EMDF UPDATE

The DOE Oak Ridge Office of Environmental Management's (OREM) mission is to protect the region's health and environment, enable vital science and national security missions, and make clean land available for future use.

Achieving this mission involves removing deteriorated infrastructure and environmental contaminants at the Y-12 National Security Complex (Y-12), Oak Ridge National Laboratory (ORNL), and East Tennessee Technology Park that date back to operations during the 1940s –1960s.

These projects generate a large volume of building debris and soil. OREM uses an onsite disposal facility for most of this material, while sending hazardous and highly radioactive waste out of state for permanent disposal.

However, the current onsite facility will reach full capacity in the near future, and a new onsite facility, the Environmental Management Disposal Facility (EMDF), is needed to maintain progress and complete cleanup in Oak Ridge. Advancing cleanup protects the region and clears land for new economic opportunities.

Safety is OREM's highest priority, and we worked extensively with the Environmental Protection Agency (EPA) and the state of Tennessee on a science-driven approach to identify a suitable location for the facility. The selected site presents the best location for a safe and protective facility.

The current onsite disposal facility, the Environmental Management Waste Management Facility, has exceeded 80% of its capacity.

U.S. DEPARTMENT OF ENERGY | OAK RIDGE OFFICE OF ENVIRONMENTAL MANAGEMENT

Environmental Management Disposal Facility Update

July 2023

Why is a New Onsite Disposal Needed?

The current onsite disposal facility is nearing full capacity, but major cleanup at Y-12 and ORNL is just beginning. Those sites house the largest inventory of high-risk buildings in DOE's national complex. EMDF will provide essential disposal capacity so crews can demolish these structures and address sources of environmental contaminants at those sites.

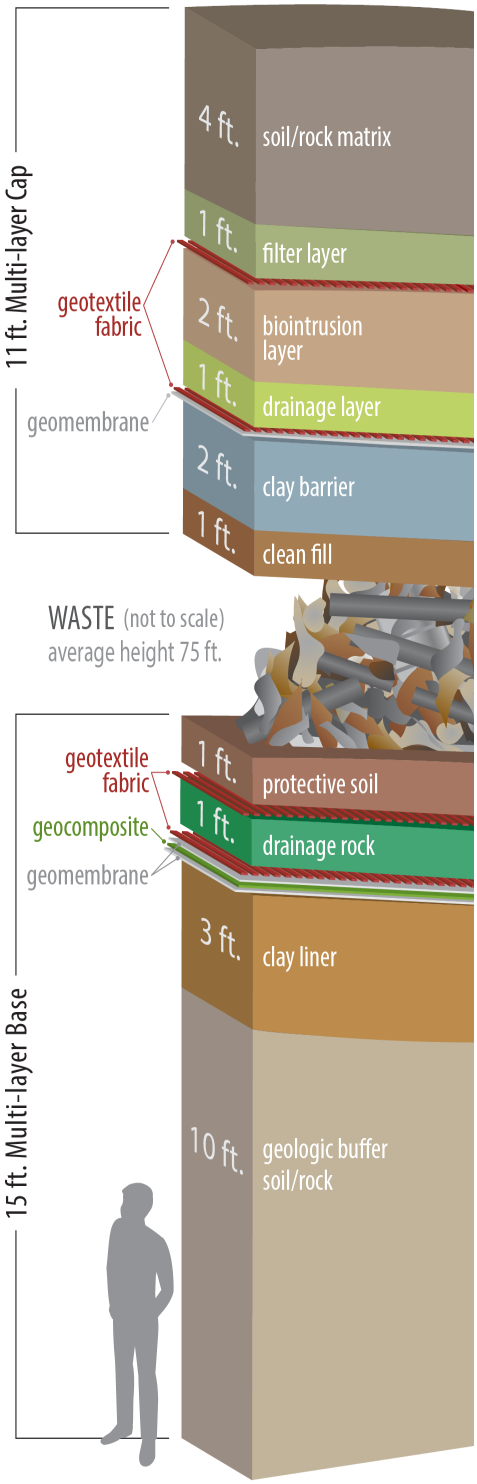
CHALLENGE: Without a new onsite disposal facility the costs of cleanup will increase drastically. The cost of sending all waste out of state will cause significant delays that leave risks unaddressed longer, reduce one of DOE's most accomplished workforces, and could affect future funding levels.

