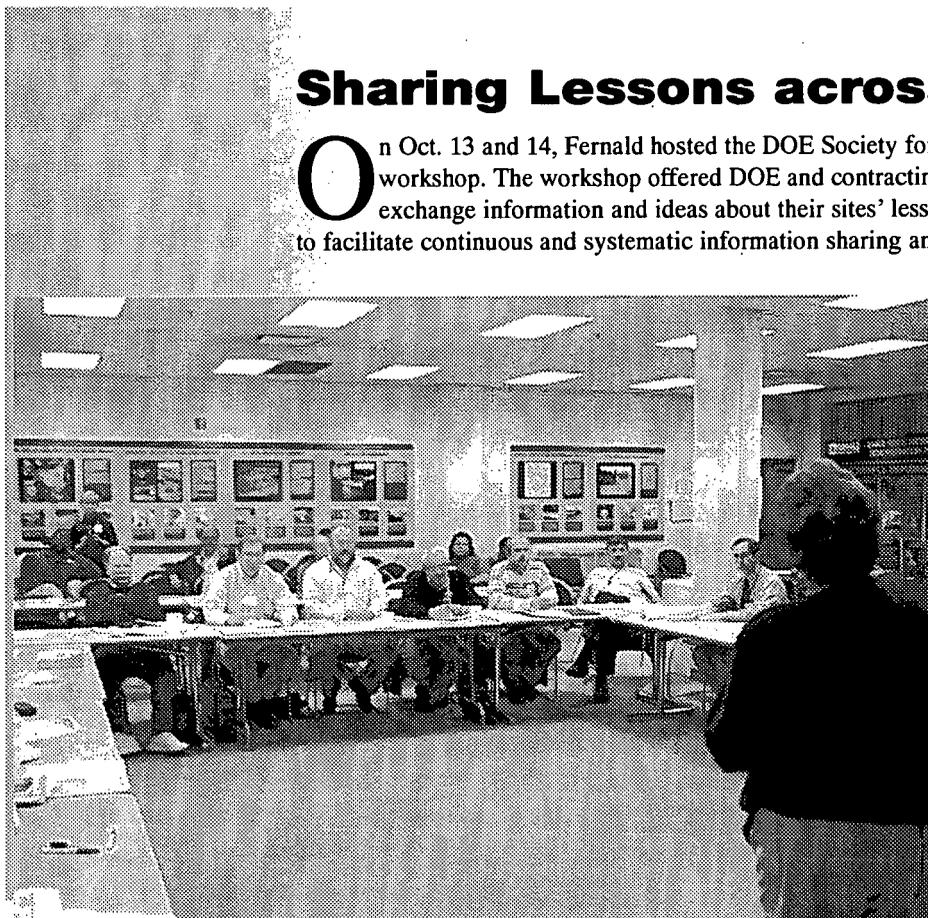
On Oct. 13 and 14, Fernald hosted the DOE Society for Effective Lessons Learned Sharing (SELLS) workshop. The workshop offered DOE and contracting lessons learned coordinators the opportunity to exchange information and ideas about their sites' lessons learned program. The intent of the program is to facilitate continuous and systematic information sharing and learning across the DOE complex. The program

captures work practices that have been identified as positive or negative. Positive work practices are shared to promote repeat application, while ineffective work practices are captured and shared to avoid recurrence.

The program has several benefits, including: saving time by providing a central location for information; rapidly transferring time-critical information; reducing costs from avoidable mistakes; and expanding information networks by sharing opportunities with other sites.

To obtain additional information about the DOE lessons learned program, visit the web site at <http://tis.eh.doe.gov/ll>.

Left: Cynthia Eubanks, co-chair for SELLS, facilitates one of the break-out sessions during a recent workshop (7232-d47).





Above: Fernald and community emergency responders participate in a joint response exercise involving a car wreck (5722-94).

Emergency planning group still active

Focused emergency response activities started at Fernald in 1986 with the establishment of local emergency planning committees and the preparation of emergency plans. The site Emergency Preparedness Department was tasked with developing a detailed emergency plan that encompassed all aspects of disaster response and recovery related to Fernald operations. Within one year, integrated emergency plans were developed for Butler and Hamilton Counties and the State of Ohio.

A joint public information center was established off site to disseminate information during an emergency. Starting in 1987, a mock disaster exercise was conducted at Fernald every other year. Currently, the drills are conducted on an as needed basis. Planning for these drills involve frequent meetings with state and local emergency planning officials, giving birth to the concept of the Cooperative Planning & Training (CP&T) meetings. An informal meeting is held on a regular basis to share information, ideas, plan drills and exercises. The CP&T meets every other month on the second Wednesday at the Ross Fire

House. The meetings are facilitated by DOE and Fluor Daniel Fernald; other participants include representatives from the local township trustees, local fire and police departments, state and county emergency management agencies, Ohio EPA and the Cincinnati Health Department.

Silos 1 and 2 Accelerated Waste Retrieval Project

In early 1999, Fluor Daniel Fernald awarded a subcontract to Foster Wheeler for the retrieval of approximately 8,900 cubic yards of low-level uranium ore residues from Silos 1 and 2 and the associated decant sump. This material will be transferred to newly constructed tanks, which will be housed inside of a new building. The material will be stored on an interim basis in these new tanks until the full-scale remediation project is constructed and operational. Additionally, a Radon Control System will be designed, constructed and operated to reduce the radon concentration in the headspace of the silos before, during and after retrieval of the material.

