



# Ongoing Efforts to Assure Waste Disposal Capacity for the Oak Ridge Reservation

Dennis Mayton, Environmental Management Disposal Facility  
Deputy Federal Project Director  
Oak Ridge Office of Environmental Management

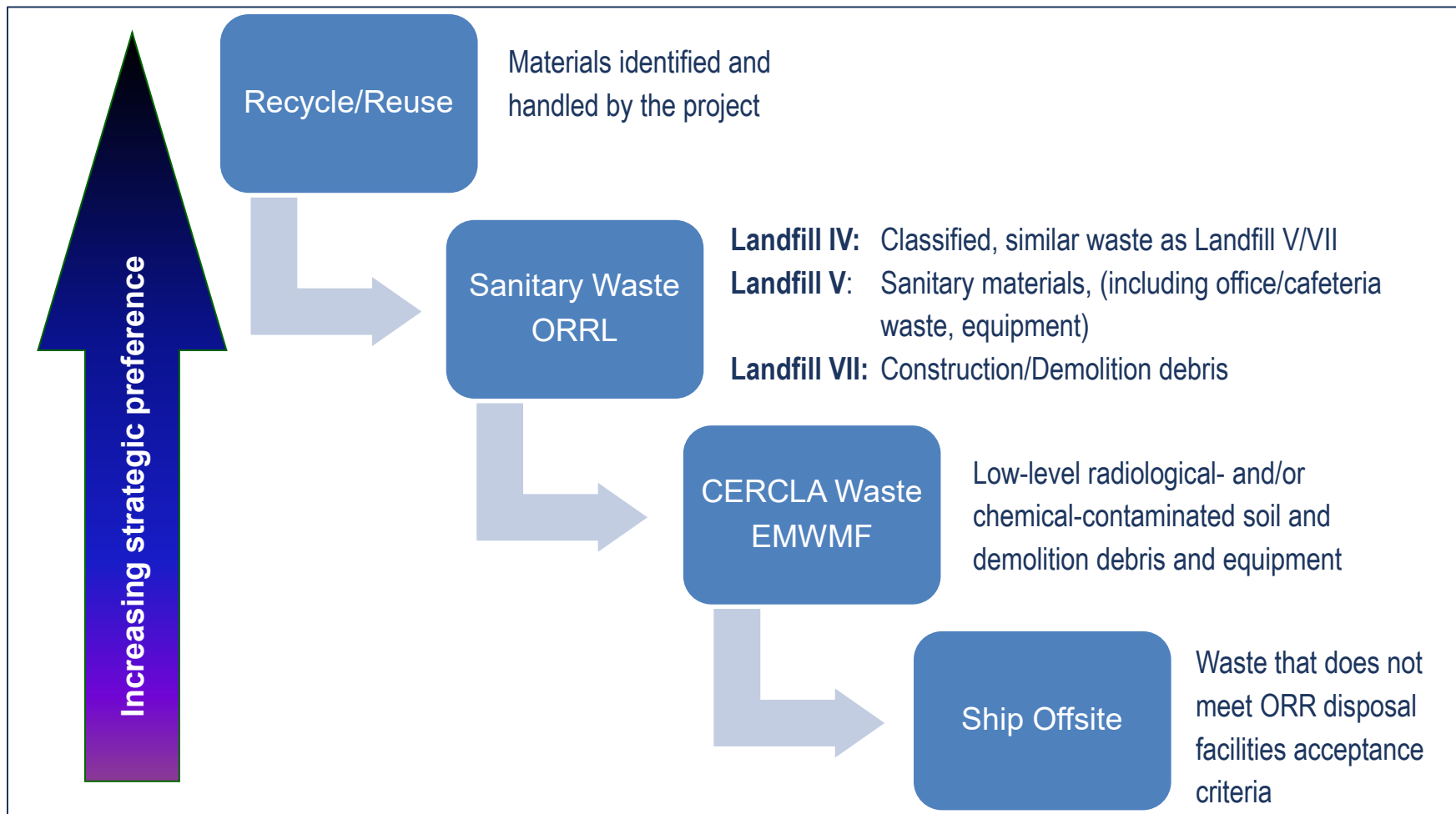
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# Current and planned disposal capacity is sufficient to meet needs