SOLUTION: Constructing EMDF will allow OREM to maintain its workforce and cleanup progress. Directing resources toward aging, contaminated structures and sources of contamination sooner will benefit the community and DOE's other missions in Oak Ridge.

EMDF's design will use numerous engineering features to ensure waste remains isolated from the surrounding environment.

- 15 feet of material with protective liners constructed beneath the waste
- When the landfill is completely filled, it will be covered by a multi-layer cap composed of low-permeability clays and synthetic sheeting
- The top of the cap will be a 4-foot-thick erosion control layer of soil and grasses that provide further protection

EMDF Conceptual Design



20 Years of Safe and Compliant Waste Disposal

Environmental Management Waste Management Facility (EMWMF)

Onsite disposal reduces risk of transporting waste on public roads and leads to significant cost savings. Waste not meeting strict waste acceptance criteria is shipped out of state for disposal.

95%
of waste volume
disposed in onsite facility

5%
of waste volume
shipped out of state

0.2%
of total radiological
activity disposed on site

99.8%
of total radiological activity
shipped out of state

EMWMF, the current disposal facility, has operated safely and without impacting the community for nearly 20 years. OREM conducts regular monitoring that tracks current conditions in the surrounding air, water, and soil. Employees moving waste at the facility on a daily basis have never received any contamination.

EMDF Site Selection Process

DOE worked with the U.S. EPA and the Tennessee Department of Environment and Conservation (TDEC) to identify the proposed location for the EMDF.

DOE initially performed extensive evaluations of 16 different locations across the 32,000-acre Oak Ridge Reservation to find the site with the geological characteristics most suitable for the facility. DOE evaluated rock types, groundwater flow, and future land use when considering each site.

After years of evaluations and reviews, DOE, EPA, and TDEC selected the Central Bear Creek Valley site as the most suitable location for the onsite disposal facility.

The site selected was based on favorable geology, distance from communities, land use, and security.

Public Engagement

– Briefings, tours, and work sessions with state and local officials
– Meetings/discussions with minority communities
– Presentations to advisory boards
– Meetings with local organizations
– Events with residents

Where We Are and What's Next

- ✓ OREM has worked with regulators on the EMDF decision process since 2011 and offered briefings and public engagement events since 2015.
- ✓ EMDF Remedial Investigation/Feasibility Study was developed between 2011 and 2017.
- ✓ Proposed Plan, approved by EPA and TDEC, released for public comment in September 2018.
- ✓ Offered 120-day public comment period, ending January 2019, to accept input from community. Included public hearing and three public information sessions.
- ✓ Submitted draft Record of Decision to EPA and TDEC in July 2021. It includes more details about the project and responses to all public comments.
- ✓ Conducted outreach and offered an additional public comment period in Spring 2022 about EMDF's site characterization, waste acceptance criteria, and water quality protection.
- ✓ All public comments addressed in the final Record of Decision that was signed by EPA and TDEC in September 2022.

CERCLA stands for the Comprehensive Environmental Response, Compensation, and Liability Act, which is the regulatory process for decision-making on major cleanup projects.

The CERCLA Decision Process for EMDF

Preliminary Assessment - initial assessment of 16 potential sites

Site Assessment - narrow selection of sites for in-depth analysis

Remedial Investigation/Feasibility Study - analyze and evaluate selected alternatives

Proposed Plan - recommend preferred alternative and solicit public involvement in decision

Record of Decision - present preferred alternative and provide project overview

Remedial Action - implement action determined in Record of Decision

Long-term Monitoring - monitor effectiveness of Remedial Actions; conduct five-year reviews

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