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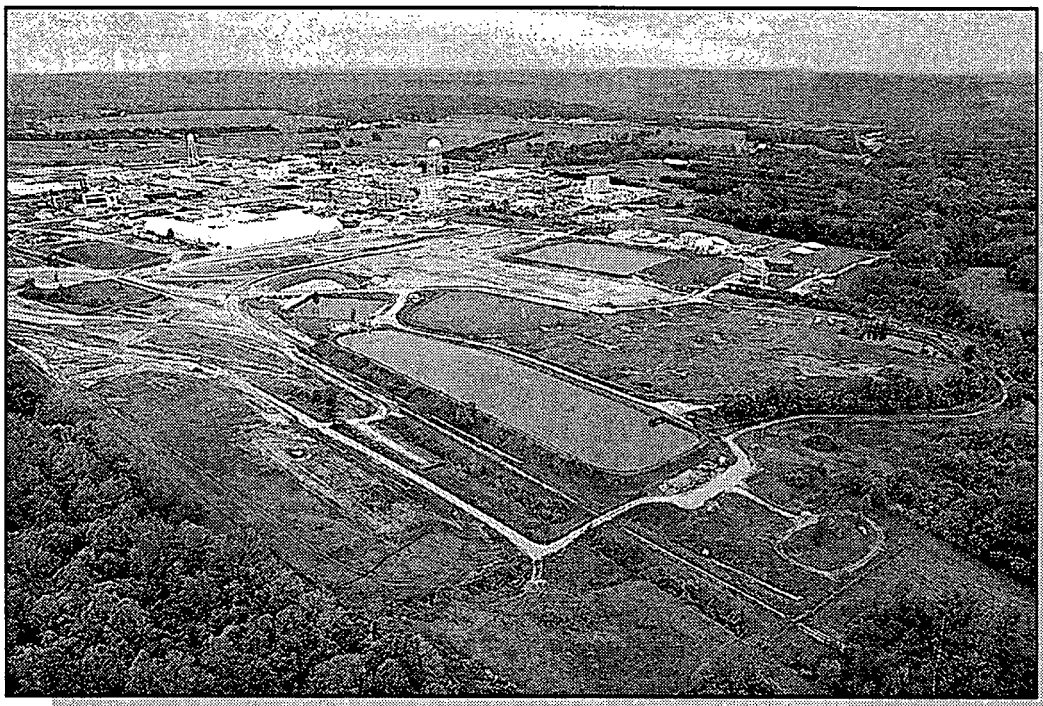
Waste Pits Remedial Action Project

Transportation Fact Sheet



Fernald's six waste pits range in size from one to five acres (a football field is about one acre) and vary in depth from 10 feet to 40 feet. More than 1 million tons of contaminated materials are associated with cleanup of the waste pits (6600-35).