- DOE operates several engineered landfills for safe and compliant disposal of Oak Ridge Reservation (ORR) remediation, demolition, and sanitary waste
- Operating landfills are permitted by Tennessee Division of Solid Waste Management
- Environmental Management Waste Management Facility (EMWWMF) and planned Environmental Management Disposal Facility (EMDF) fall under the regulatory requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Each landfill/waste disposal facility has established waste acceptance criteria to determine whether waste is acceptable for disposal

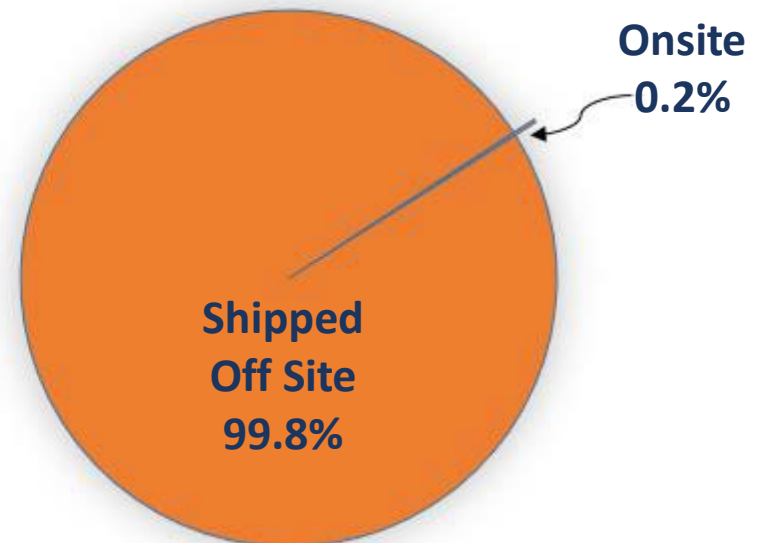
# Waste disposal decisions follow waste hierarchy



