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DOE-FN/FDF PUBLIC
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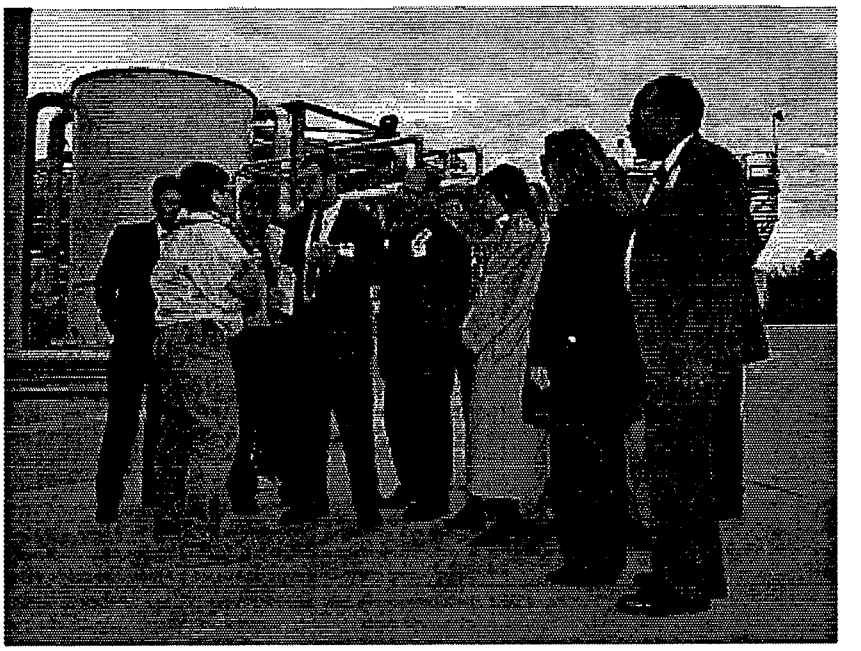
FACT SHEET

Fernald Report

November 1996

DOE and Fluor Daniel Fernald Host Russian Scientists and Engineers

On Oct. 29 and 30, DOE and Fluor Daniel Fernald employees hosted two groups of Russian scientists and engineers who visited from the Republic of Belarus and the New Independent States of the former Soviet Union.

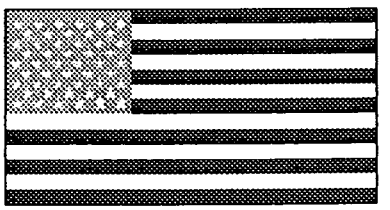


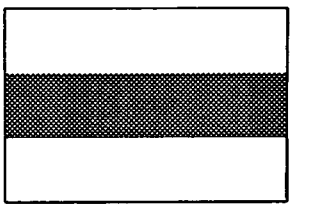
FEMP File Photo 6470-6: Although the FEMP team members don't speak the Russians' language, there was a connection -- the Americans and the Russians are both dedicated to environmental cleanup and restoration.

The U.S. Department of Defense and the U.S. Department of Commerce are sponsoring groups from Russia under the Special American Business Internship Training Programs. Several interns apply; however, only a few -- usually influential mid- to senior-level managers, scientists, engineers, and consultants from the environmental sector -- are selected. The interns may be in the U.S. from six weeks to three months, depending on their programs. While in the U.S., the interns visit several DOE sites, Department of Defense facilities and some commercial businesses. The training and knowledge they receive in the U.S. will enable them to further the development of environmental technologies, as well as cleanup progress and consultations in their home countries.

Due to the language barrier, the visitors requested hands-on, visual illustrations, whenever possible. During their tour, the Russians observed several technologies and toured some site facilities. Their tour featured: Geoprobe Water Sampling; Germanium detectors; real-time monitoring; the Advanced Wastewater Treatment Facility; Road Transportable Analytical Labs; and the Thorium Overpack Project. The visitors also learned about human health risks, soils remediation and groundwater remediation.

With assistance from interpreters, two local stakeholders -- Carol Schroer and Edwa Yocum -- explained the importance of public involvement during site remediation. The two FRESH members explained to the Russian visitors that citizens need to be included in the decision-making process. The visitors seemed amazed and delighted to hear about the changes that can occur between the government and local community when communication is two-way, with an "open door" policy. The interns seemed especially interested in learning how to organize a community involvement group, and they exchanged information to continue corresponding with Schroer and Yocum.