Foster Wheeler is supported on the project by XL Associates, COGEMA, Battelle, Grey Pilgrim and The Providence Group. Retrieval of the material will be accomplished by using water to create a slurry waste form and hydraulically removing the slurry with a submersible pump. A remotely operated arm called the Easily Manipulated Mechanical Arm (EMMA) will be used to extract discrete objects, remove "heel" materials remaining after initial hydraulic removal efforts and perform other specific operations during retrieval. Cameras and lighting will be installed to assist the operators in performing the work.

Preliminary facility design and safety documents are now being reviewed. The Radon Control System is scheduled to be operational by the first quarter of 2001, while the project is scheduled for completion in late 2003.

Archaeology: Can You Dig It?

If you could step back in time thousands of years what would you see? An interesting aspect of the history in Southern Ohio is the story of Native Americans who once lived where houses, malls and factories now stand. Students now have an opportunity to learn about the people who may have once lived in their back yards.

Fernald, in partnership with the Hamilton County Park District, created a curriculum for grades 3 through 7 titled "Archaeology: Can You Dig It?" Through hands-on activities, students will learn skills needed to be an archaeologist and information on the various native people who lived here from the pre-historic to the historic eras. The program also includes a video and field trip to nearby Shawnee Lookout Park so students can participate in an actual archaeological dig and other related activities.

What a wonderful way to learn about history – dig into it!

Right: A mock stone tablet carving exercise was just one of the hands-on activities that took place during the teachers in-service day (7241-d08).



Above: Sidney Blankenship, Pantex CAB and Nancy Dickens, Weldon Spring Citizens Commission discuss stewardship topics at the seminar (7246-d3).

National stewardship seminar attracts Advisory Board members

Five members of the Fernald Citizens Advisory Board (FCAB) recently traveled to Oak Ridge, Tenn., to attend a Site-Specific Advisory Board (SSAB) Workshop on Stewardship hosted by the Oak Ridge Reservation SSAB. From Oct. 25-27, 1999, Jim Bierer, Marvin Clawson, Mike Keyes, Ken Moore and Bob Tabor met with other stakeholders from DOE sites across the nation to discuss the activities required to protect human health and the environment following remediation and/or closure of a site.

Each SSAB was allowed to send up to five board representatives, plus five other invited stakeholders. The Fernald CAB members were joined by representatives from the Ohio EPA; the Agency for Toxic Substances and Disease Registry; DOE-FEMP; and Fluor Daniel Fernald. Approximately 125 attendees met in facilitated group sessions and drafted preliminary "next steps" suggestions to DOE on stewardship topics as varied as funding; roles and responsibilities; community involvement; management and retention of information, and linkages to technology and research.

Recent Tours



The Cincinnati Chapter of the National Railway Historical Society (NRHS) is very interested in all aspects of Fernald's rail system. A group visited the site for a tour that included a stop at the rail yard. Jeff Rowe, Fluor Daniel Fernald rail operations manager, escorted the group through the locomotive maintenance building where they inspected one of the engines. After the tour, Greg Molloy, NRHS National president, called the trip to Fernald "one of the highlights of the year."

Left: Members of the NRHS are primarily interested in railroad history (6810-d259).

In the past couple of years, Fernald has had several political representatives from Ohio visit the site for a tour, but not too many from our neighboring state of Kentucky. On Sept. 21, Kelly White, field representative for Senator Mitch McConnell's office, came to Fernald for a tour.

Right: Gary Stegner, (left) DOE-FEMP Public Affairs, talks with White about the status of ongoing remediation projects (6810-d258).



In October, members of the United Auto Workers, who retired from Hamilton Tool, toured the site. The unique thing about this group is most of them had worked at Fernald during the 50s and 60s.

Left: As part of the tour, the visitors were able to get a good view of the On-Site Disposal Facility and learn about the intricate waste placement process (6810-d262).

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
 - ◆ OEPA Letter: Comments – Draft Non-Typical Waste Plan for Waste Pits Remedial Action Project
- Soil Characterization & Excavation Project
 - ◆ Ohio EPA comments on the Project Specific Plan for the Pre-design Sampling in the Area 2 Phase II Part Two and Three
 - ◆ Ohio EPA comments on the Project Specific Plan for Area 1 Phase II Sector 3 Utility Trenches
 - ◆ Project Specific Plan for the Certification of Area 1 Phase II Utility Trenches
 - ◆ Draft Waste Acceptance Criteria Attainment Report for the Advanced Wastewater Treatment Facility Stockpile
- Aquifer Restoration Project
 - ◆ Ohio EPA comments on the May Re-Injection Demonstration Report
 - ◆ Ohio EPA comments on the June 1999 Operating Report for the Re-Injection Demo
- Miscellaneous
 - ◆ Consolidated Consent Agreement / Federal Facility Compliance Agreement / Federal Facility Agreement / Remedial Investigation / Feasibility Study / Consent Decree Monthly Report for the Period of September 1, 1999, Through September 30, 1999, and Quarterly Report for the Period of July 1, 1999, Through September 30, 1999, Including Removal Actions Status Report (Dated 10/13/1999)

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



Fernald Report

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