

# Barnwell LLRW Disposal Facility

**WM Symposia 2017**

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*All you need in radioactive and hazardous waste  
management*

# Barnwell Disposal Facility (BDF)

- Atlantic Compact
- License Information
- Configuration
- Volume Information
- Workforce
- Disposal Rates
- Extended Care Fund
- Future

# Barnwell Complex



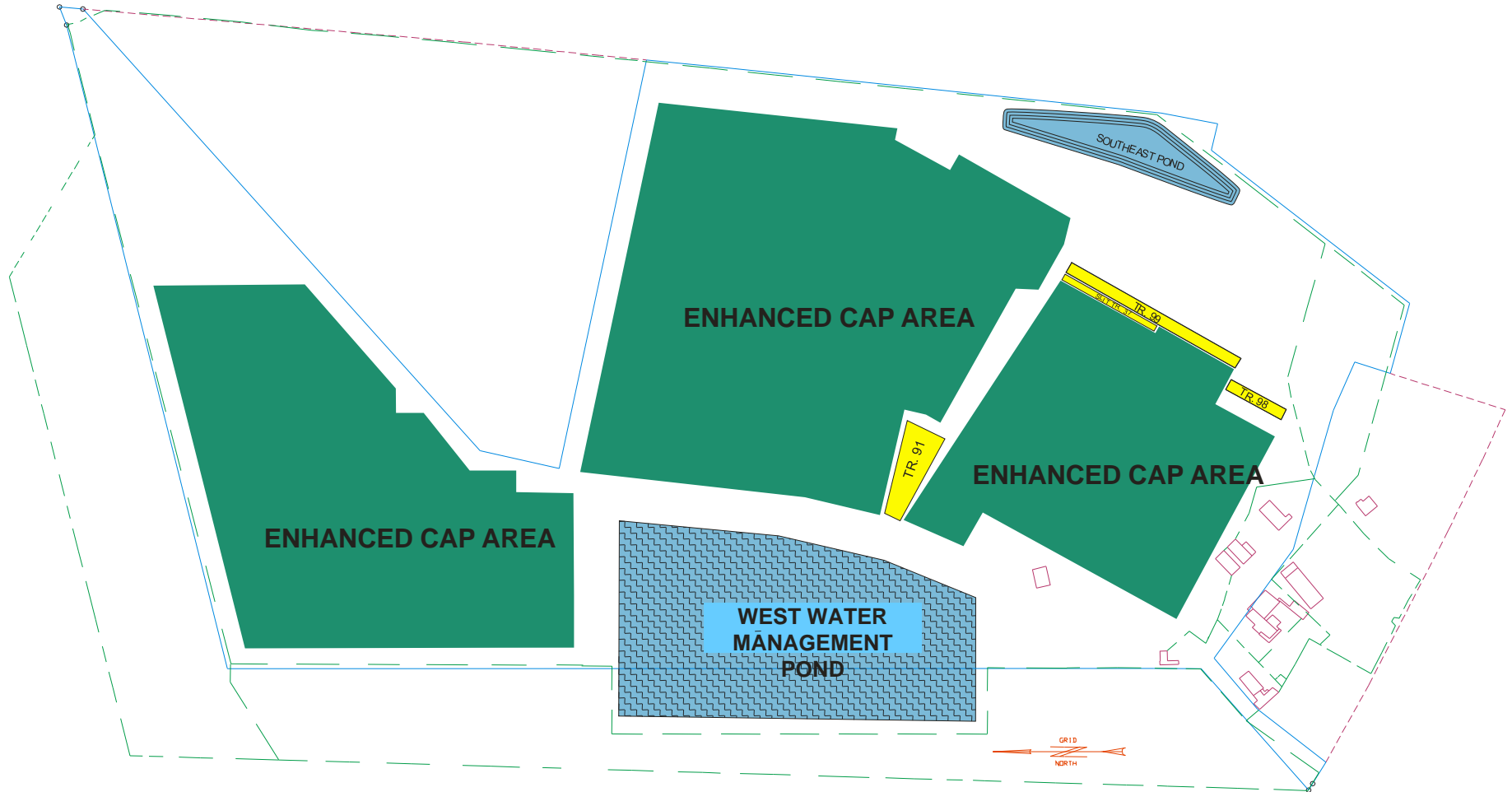
# BDF

- Began disposal operations in 1971
- Received waste from across the US until 2008
- In July 2008 became the Disposal Facility for the Atlantic Compact
  - South Carolina
  - New Jersey
  - Connecticut