FEMP File Photo 6171-177

A Message from Jack Craig:
FEMP Is International Cleanup Model

A team of scientists from the Republic of Belarus, in the former Soviet Union, just completed its third and final round of visits to the FEMP to study environmental cleanup and associated technologies being used to address soil and water contamination. The scientists are focusing on those practices that can be applied to environmental cleanup projects in their own country, approximately one-third of which is uninhabitable due to various sources of contamination.

Sponsored by the U.S. Department of Defense's Defense Nuclear Agency, the scientists got a firsthand look at the FEMP, participating in tours and educational presentations and observing work in progress at the site, where DOE and Fluor Daniel Fernald are addressing radioactive and hazardous waste contamination leftover from the Cold War. The first major DOE site to focus entirely on cleanup, the FEMP serves in many ways as a national model for environmental management.

This small, rural area outside of Cincinnati and the former Soviet Union have more in common than one might think -- for example -- being bound by a mutual desire to put the Cold War behind us and work hard to reverse years of environmental damage. This kind of openness is further proof that the old Cold War mentality has been replaced with one of cooperation and information sharing. For national security reasons, 10 years ago, such an entourage from the Soviet Union would not have been permitted at this facility.

While at the FEMP, the team of scientists learned about the nature of contaminants, cleanup methods being employed and safety procedures. It also looked at how the DOE and Fluor Daniel Fernald communicates with the public. In fact, the Belarusians met with the local environmental interest group, Fernald Residents for Environmental Safety and Health (FRESH), to gain insight on how the U.S. government works with public advocacy groups, community interest organizations and other concerned individuals and agencies. Openness is an integral part of everything we do at the FEMP, and we go to great lengths to inform and involve our neighbors. We welcome the opportunity to extend this openness not only across the country, but across continents, to help our friends in Belarus.

Not far from Chernobyl (about 35 miles), the Republic of Belarus received considerable fallout from the 1986 reactor explosion and suffers from various sources of contamination. Leaders of that republic must manage and control radioactive and hazardous substances just as we do at the FEMP, but contamination there is more widespread.

During April and June of this year we also hosted teams of Belarusians; their visit in October was their final visit to Ohio. Each visit included a new group of 11 people, including seven Belarusian scientists, one translator, and three representatives of Arthur D. Little Inc., which coordinated the visits under contract with the Department of Defense.

Jack Craig
DOE FEMP Director

Safety Survey Coming to FEMP

DOE has contracted with the National Safety Council to perform an employee safety program survey at the FEMP, Savannah River, and Rocky Flats. The National Safety Council has developed assessment surveys that are designed to make it easy for employees to give their reactions to the FEMP safety program and management system.

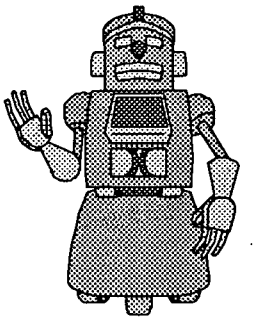
The survey will be conducted during the week of Dec. 9, and it will be administered by members of the FEMP Safety First Team. The National Safety Council will randomly select approximately 400 FEMP employees to participate in the survey. There will also be provisions for personnel not selected to independently complete a survey.

The National Safety Council will return the survey results in January 1997. Fluor Daniel Fernald and DOE management believe knowing how FEMP workers feel about our safety program will make the difference between average safety performance and the superior performance that is desired for the FEMP.

FEMP Completes Shipments of Depleted Uranium Metal Derbies

Fluor Daniel Fernald has completed shipments of depleted uranium metal derbies to Manufacturing Sciences Corp. The total amount shipped for this order was 969,310 pounds, or 438.1 metric tons of uranium weight. Fluor Daniel Fernald and DOE are in the midst of an aggressive effort to sell, relocate or otherwise disposition all remaining uranium metal products to support planned D&D activities.

