



Federal Hydropower Program



About SEPA:

- SEPA is one of four Power Marketing Administrations
 - Created in 1950
 - U.S. Department of Energy since 1977
 - Headquartered in Elberton, GA
 - 44 employees

POWER MARKETING ADMINISTRATIONS ME WA VT ND NH/ MT MN **BPA** MA NY CT RI WI MI OR SD ID PA WY IA MD DE OH NE IN IL WAPA VA NV UT KY MO CO NC CA TN SC OK **SEPA** AR AZ NM GA AL MS **SWPA** TX FL WAPA Western Area Power Administration **BPA Bonneville Power Administration** SEPA Southeastern Power Administration * NOTE: Both Western and Southwestern SWPA Southwestern Power Administration market power in Kansas



Preference Customers: (Special legal standing allowing first option to purchase federal power. Customers distribute to end users. Small but significant portion of total customer need.)

Electric Cooperatives	191
Public Bodies	280
Investor Owned Utility (Duke Energy Florida)	1
TOTAL	472

Southeastern's wholesale customers serve more than 12 million consumers

Financial Data (2023):

Revenues\$307 Million Total Capital Investment.......\$3.0 Billion Cumulative Investment Repaid......\$1.4 Billion Cumulative Interest Paid on Investment......\$2.7 Billion Power sales repay an average of 67% of the total cost of 22 multi-purpose Projects



About SEPA:

- Flood Control Act of 1944
 - "...shall transmit and dispose of such power and energy in such manner as to encourage the most widespread use thereof at the lowest possible rates to consumers consistent with sound business principles..."





About SEPA:

- Markets power generated at U.S. Army Corps of Engineers (USACE) multi-purpose projects:
 - Negotiate, prepare, execute and administer contracts involved in the delivery and sale of power
 - Perform balancing authority functions, water management interface, compile customer schedules and dispatch
 - Project purposes include Navigation, Flood Control, Hydropower, Recreation, Water Supply, Fish & Wildlife
- Markets power to public bodies and cooperatives in 10 States
- Owns no transmission assets



Four Marketing Systems:

✓ Georgia-Alabama-South Carolina System: Savannah River, Alabama-Coosa-Tallapoosa (ACT) River, Apalachicola-Chattahoochee-Flint (ACF) Cumberland System: Cumberland River ✓ Kerr Philpott System: Roanoke River ✓ Jim Woodruff System: Apalachicola-Chattahoochee-Flint (ACF) River Illinois West Virginia Virginia Kentucky Tennessee North Carolina South Carolina Mississippi Georgia Alabama Kerr Philpott Woodruff Cumberland GA-AL-SC Florida







Savannah River Projects:

- Hartwell
 - 396 MW
 - 470,000 MWh
- Richard B. Russell
 - 605 MW
 - 685,000 MWh
- J. Strom Thurmond
 - 288 MW
 - 707,000 MWh





Alabama-Coosa-Tallapoosa River Projects:

- Allatoona
 - 71 MW
 - 151,000 MWh

• Carters

- 560 MW
- 405,000 MWh

Millers Ferry

- 80 MW
- 384,000 MWh
- R.F. Henry/Jones Bluff
 - 78 MW
 - 335,000 MWh





Apalachicola-Chattahoochee-Flint River Projects:

- Buford
 - 105 MW
 - 186,000 MWh
- West Point
 - 71 MW
 - 202,000 MWh
- Walter F. George
 - 150 MW
 - 438,000 MWh
- Jim Woodruff
 - 36 MW
 - 233,000 MWh





Hydroelectric Dam Cross Section





Hydroelectric Generator

- 1 Turbine
- 2 Turbine Wicket Gates
- 4 Penstock Scroll Case
- 5 Operating Ring/Linkage
- 6 Turbine & Generator Shafts
- 7 Turbine Guide Bearing
- 10 Generator Rotor Poles
- 11 Generator Stator Winding
- 14 Main Support Bracket
- 15 Thrust Bearing





National Electric System Statistics 2009

Installed Capacity





National Electric System Statistics 2019





Typical Power Resources

- Coal, Plant Scherer Steam Plant, Juliette, GA, 3,520 MW
- Water, Richard B Russell Hydro Plant, Elberton, GA, 648 MW
- Gas, Rainey Power Station, Starr, SC, 1,050 MW
- Atom, Vogtle Nuclear Station, Waynesboro, GA, 3,547 MW





Typical Dispatch of Resources Yesteryear:





Typical Dispatch of Resources Today:





Repayment of the Federal Investment:

- SEPA is responsible for repayment of the Federal investment plus interest of the Corps Projects to the United States Treasury
 - Service life up to a maximum of 50 years
- Annual Repayment Studies are conducted to determine if power rates produce adequate revenues to recover expenses
 - Operation and Maintenance Expenses, Marketing, Transmission, Replacement Power Purchases
- SEPA returns 100% of the specific Hydropower expense and capital investment
- SEPA recovers a percentage determined at the time of Project construction of Joint Activities expense & capital investment



Current System Power Rates:

- Georgia Alabama South Carolina
 - Capacity: \$4.04/kW/Month
 - Energy: 12.80 mills/kWh
 - Expires: Sep 30, 2027
- Rate Revision Process
 - Rates Reviewed Annually for Appropriateness
 - Public Forum and Comment Period
 - Rates Approved by FERC for 5 Year Term



Customer Power Contracts:

- Twenty year minimum contracts negotiated and signed in 1996
- After 2016 contracts are considered "evergreen"
- Either party may terminate with 2 or 3 year notice
- One year termination option at rate change
- 12 Customers terminated contracts in 2018 for 100MW
- 63 Customers expressed interest in supplemental allocation



Water Conditions and Energy Purchases:

- Contract provisions require SEPA to provide minimum energy to support capacity
- When stream flow conditions prevent SEPA from generating minimum energy, we must purchase replacement power
- Approved rate schedules allow SEPA to pass on the purchase power cost in the month it is incurred
- Southeastern U.S. suffered drought of record during 2006-2009



Water Conditions and Energy Purchases:

- SEPA purchased \$9.2 million in replacement energy in FY 2011
 - Average rate \$66.25 per MWH
- SEPA purchased \$4.4 million in replacement energy in FY 2016
 - Average rate \$49.64 per MWH
- SEPA purchased \$26.1 million in replacement energy in FY 2018
 - Average rate \$185.15 per MWH (Jan 5, 2018 \$1,375 / MWH)
- Purchases during record drought FY 2006 2009
 - \$80.4 million replacement energy (\$108/MWH)
 - \$99.6 million pump energy (\$37/MWH)
 - Pump generation offset \$291 million of additional replacement



Alternative Funding:

- Funding maintenance & rehabilitation through appropriations has proven difficult in past and appears nonexistent in future
- Water Resources Development Act (WRDA) 2000, Section 212 allows USACE to accept funds from Customers
- Customers, USACE, and SEPA signed Memorandums of Agreement detailing the process and responsibilities in 2006
- Project Review Committee's have approved a total of \$852 million
- Control Upgrade & Remote Operations (\$205M), Philpott Rehabilitation (\$24M), Hartwell Generators 3 & 4 (\$24M)



Customer	Capacity (kW)	Energy (kWh)
City of Acworth	2,303	3,815,115
City of Albany	60,831	100,780,445
City of Barnesville	2,635	4,364,297
City of Brinson	156	259,149
City of Buford	2,356	3,902,639
City of Cairo	6,253	10,362,422
City of Calhoun	7,660	12,699,888
City of Camilla	6,072	10,051,789
City of Cartersville	17,152	28,409,990
City of College Park	15,559	25,789,346
City of Commerce	4,456	7,374,517



Customer	Capacity (kW)	Energy (kWh)
City of Covington	9,382	15,545,346
Crisp County	18,068	29,925,387
City of Doerun	629	1,041,736
City of Douglas	10,180	16,859,958
City of East Point	33,488	55,455,586
City of Elberton	11,447	18,946,851
City of Ellaville	936	1,551,445
City of Fairburn	1,799	2,982,751
City of Forsyth	3,720	6,161,159
City of Fort Valley	9,417	15,598,548
City of Grantville	470	777,440



Customer	Capacity (kW)	Energy (kWh)
City of Griffin	18,157	30,076,413
City of Jackson	2,067	3,423,820
City of LaFayette	6,607	10,942,493
City of LaGrange	17,096	28,329,323
City of Lawrenceville	4,795	7,952,870
Town of Mansfield	379	626,414
City of Marietta	37,172	61,615,037
City of Monroe	8,408	13,819,028
City of Monticello	1,836	3,039,392
City of Moultrie	15,480	25,638,323
City of Newnan	6,893	11,417,882



Customer	Capacity (kW)	Energy (kWh)
City of Norcross	1,736	2,878,070
City of Oxford	458	760,278
City of Palmetto	923	1,529,131
City of Quitman	4,428	7,329,893
City of Sandersville	4,997	8,273,803
City of Sylvester	3,952	6,549,021
City of Thomaston	7,687	12,739,363
City of Thomasville	25,053	41,499,439
City of West Point	4,683	7,748,646
City of Whigham	319	528,590



Challenges:

- Drought
- Aging Infrastructure
- Dam Safety
- Operational Changes
- Water Supply
- Volatile Energy Market





Questions