# BDF Compliance

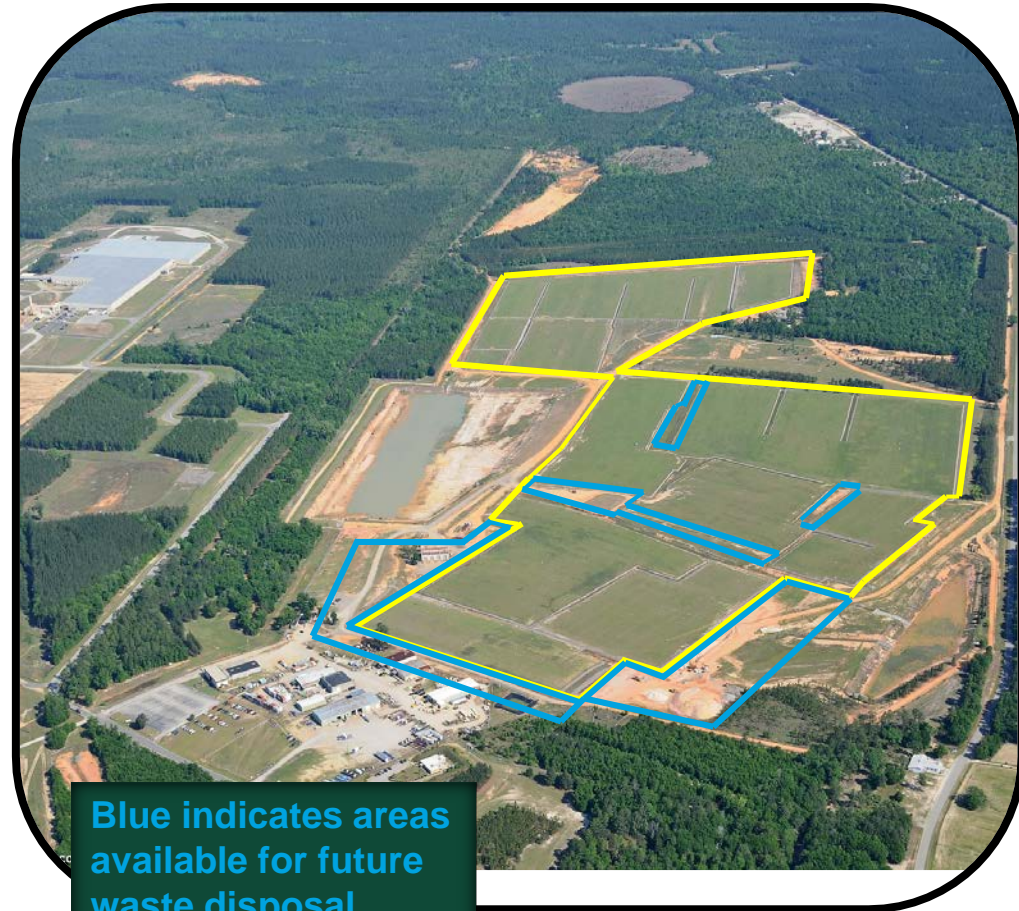
- Licensed by the State of South Carolina Department of Health and Environmental Control (DHEC) for the receipt and disposal of Class A, B, and C low-level radioactive wastes
- DHEC provides
  - On-site Inspector
  - Weekly engineering inspections
  - Twice a year license inspections

# BDF Configuration



# BDF

- 235 Acres Licensed Disposal Property
  - 121 Acres of completed disposal property
  - 18 acres of projected future disposal property
  - ~38 acres buffer zone
  - Remaining 58 acres of water management and areas currently unavailable for disposal



**Blue indicates areas available for future waste disposal.**  
**Yellow indicates closed areas.**

# BDF

- What has been disposed of in the last 47 years?
  - 28 million cubic feet
  - 14 million Curies





# BDF Workforce

- Number of BDF employees: 37
  - Rad Safety and Licensing 7
  - Operations and Maintenance 7
  - Environmental Lab 7
  - Security 6
  - Management and Administration 10
  
- Average length of employment at Disposal Facility:
  - Over 19 years

# BDF Volumes

- As the Disposal Facility for the Atlantic Compact
  - 11,600 cubic feet average yearly volume
  - Approximately 60 – 70 shipments per year
  - 6 – 7 shipments per month
  - Approximately 2 irradiated hardware shipments every other year
  - Large components every 4 – 5 years

# BDF Volumes

- As the Disposal Facility for the Atlantic Compact
  - 50% Class A waste
  - 25% Class B waste
  - 25% Class C waste

# Class A/B/C Waste Disposal

- All waste arrives by truck
- Most shipments are HIC liners
- Vertical crane lift to place liner in prepositioned DHEC approved vault
- All waste classes in same trench - Separate vaults for stable/unstable



# Atlantic Compact Disposal Rates

- Rate Schedule approved by SC Office of Regulatory Staff every Fiscal Year
- Provides 2 Options
  - Option A – Use Maximum Uniform Rate Schedule – non reactor pricing
  - Option B – Power reactors, allocated volume, Access Fee

# Atlantic Compact Disposal Rates

- Option A
  - Use Maximum Uniform Rate Schedule – non reactor pricing
    - Calculated rate based on several factors including:
      - Density and weight
      - Dose rate
      - Radioactivity
      - Biological waste

# Atlantic Compact Disposal Rates

## ■ Option B

- Based on 7,000 cubic feet annual volume
- 13 reactors in Atlantic Compact
  - Pay Access Fee in quarterly installments
  - Current Access Fee \$87,711 per quarter
  - Provides 538.46 cubic feet of disposal volume per reactor per fiscal year
  - \$133 per cubic foot for over allocated volume
  - Ability to share volume allocation

# Atlantic Compact Disposal Rates

- Irradiated Hardware and Large Component Shipments
  - Pricing based on Cost Plus





# Extended Care Fund and Activities

- \$149 million as of December 2015
- Controlled by SC Office of Regulator Staff (ORS)
- Pays for Monitoring and Maintenance of closed area of facility
- \$2.2 million per year



# Future Challenges and Activities

- Proposed Part 61 revision
  - Long Term Performance Modeling
- Land Management
- New Power Plants coming on line
- Phase 2 D&D

*Thank you!*