Fernald Site Technology Coordination Group Prioritizes FEMP's Technology Needs



During a meeting on Oct. 22, the Fernald Site Technology Coordination Group (STCG) completed the FEMP's first formal "Technology Needs" validation and prioritization done under DOE's "New Approach" to technology development. The STCG membership, consisting of key Fluor Daniel Fernald and DOE FEMP managers, U.S. EPA and Ohio EPA officials, and stakeholders, reviewed an extensive list of proposed needs.

The outcome of this initial prioritization, a "Validated Priority List" for the FEMP, will be provided to DOE Headquarters to use in setting the national technology development program goals. The major impact of this effort will first be seen in the fiscal year 1998 budget, although any mid-year replanning for fiscal year 1997 will also be influenced. The prioritization list is a "living" document, and, on a quarterly basis, the STCG will review, and add or reorder priorities. The current list of technology candidates contains 28 items; the top priorities are for:

-- Enhanced Groundwater Pump and Treat Process/System;
-- Development of a Real-Time Alpha Monitor;
-- Detection of Underground Utilities/Obstructions;
-- Technetium-99 Detector/Analyzer; and
-- Off-gas Cooling (vitrification project).

DOE Representatives "Assign" Workshop Participants Homework

On Nov. 7, local residents, community leaders and FEMP employees participated in a public workshop to learn how to apply the *Decision Methodology for Fernald Scrap Metal Disposition Alternatives* (Methodology) using a special case study on Plant 4 metal.

During the workshop, DOE and Fluor Daniel Fernald representatives asked stakeholders to participate in two exercises designed to illustrate how the methodology will be applied to decontamination and dismantling (D&D) projects. The first exercise involved ranking disposition alternatives for 1,500 tons of steel; the second exercise involved assigning weight factors to four specific performance measures: local economic impacts, institutional preferences, local social preferences and protectiveness of the environment.

DOE representatives then handed out copies of the Plant 4 Case Study: *Approach, Assumptions, and Data for the Application of the Fernald Metals Disposition Methodology to the Plant 4 Category A/Accessible Metals* and asked stakeholders to take it home and apply what they learned during the exercises. The DOE representatives asked the stakeholders to provide feedback on the case study by Dec. 1. "Everyone was a good sport about the homework," said Pete Yerace, a DOE FEMP official. "We really value public input; it helps us make better decisions."

The workshop was the second in a series of meetings with the public to introduce the methodology and demonstrate its application to D&D projects. The first session was held in June. A third session to discuss the methodology decision phase will be held in early 1997.

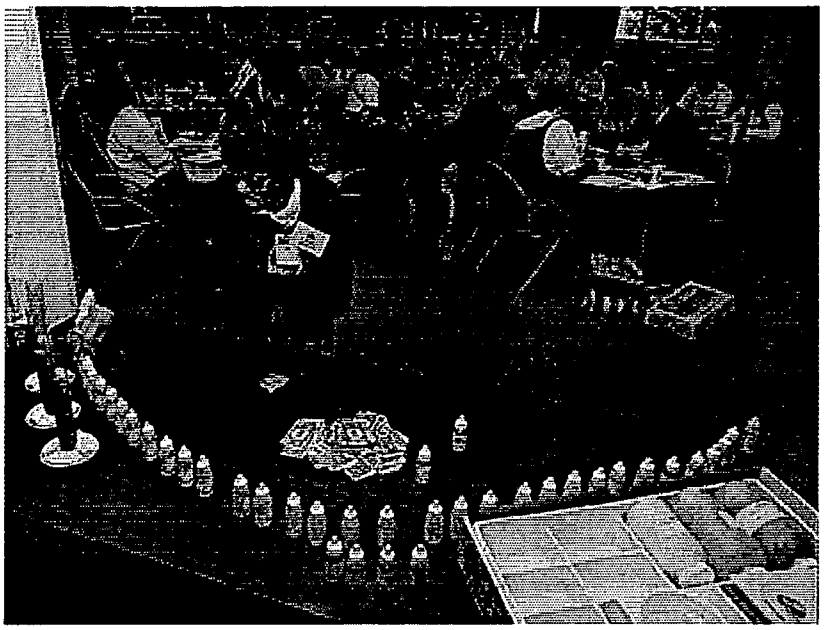
Cleanup Documents at Public Environmental Information Center

