

Barnwell Complex



- · Safety and Compliance
- Workforce
- Barnwell Disposal Facility (BDF)
- Barnwell Environmental & Dosimetry Lab (BEDL)
- Barnwell Processing Facility (BPF)
- · Hittman Transport Services
- · Cask Logistics

Safety



- Barnwell Complex
 - First aids 3

 - Total Recordable Case Rate (TRC) 2.0
 Days Away, Restricted or Transferred (DART) 5.0
 Days Away Case (DAC) 1.0
- · Safety Observation Checklist Program
- National Safety Council

 - 2013 Perfect Record Award2013 Safety Leadership Award
- · Hittman Transport Services
 - 2013 2nd Place Regional Fleet of the Year

Compliance



- 43 Years of Uninterrupted Operations
- Energy Solutions Operation Assessments/Observations
 - Internal, external, and independent assessments
 - Management Field Observations
- DHEC Licensing and Oversight (5 radioactive material licenses)
 - On-site inspector all disposal shipments inspected
 - Engineers weekly disposal site inspections
 - Staff unannounced semi-annual license inspections
 - 2013 0 NOV's

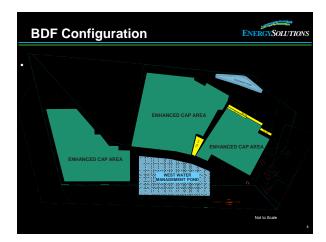
Workforce

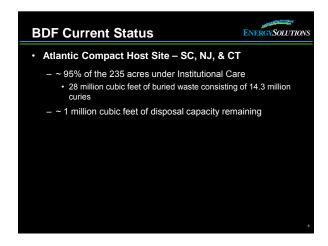


- - Barnwell Disposal Facility 36
 - Barnwell Processing Facility 10
 - Hittman 4
 - Cask Logistics 4
 - Other ES Operations in Barnwell 32
 - Aiken/Columbia Offices 146
- Average length of employment at Barnwell Complex
 - Over 20 years









Disposal Site Key Event Dates



- 1969 License to receive and store LLRW
- 1971 License to dispose of LLRW in 17.2 acres
 Extended Care Maintenance Fund established
- 1976 Lease amended to 235 acres
- 1980 US LLRW Policy Act passed
- 1981 Decommissioning Trust Fund established
- 1982 SC joins Southeast Compact
- 1985 US LLRW Policy Act Amendment passed
- 2000 SC joins Atlantic Compact with NJ & CT

Class A/B/C Waste Disposal



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

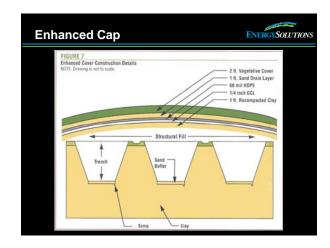


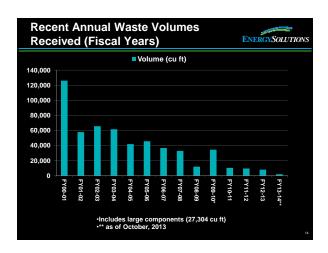
Irradiated Hardware & Large Component Shipments



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







ecent Waste	1	ENERGYSOLUTIONS			
Waste Type	FY 10/11 ft ³	FY 11/12 ft ³	FY 12/13 ft ³	'FY 13/14 ft ³	
Routine Utility Waste	10,983.7	9,201.0	7,844.0	1,991.7	
Non-Utility Waste	66.65	113.94	162.75	20.96	
Large Components	0	0	0	0	
Irradiated Hardware	0	173.4	0	0	
Total	11,049.55	9,488.34	8,006.75	2,012.66	
			* As of Oo	ctober 2013	

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- · SC Budget and Control Board (B&CB)
 - Sets prices for waste disposal
- · SC Public Service Commission (PSC)
 - Determines allowable costs
- SC Office of Regulatory Staff (ORS)
 - Detailed audits of actual costs
- · SC Dept. of Health & Environmental Control
 - Licenses radioactive materials disposal

Memorandum of Understanding **ENERGYSOLUTIONS**



- 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 only (Revenue neutral for SC)
- Institutional costs of \$2.02 million (increased yearly by PPI, \$2.17 m FY13/14) disbursed from Decommissioning Trust Fund for maintenance and monitoring of site closed
- No use of public funds to cover operational cost shortfalls other than as allowed by law

Atlantic Compact Disposal Rates **ENERGY SOLUTIONS**



- Alternative Rate Schedule for FY 2013/2014 approved by SC B&CB on July 1, 2012
- · Individual reactors may elect Option B Access Fee pricing
- Interim revenue requirement for Option B participants for 7,000 cubic feet: \$4,561,000
 - Each Option B participant allocated an equal share of the volume and equal quarterly access fee
 - Differential to projected interim revenue requirement of \$5,829,503 made up from budget proviso funds
- Other generators use Maximum Uniform Rate Schedule

Utility Agreements for FY 2013/2014 ENERGYSOLUTIONS

- All 5 Utilities with 13 Reactors chose Option B pricing
- Quarterly access fee: \$87,711.54 per reactor
- Annual volume allocation: 538.46 cubic feet per reactor
- Additional volume: \$133 per cubic foot (11,500 cubic feet maximum total volume)
- Utilities can share annual volume allocation with appropriate contract changes

Maximum Uniform Rate Schedule **ENERGY SOLUTIONS**



- 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)

BEDL



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





Closure Performance Objectives **ENERGY SOLUTIONS**



- License 097, Condition 98, 16 performance objectives
- License 097, Condition 99, requires closure plan and adequate financial assurance
- Phase I Closure Performance Objective Plan
 - Ensures compliance with closure performance objectives

Phase 1 Closure Completed June 2013

Long-Term Financial Assurances **ENERGYSOLUTIONS**



- Decommissioning Trust Fund
 - Balance on 9/30/13:
 - \$4.185 million
- · Extended Care Maintenance Fund
 - Balance on 9/30/13:
 - \$145.521 million

BPF





BPF

ENERGYSOLUTIONS

- 17-acre facility that consists of two primary buildings
 - 101 7,500 ft² 201 20,000 ft²
 - Services provided
 - High Activity Filter Processing Volume reduction Dewatering Waste treatment Decontamination Water processing
- The BPF shares a boundary from the west with the Department of Energy Savannah River Site



BPF Building 101



- Climate controlled concrete facility
 - 7,500 square feet
 - Large open work bay for processing and compacting various radioactive material and waste streams
- Sort and Segregation Facility (SSF)
 - 700 square feet
- Super compactor



BPF Building 201



- 20,000 square foot climate controlled concrete facility
- Open floor space for processing radioactive materials and waste
- High Activity Filter Processing
- Radiological waste testing laboratory
- 80-ton overhead bridge



Hittman Transport Services

- Two Dispatch Terminals
 Barnwell and Tennessee
 Oz Drivers (Company & Owner Operator)

 The Two Dispatch Terminals
 Supplies the Terminals
 Owner Operator)
- 82 Tractors
- EquipmentFlat Beds

 - Flat Beds
 Double & Single Drop Trailers
 Vans
 Pup Trailers
 Curtain Trailers
 65-ton Multi Axle Trailer
 Cask Trailers
 Taylorg

 - Tankers Pan Vans



Cask Logistics



Key Assets

- Proprietary NRC Type B Shipping Casks
 10-160B
 8-120B (4 in fabrication)

 - 3-60B designed not fabricated
- 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



