

Barnwell Complex

South Carolina Nuclear Advisory Council



*All you need in radioactive and hazardous waste
management*

Safety

■ **Barnwell Complex**

- First aids – 0
- Total Recordable Case Rate (TRC) – 0.0
- Days Away, Restricted or Transferred (DART) – 0.0
- Days Away Case (DAC) – 0.0

■ **National Safety Council**

- 2016 Perfect Record Award
- 2016 Safety Leadership Award

Barnwell Complex



Barnwell Disposal Facility (BDF)



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

BDF

- 235 Acres Owned by the State of South Carolina
 - EnergySolutions leases the facility from South Carolina
 - EnergySolutions operates the disposal facility under SC DHEC Radioactive Material License 097
- Atlantic Compact member
 - Acceptance of Class A/B/C waste shipments 7 days per week
 - Acceptance of large components and irradiated hardware shipments
- Institutional Activities
 - Site maintenance
 - Environmental monitoring



BDF Current Status

- **Atlantic Compact Host Site – SC, NJ, & CT**
 - ~ 95% of the 235 acres under Institutional Care
 - 28 million cubic feet of buried waste consisting of 14.3 million curies
 - ~ 1 million cubic feet of disposal capacity remaining

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 waste

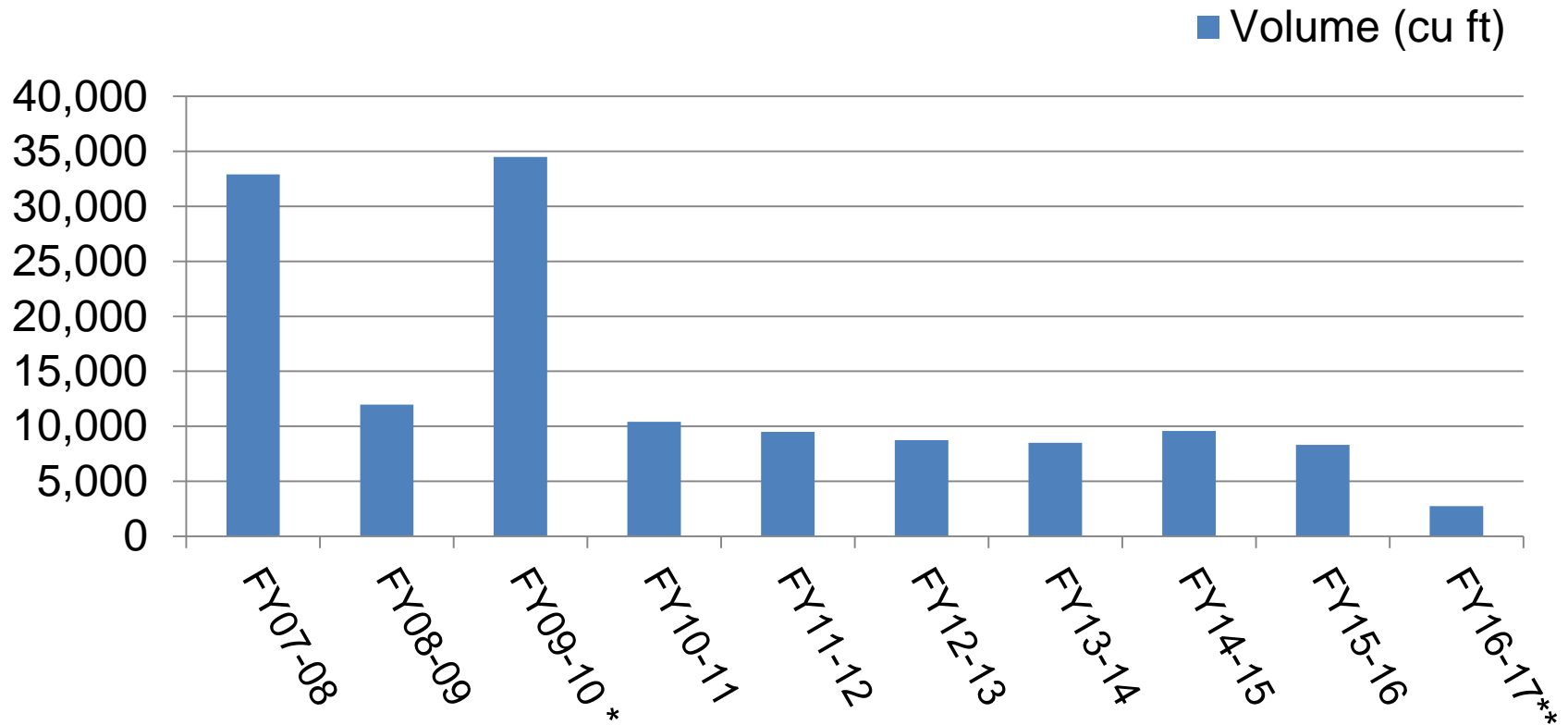


Large Component Shipments

- Pricing based on case-by-case basis
- Generators are encouraged to coordinate shipments