The following documents are available to the public for review in the Public Environmental Information Center (PEIC), 10845 Hamilton-Cleves Road:

- The Plant 4 Case Study: *Approach, Assumptions, and Data for the Application of the Fernald Metals Disposition Methodology to the Plant 4 Category A/Accessible Metals.* The case study presents the detailed approach, assumptions and data used to evaluate seven disposition alternatives for Plant 4 accessible metals, including structural steel.
- The *Decision Methodology for Fernald Scrap Metal Disposition Alternatives.* The Methodology is a tool to help decision makers compare and select among competing disposition alternatives for Operable Unit 3 radioactive scrap steel. It is a flexible, living document designed to accommodate emerging technologies and changes over time.
- The draft *Remedial Action Work Plan for the Aquifer Restoration Project* (Operable Unit 5) was submitted to the U.S. EPA and Ohio EPA on Nov. 1. The work plan provides the implementation strategy and schedule for completing the restoration of contaminated portions of the Great Miami Aquifer.

Local Teachers Investigate Groundwater Issues

How does groundwater become contaminated? Does the contamination spread? Is it possible to arrive at a solution to a problem in the community? By the end of a day-long workshop held Oct. 29 at the FEMP, 22 local teachers had answers to these and other questions. Facilitators from Cincinnati State Technical and Community College guided the educators through the Science Education for Public Understanding Program (SEPUP) module titled *Investigating Groundwater: The Fruitvale Story.*



FEMP File Photo 6475-9: Fran Smith, a Ross Middle School science teacher, collects materials for the simulated groundwater well sampling test during the Science Education for Public Understanding Program workshop that was held at the FEMP.

"This was a very interesting workshop," said Becky Knipp, from Sunman-Dearborn Middle School in Indiana. "The SEPUP curriculum is being used in our local course of study, and the connection with real-life situations at nearby Fernald makes the experience even more beneficial."

"The materials are relevant and can be used to teach a variety of topics," said Bill Sell, a teacher at Wyoming High School.

Through joint sponsorship by DOE and Fluor Daniel Fernald, the teachers received the SEPUP materials and training so they could go back to their classrooms and provide hands-on, issue-oriented learning experiences to their students. Programs such as SEPUP encourage students to use scientific principles, processes and evidence in public decision-making processes.

Next Fernald Citizens Task Force Meeting To Be Jan. 11, 1997

On Saturday, Nov. 9, the Fernald Citizens Task Force held a regularly scheduled meeting. Topics discussed included an update on FEMP labor initiatives, subcommittee reports, transportation issues and the DOE *10-Year Plan.* Following the meeting, task force members toured the FEMP's natural resource areas. The next meeting of the Fernald Citizens Task Force will be held Jan. 11, 1997, from 8:30 a.m. to noon, at the Alpha Building, 10967 Hamilton-Cleves Highway.

Fluor Daniel Fernald Corporate Contributions During October

Education: $7,150

-- Miami University to support development of interdisciplinary problem-based learning for science to benefit teachers of kindergarten through eighth grades.

Civic: $2,190

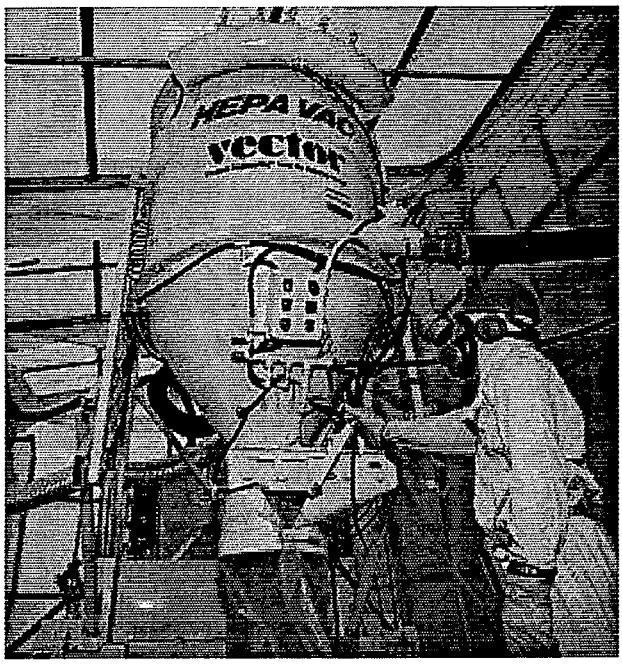
-- Sierra Club for intercity outings;

-- Butler County Sheriff's Office for its annual Halloween giveaway program;

-- Crosby Township to support the information bulletin/community map;

-- African-American Forum to support the annual Dr. Martin Luther King Jr. Scholarship fund-raiser.