# The high hazard radioactive waste is disposed off site

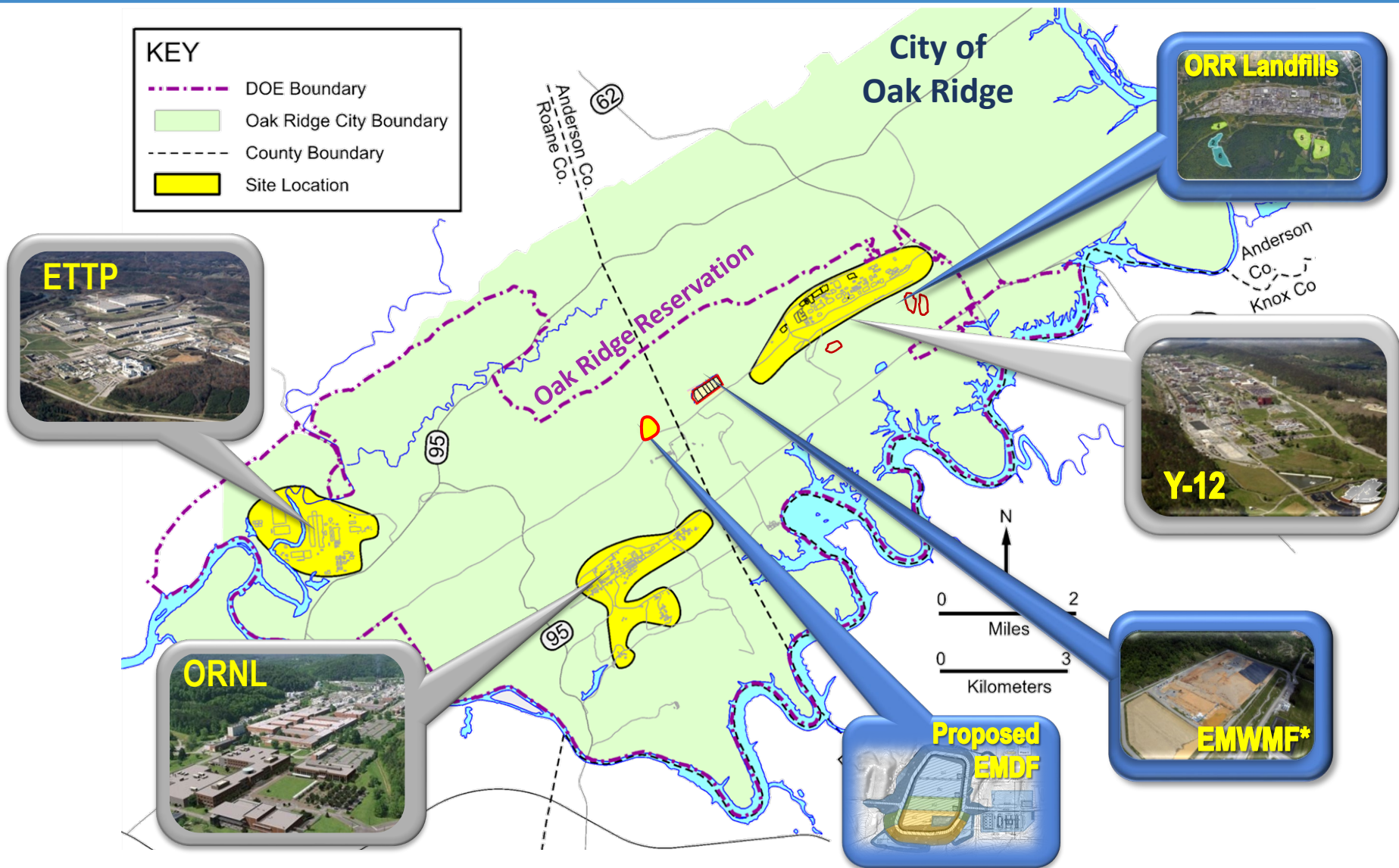


**By Volume**



**By Radiological Activity**

# OREM uses multiple onsite disposal facilities to support cleanup operations



\* Environmental Management Waste Management Facility

# Landfills/EMWMF are located within DOE-controlled areas



-  Operational Facilities
-  Closed Facilities

# Onsite disposal availability has been key to the successful cleanup of ETPP



ETPP Before Cleanup



ETPP After Cleanup

# Considerable cleanup scope remains at ORNL and Y-12 requiring additional waste disposal capacity



Excess Facilities at Y-12

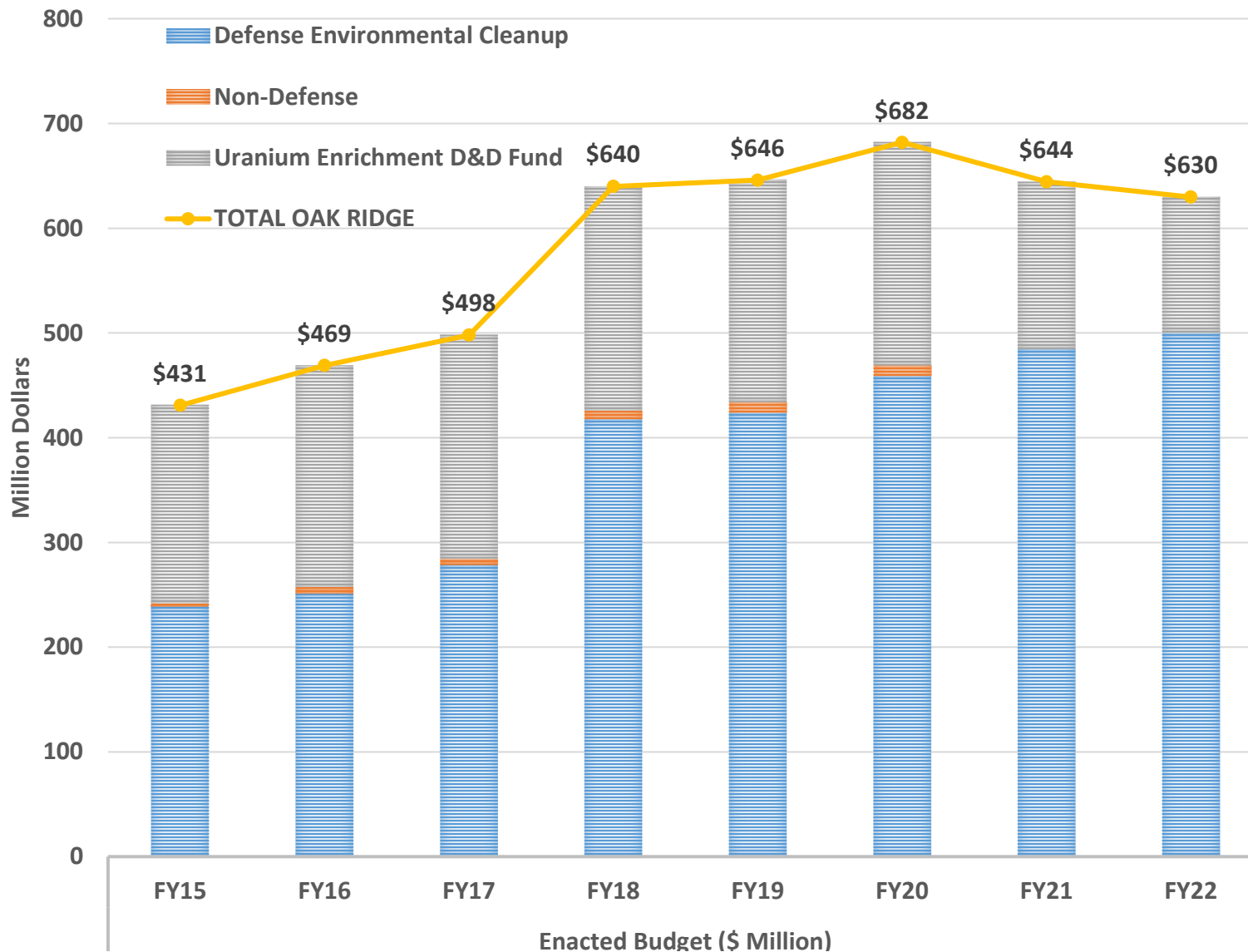


Excess Facilities at ORNL

- Over 200 buildings to be demolished at Y-12 and ORNL
- Oak Ridge contains DOE's largest inventory of high-risk facilities
- Wide range of physical, chemical, and nuclear hazards that present risk to critical ongoing research and national security missions



# OREM's 2022 Budget sustains cleanup momentum



# Remaining capacity supports completion of East Tennessee Technology Park cleanup

- 28-acre disposal facility, opened in 2002
- Lined disposal cells receive low-level radiological and chemical waste from CERCLA cleanup of ORR and associated sites
- Approximate total capacity 2.3 million cubic yards
  - Final cap redesign increased capacity to approximately 2.3 million cubic yards
  - Currently about 82% full
  - Projected to be full in late-2020s