Cleanup Summary

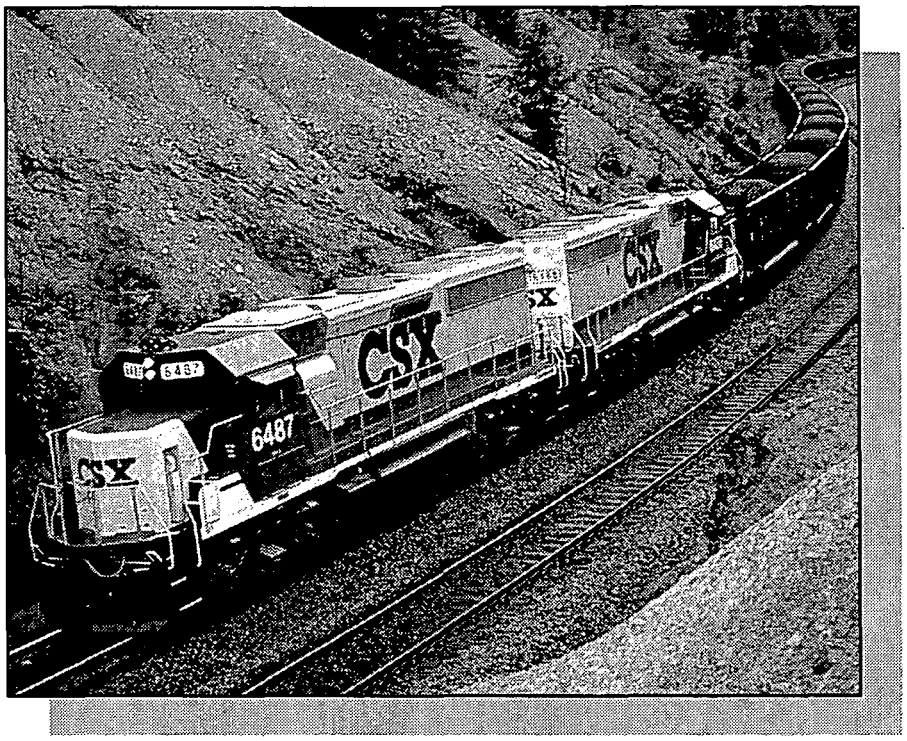
The Waste Pits Remedial Action Project (WPRAP) consists of six waste pits, a burn pit, and clearwell located in the northwest portion of the U.S. Department of Energy's (DOE) Fernald Environmental Management Project. Fernald's cleanup plan for these waste units involves excavating the waste pits and surrounding contaminated soils, processing/treating the waste materials, as required, to meet waste acceptance standards, and loading the materials into railcars for off-site shipment to a permitted commercial disposal facility (PCDF).

Transportation

The optimal configuration for transporting WPRAP waste materials safely is by rail in a unit train consisting of at least 40 gondola freight cars lined with a disposable plastic liner. A rigid cover will be installed and secured in place to enclose the gondola car.

A unit train makes a direct run between the point of origin and destination point, receives priority right-of-way and expedited switching, and stays intact along the whole route, (i.e., it does not receive additional freight nor drop any freight).

Fully loaded, each gondola car is expected to contain about 100 tons of waste pit material. The interior of each gondola car will have a permanent, sprayed-on polyurethane coating resistant to wear under normal operation. An additional disposable liner will: prevent external contamination because the flaps will be folded over the outside of the car during loading; minimize contamination inside the gondola car; and facilitate the removal of material from the car. The hard cover is designed to prevent human intrusion, infiltration of precipitation, and inadvertent release of the waste pit material.



Fernald estimates that 124 unit train round trips will be necessary to transport the waste off site (90-0815).

The gondola railcar with a hard cover will satisfy Department of Transportation (DOT) regulations for this type of radioactive material. These regulations require that such materials be transported in strong, tight packages within closed transportation vehicles under exclusive use conditions ("exclusive use" means that the gondolas are used by a single shipper and unloaded by the disposal facility). A strong, tight package is one that will prevent the release of radioactive material under normal transport conditions.

Placards

When loaded with wastes, the railcars will be placarded for radioactive materials and will be conspicuously stenciled with the words: "FOR RADIOACTIVE MATERIALS USE ONLY" in lettering at least 8 cm (3 inches) high on both sides of the car. The car must be kept closed to prevent access, except for loading and unloading operations. To separate the locomotive from loaded gondola cars, the DOE requires a buffer car with radioactive placards as a safety precaution.

Surveys

Before the loaded railcars are released from the site, each railcar will be externally surveyed for contamination to check compliance with DOE acceptable radiation levels. Two types of radiation surveys will be conducted on each railcar. The first survey measures direct radiation and results are available immediately. The second survey measures removable external contamination using a wipe test of a roller with an adhesive surface.