VecLoader HEPA VAC Technology Used in Plant 1



FEMP File Photo 6429-64: In August, the HEPA VAC was successfully demonstrated in Plant 1.

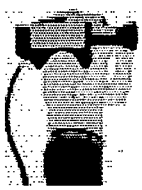
The VecLoader HEPA VAC is a self-contained, trailer-mounted, vacuum unit that is used commercially to evacuate asbestos fibers. The HEPA VAC transports the asbestos fibers through a flexible suction hose up to distances of 1,000 feet. The fibers are captured in a fully enclosed, negative pressure system and sent into a cyclone separator, where it is bagged directly from the vacuum.

The insulating material between the transite walls of Plant 1 is mineral wool. The baseline removal technique is labor-intensive and produces considerable airborne contamination. The Large-Scale Technology Demonstration Project HEPA VAC can shred the mineral wool in place and vacuum the fibers into a cyclone and bag the mineral wool under a fully enclosed, negative pressure system. This technology is expected to increase production rates, decrease work hours and personal protective equipment use, reduce waste volume, handling of mineral wool and airborne contamination.

The HEPA VAC significantly reduces airborne contamination because it is a fully enclosed, negative-pressure system. From shredding to bagging, the entire process is contained, which eliminates the need for workers to handle mineral wool and transport the bags outside Plant 1. This decreased airborne contamination and handling greatly increases worker safety.

Check Out the Latest FEMP Videos at the PEIC

Following is a list of the newest videos available at the PEIC:



"Technology Demonstrations: Plant 1 (FEMP019933);" eight minutes; Oct. 10. This video highlights five technology demonstrations in Plant 1, including: Oxy/Gas Torch, Steam Cleaning; Sponge Jet Cleaning, and VecLoader.