# Additional capacity is needed for Y-12 and ORNL CERCLA cleanup



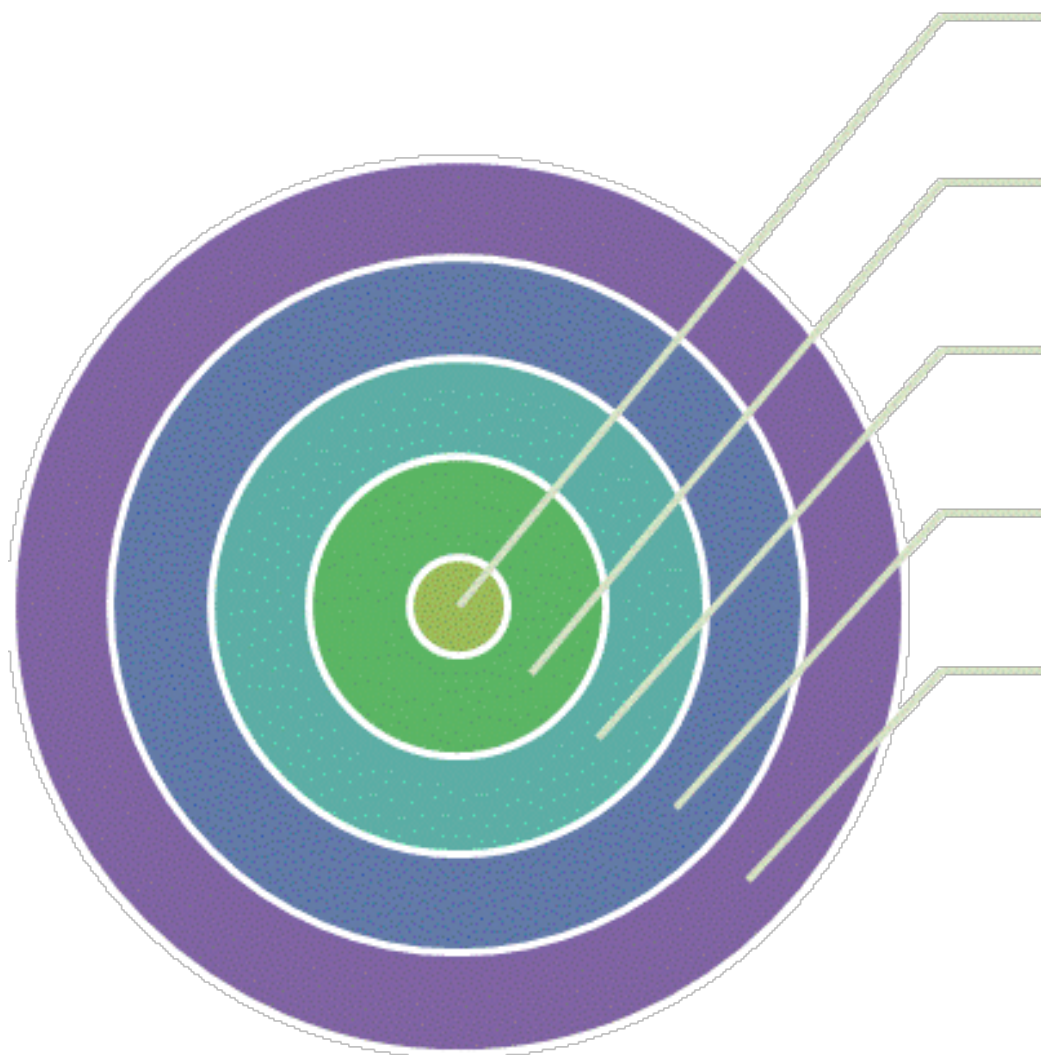
## Permitted Oak Ridge Reservation Landfills

- Constructed in phases to reach build out of permitted capacity
- Additional area will be constructed to support future cleanup

## EMDF (Low-Level CERCLA Cleanup Waste)

- Preferred site is located at Central Bear Creek Valley
- Projected disposal capacity is 2.2 million cubic yards
- D1 Record of Decision (ROD) was issued to the Environmental Protection Agency and the Tennessee Department of Environment and Conservation for review in July 2021; D2 Record of Decision is planned to be issued in FY22
- Projected to be operational by 2029

