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PLANT 1 IMPLOSION FACT SHEET - FEBRUARY 1997

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DOE-FEMP PUBLIC
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FACT SHEET



February 1997

Plant 1 Implosion

Plant 1 Project Background

Plant 1 (also referred to as Building 1A or the Preparation Plant) is 82 feet wide, 202 feet long and 60 feet high, with a structural steel frame, transite walls and roof, and steel and concrete floors. During Fernald's production era, Plant 1 was used to weigh, sample and mill ore concentrates and recycled materials for distribution to other on-site processes. Plant 1 is the third of 10 major production plants to be dismantled as part of Fernald's cleanup mission. More than 220 structures, including plants, parking lots, storage pads, etc., are planned for demolition.

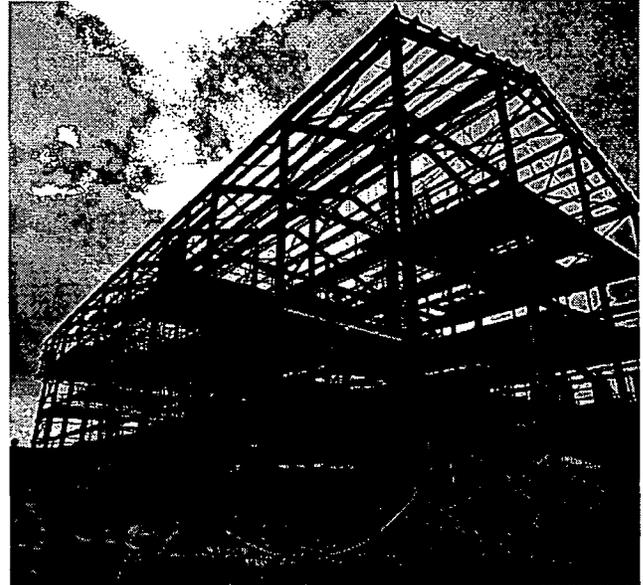
Safe Shutdown

In preparation for the Plant 1 demolition, Fernald workers spent months removing in excess of 30,000 pounds of uranium-bearing material from the four-story facility to reduce the potential spread of contamination and place the building in a safe shutdown configuration. Workers also removed, packaged and transported highly enriched nuclear materials stored in Plant 1 to another on-site location.

Fernald's Safe Shutdown Program is a removal action established under a consent agreement between the U.S. Environmental Protection Agency and the U.S. Department of Energy (DOE). The program's primary mission is to remove and eliminate nuclear and hazardous materials from former process buildings and equipment and de-energize the facilities prior to demolition.

Decontamination and Dismantlement

In December 1994, Fluor Daniel Fernald awarded the \$2.39 million Plant 1 dismantling project to Babcock & Wilcox (B&W-NESI) of Lynchburg, Va. After an eight-month suspension due to funding limitations, B&W-NESI restarted Plant 1 dismantling activities in October 1995.