Radiation Limits

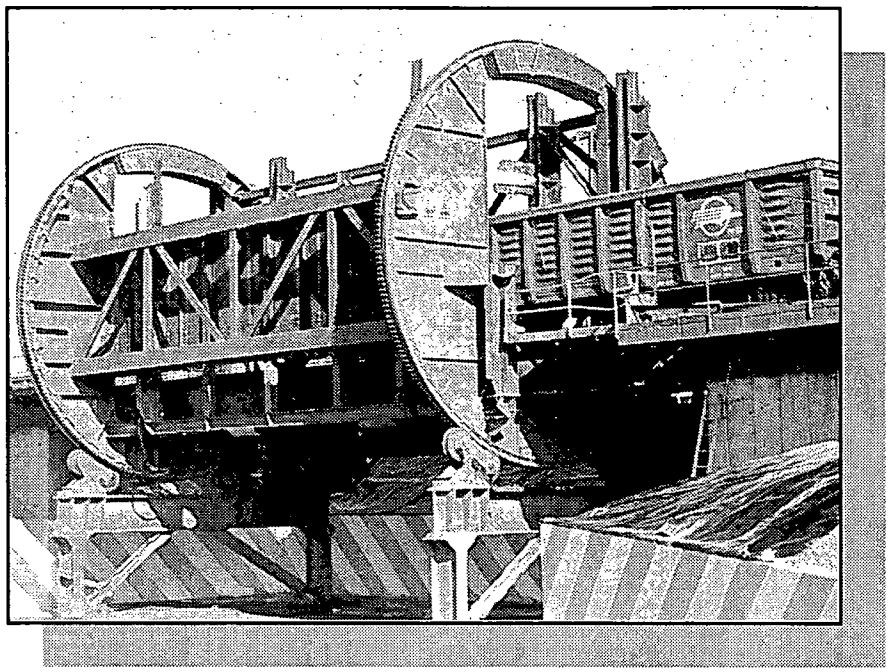
In general, radioactivity limits for loaded railcars are based upon the isotopic and radioactivity concentrations of the materials. The following DOT maximum limits apply:

- 200 millirem per hour reading on any external surface;
- 10 millirem per hour at any point two meters from the outer surface;
- 2 millirem per hour in any normally occupied space, such as cab of the train.

DOE and Fluor Daniel Fernald will ensure that the loaded railcars will comply with these limits.

Schedule

Transportation-related activities associated with the remedial action phase (i.e., implementation of the WPRAP cleanup plan) will be addressed in a *Transportation and Disposal Plan*. This plan will be submitted to U. S. EPA and Ohio EPA in April 1998, and will be available to the public for review in Fernald's Public Environmental Information Center. The *Transportation and Disposal Plan* will specifically address:



A typical railcar rollover unit is attached to the side of a railcar. The unit inverts the railcar, emptying the waste contents. After processing, approximately 700,000 tons of waste materials will be loaded into gondola railcars, transported and disposed at an off-site disposal facility over a period of five and a half years, beginning in March 1999 (2853.40).

- evaluation, notification, and subsequent emergency actions taken by the train's crew, local authorities, railroad emergency responders, state emergency responders, DOE and Fluor Daniel Fernald in the event of an off-site emergency;
- management of railcars and processed waste materials and preparation of unit trains before departure from Fernald;
- Fernald rail operations, including a discussion of operations and maintenance of rail facilities, waste handling, inspection and maintenance, rail shipment documentation, unit train transfer, operational environmental controls, equipment maintenance, and health and safety issues.

As an enforceable milestone with the U. S. Environmental Protection Agency, DOE and Fluor Daniel Fernald are required to initiate operations (i.e., loading of waste) no later than March 1999, and complete operations, including above-ground decontamination and dismantlement of the treatment facilities, by May 2005. During this time period, unit train shipments (40-60 gondola cars) will leave the Fernald site one or two times a month.

For More Information...

Additional information about WPRAP and other Fernald Cleanup projects is available in the Public Environmental Information Center, 10995 Hamilton Cleves Highway (Delta Building), or on Fernald's Web site (www.fernald.gov).

Stakeholders can also learn about cleanup plans and progress at monthly Cleanup Progress Briefings. The briefings are normally held on the second Tuesday of every month at a location near the Fernald site. For specific questions about the Waste Pits Remedial Action Project, call Dave Lojek, DOE FEMP project manager, 513-648-3127, email address: dave_lojek@fernald.gov.