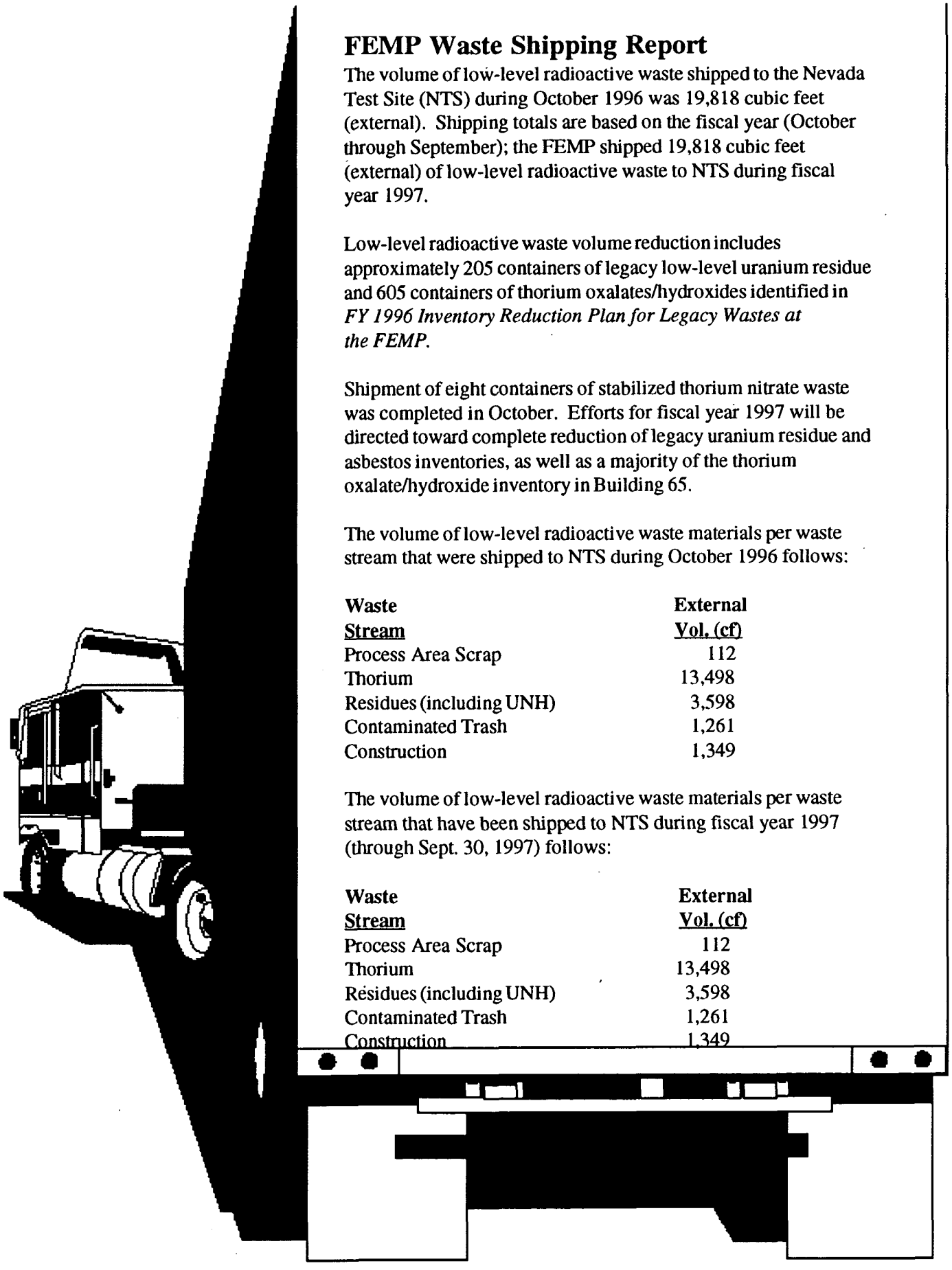
"Vitrification Pilot Plant: Phase I Test Status Report (FEMP020226);" seven minutes, 30 seconds; Oct. 14. This video includes animation of the melter before it was built, as well as footage of the melter in actual operation.

"Celebrating Our Success (FEMP020250);" 27 minutes; Oct. 11. This video documents a presentation to FEMP employees by John Meese, president of the AFL-CIO Metal Trades.

"Thorium Overpacking Project (FEMP020320);" 13 minutes; Oct. 28.

Thorium Overpacking Project Update

The overpacking of the drums of thorium continues on schedule. As of Oct. 31, a total of 1,696 drums had been packaged into 278 thorium overpacking containers. Thirty-four truckloads carrying 78 thorium overpacking containers had been shipped to NTS since the project began May 6, 1996.



FEMP Waste Shipping Report

The volume of low-level radioactive waste shipped to the Nevada Test Site (NTS) during October 1996 was 19,818 cubic feet (external). Shipping totals are based on the fiscal year (October through September); the FEMP shipped 19,818 cubic feet (external) of low-level radioactive waste to NTS during fiscal year 1997.

Low-level radioactive waste volume reduction includes approximately 205 containers of legacy low-level uranium residue and 605 containers of thorium oxalates/hydroxides identified in *FY 1996 Inventory Reduction Plan for Legacy Wastes at the FEMP.*

Shipment of eight containers of stabilized thorium nitrate waste was completed in October. Efforts for fiscal year 1997 will be directed toward complete reduction of legacy uranium residue and asbestos inventories, as well as a majority of the thorium oxalate/hydroxide inventory in Building 65.

The volume of low-level radioactive waste materials per waste stream that were shipped to NTS during October 1996 follows:

Waste Stream	External Vol. (cf)
Process Area Scrap	112
Thorium	13,498
Residues (including UNH)	3,598
Contaminated Trash	1,261
Construction	1,349

The volume of low-level radioactive waste materials per waste stream that have been shipped to NTS during fiscal year 1997 (through Sept. 30, 1997) follows:

Waste Stream	External Vol. (cf)
Process Area Scrap	112
Thorium	13,498
Residues (including UNH)	3,598
Contaminated Trash	1,261
Construction	1,349

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