# Systems Approach to Waste Disposal - Multiple Layers of Protection



## Site Selection

- Siting
- Characterization

## Design and Construction

- Engineered Barriers
- Construction QA/QC

## Performance Assessment

## Site Operations

- Waste Acceptance Criteria
- Rigorous Waste Characterization
- Generator Certification Program
- Wastewater Management

## Performance Assurance

- CERCLA 5-Year Reviews;  
DOE Order 458.1, *Radiation Protection of the Public and the Environment*
- Active/Passive Institutional Controls
- Monitoring

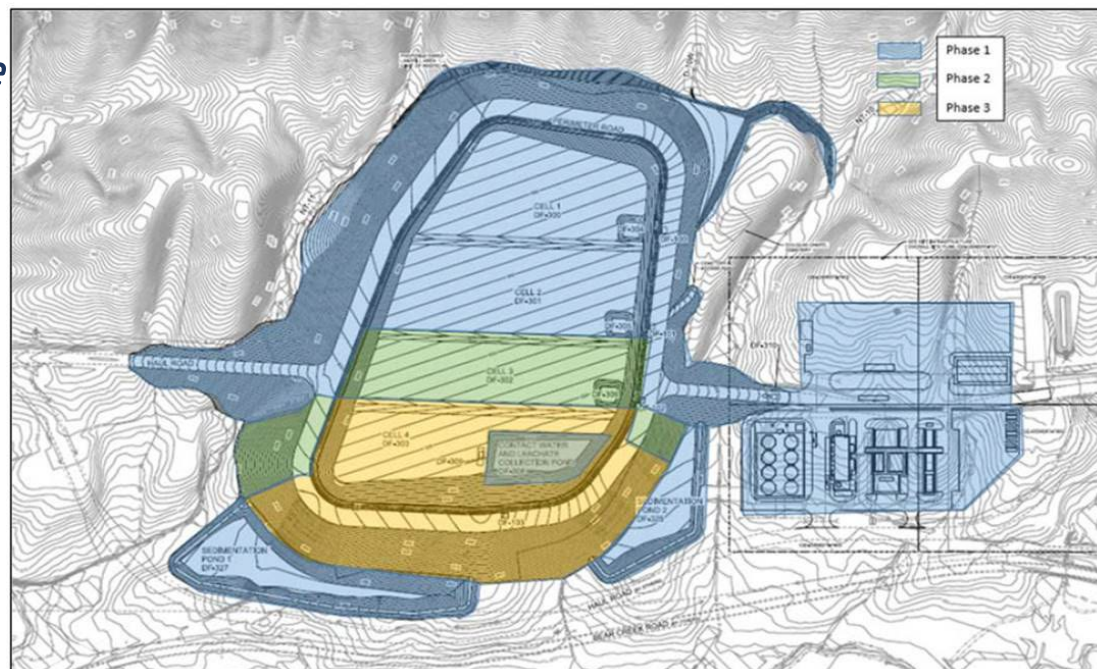
# DOE presented the plan to the public at multiple meetings

- Multiple meetings with community leaders began in 2015
- Sessions with public following submittal of the Proposed Plan – September 13, October 2, and October 11, 2018
- Public meeting following the Proposed Plan submittal – November 7, 2018
- Public comment period – September 7, 2018 to January 9, 2019
- Additional public comment period will address:
  - Water quality protection
  - Site groundwater characterization
  - Waste acceptance criteria



## DOE Order 435.1, *Radioactive Waste Management*

- Received a Preliminary Disposal Authorization Statement (DAS)
- Develop remaining documents for eventual Operational DAS



## CERCLA Process

- Additional public comment period
- Submit updated Focus Feasibility Study for landfill wastewater
- Submit EMDF D2 ROD after incorporating public comment period responses into ROD

# QUESTIONS?