Recent Annual Waste Volumes Received (Fiscal Years)



* FY09-10 includes large components (27,304 cu ft)

** as of April 6, 2017

Recent Waste Volumes

Waste Type	FY 12/13 cubic feet	FY 13/14 cubic feet	FY 14/15 cubic feet	FY 15/16 cubic feet	FY 16/17* cubic feet
Routine Utility Waste	8,582	8,366	9,424	8,124	2,730
Non-Utility Waste	171	13	140	68	22
Large Components	0	0	0	0	0
Irradiated Hardware	0	115	0	113	0
Total	8,753	8,494	9,564	8,305	2,752

* as of April 6, 2017

BDF Regulatory Agencies

- SC Office of Regulatory Staff (ORS)
 - Sets prices for waste disposal
 - Detailed audits of actual costs

- SC Public Service Commission (PSC)
 - Determines allowable costs

- SC Department of Health and Environmental Control
 - Licenses Radioactive Materials – Disposal

Memorandum of Understanding

- SC Budget & Control Board, SC Department of Revenue and Chem-Nuclear Systems signed MOU June 30, 2009
- Disposal rates and/or access fees cover operating costs plus margin only (Revenue neutral for SC)
- Institutional costs of \$2.3M (increased annually by PPI) are disbursed from Decommissioning Trust Fund or Extended Care Fund for maintenance and monitoring of site closed portions
- No use of public funds to cover operational cost shortfalls other than as allowed by law

Atlantic Compact Disposal Rates

- Alternative Rate Schedule for FY 2016/2017 approved by SC Energy Office – effective ~~July 1, 2016~~
- Maximum Uniform Rate Schedule
 - Permanent ceiling on disposal rates applicable to Atlantic Compact waste
 - Adjusted each year in accordance with PPI
 - Pricing based on several factors including:
 - Density and weight
 - Dose rate
 - Radioactivity
 - Biological waste
 - Other charges (Irradiated hardware, SNM, Atlantic Compact Commission)

Atlantic Compact Disposal Rates

- Option B provides Access Fee pricing
 - Annual volume allocation: 538.46 cubic feet per reactor
 - Current Quarterly Access Fee:
 - \$ 87,711.54 per reactor (first and second quarters)
 - \$131,749.54 per reactor (third and fourth quarters)
 - Additional volume: \$133 per cubic foot (11,500 cubic feet maximum total volume)
 - Utilities can share annual volume allocation with appropriate contract changes

Utility Agreements for FY 2016/2017

- All 5 utilities with 13 reactors chose Option B pricing
- Access Fee determined by Cost of Operations plus statutory margin (29%)
- Budget base is 7,000 cubic feet
- Access Fee reassessed in FY 2016/2017 after lengthy discussions with utilities, and provide stable access fees for a calendar year.
- Proviso fund exhausted

Trust Funds

■ Decommissioning Trust Fund	
■ Balance as of March 31, 2017	\$2,993
■ Extended Care Fund	
■ Balance as of March 31, 2017	\$149,565,247
■ FY16/17 Institutional Cap	\$2,295,258
■ Projected Cost of Phase II Decommissioning	\$5,000,000

Barnwell Environmental and Dosimetry Laboratory

- Environmental Monitoring
- Radiological Laboratory
- Radiation Dosimetry
- Engineering Support
- Site Characterization
- Hazardous Material Management



Barnwell Processing Facility (BPF)



BPF

- 17-acre facility that consists of two primary buildings
 - 101 – 7,500 ft²
 - 201 – 24,500 ft²
- Services provided
 - Volume reduction
 - Dewatering
 - Waste treatment
 - Decontamination
 - Water processing
- BPF shares a boundary to the west with the Department of Energy Savannah River Site



Hittman Transport Services

- Two Dispatch Terminals
 - Barnwell and Tennessee
- 92 Drivers (Company & Owner Operator)
- 82 Tractors
- Equipment
 - Flat Beds
 - Double & Single Drop Trailers
 - Vans
 - Pup Trailers
 - Curtain Trailers
 - 65-ton Multi Axle Trailer
 - Cask Trailers
 - Tankers
 - Pan Vans



Cask Logistics

■ Key Assets

- Proprietary NRC Type B Shipping Casks
 - 10-160B
 - 8-120B
 - 3-60B
- DOT Type A and IP-II Shipping Casks
 - 8-120A
 - 10-142
 - 14-170 Series
 - 14-190
 - 14-195H
 - 21-300

■ Capabilities

- Cask Rental
- Cask Sales and Maintenance
- Specialty Package Design, Fabrication, and Licensing



***EnergySolutions
maintains the largest fleet
of licensed shipping
casks in the country!***

Questions

Thank you