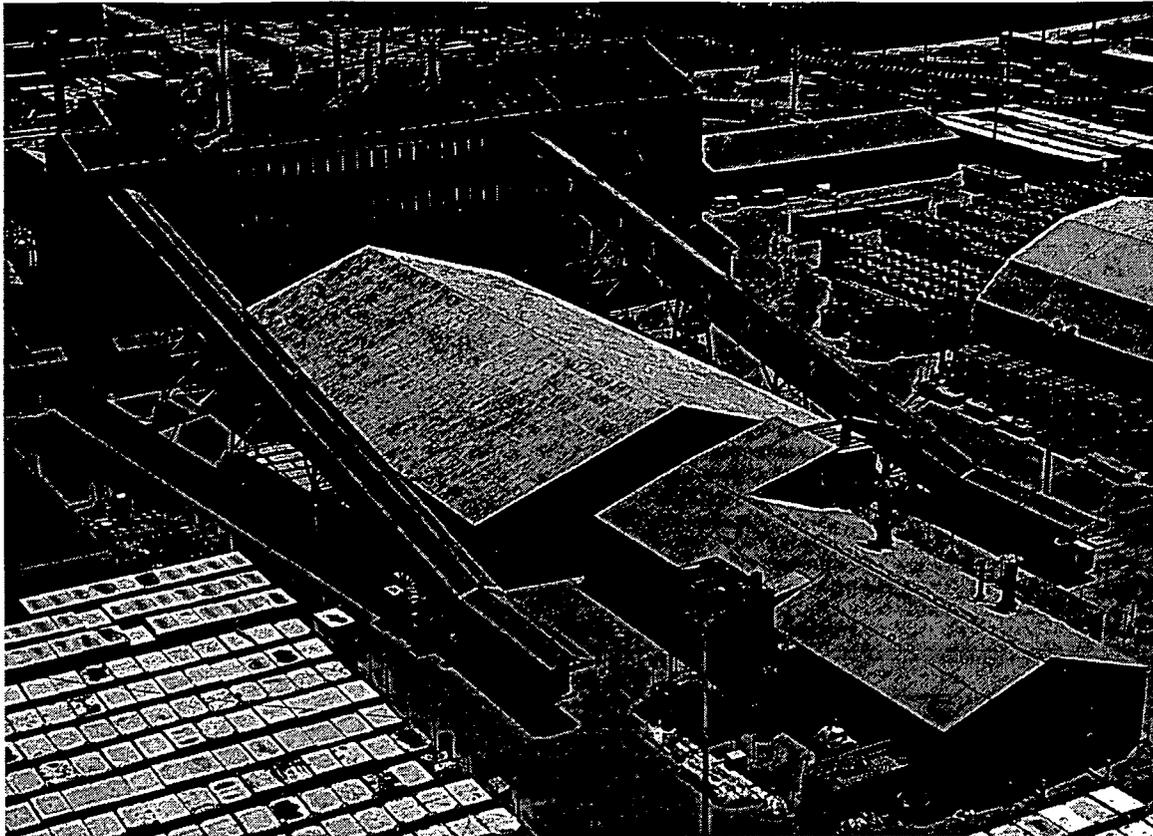


FEMP File Photo 6080-563: The Plant 1 steel structure will be imploded Saturday, Feb. 22. Removal of Fernald's buildings is an important component of the site's accelerated cleanup plan because the soil beneath them is needed to construct the On-Site Disposal Facility.

Plant 1 Implosion

Safety and economy were chief criteria in selecting implosion as the final dismantlement method. Implosion reduces workers' exposure to radiological contamination; minimizes environmental and personnel exposure to lead-based paint; reduces potential for falls from elevated work areas; and shortens the project schedule (which reduces the project cost).

To implode Plant 1, B&W-NESI subcontracted Controlled Demolition Inc. (CDI). CDI also imploded Plant 4 in August 1996 and Plant 7 in September 1994. Prior to detonation on Feb. 22, CDI will place shaped charges and explosives on key structural supporting members of Plant 1's steel structure. These steel-cutting charges will be detonated sequentially, causing the structure to collapse on the footprint of the building within seconds. Once collapsed, the height of the structure is anticipated to be between 30 feet and 35 feet.



FEMP File Photo: 6385-230: The photo above shows Plant 1 before dismantling and demolition activities. The two conveyors extending from the building were used to transport drums from the ground to the fourth floor.

Environmental Monitoring

Project-specific environmental monitoring data have been and will continue to be collected from four high-volume environmental air monitors. These monitors were strategically located to establish a radiological emissions baseline; monitor for potential increase in airborne radioactivity; and demonstrate compliance with applicable standards, regulations, and orders. Additionally, the nine regular air monitoring stations at the site perimeter will be used for the Plant 1 project. Data from the monitors will continue to be collected for approximately four to six weeks after the project is fully complete. Similar data collected from the Plant 7 and Plant 4 implosions indicated no emission levels of concern.

Disposition of Plant 1 Materials

After the implosion, steel, concrete and other materials will be size reduced, stacked, and placed back on the Plant 1 foundation. Final disposition of approximately 400 tons of Plant 1 structural steel and materials will be consistent with the Operable Unit 3 Record of Decision for Final Remedial Action.

Plant 1 Technology Test Bed

While a visible example of final remediation, the Plant 1 implosion is also a useful source of data for decontamination and dismantling activities nationwide. During the past year, DOE-FEMP, Fluor Daniel Fernald and B&W-NESI partnered with the DOE Office of Science and Technology (DOE-OST) Decontamination and Decommissioning Focus Area to demonstrate 12 new or improved technologies in Plant 1 to address waste characterization; worker protection; decontamination; demolition; waste minimization; and volume-reduction activities.

The Decontamination and Decommissioning Focus Area, based at the Federal Energy Technology Center in Morgantown, W. Va., selected the Plant 1 Large-Scale Technology Demonstration Project in October 1995 as one of three national proposals to receive funding for technology demonstrations. Recently, DOE-OST announced that it will invest another \$500,000 in the program, bringing the funding to more than \$3 million.