

# Regulation of Georgia's Electric Utilities & EPA's 2014 Clean Power Plan

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Georgia Public Service Commission

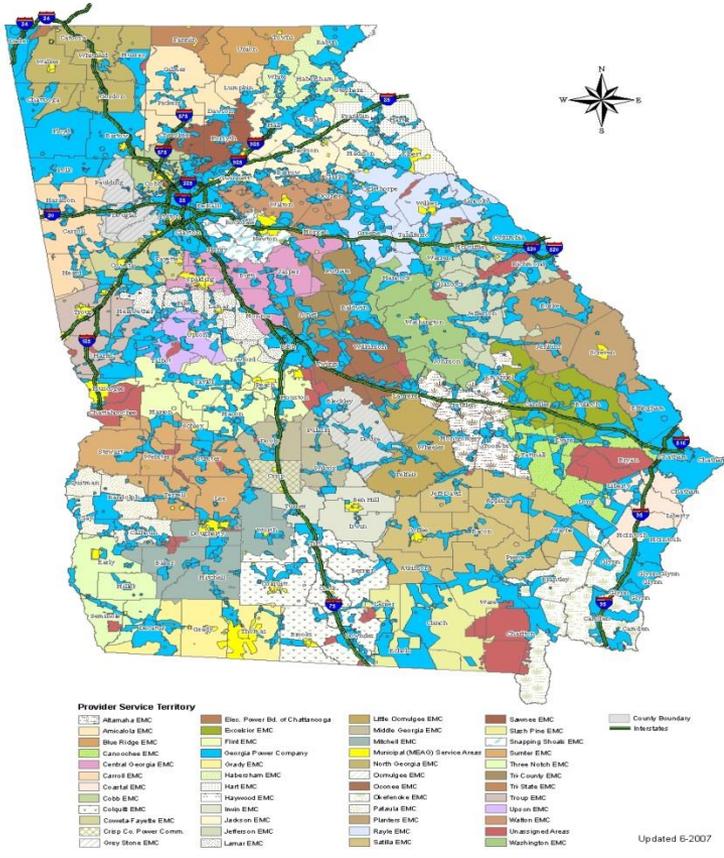
Director, Electric Unit

EPD Stakeholder Workshop

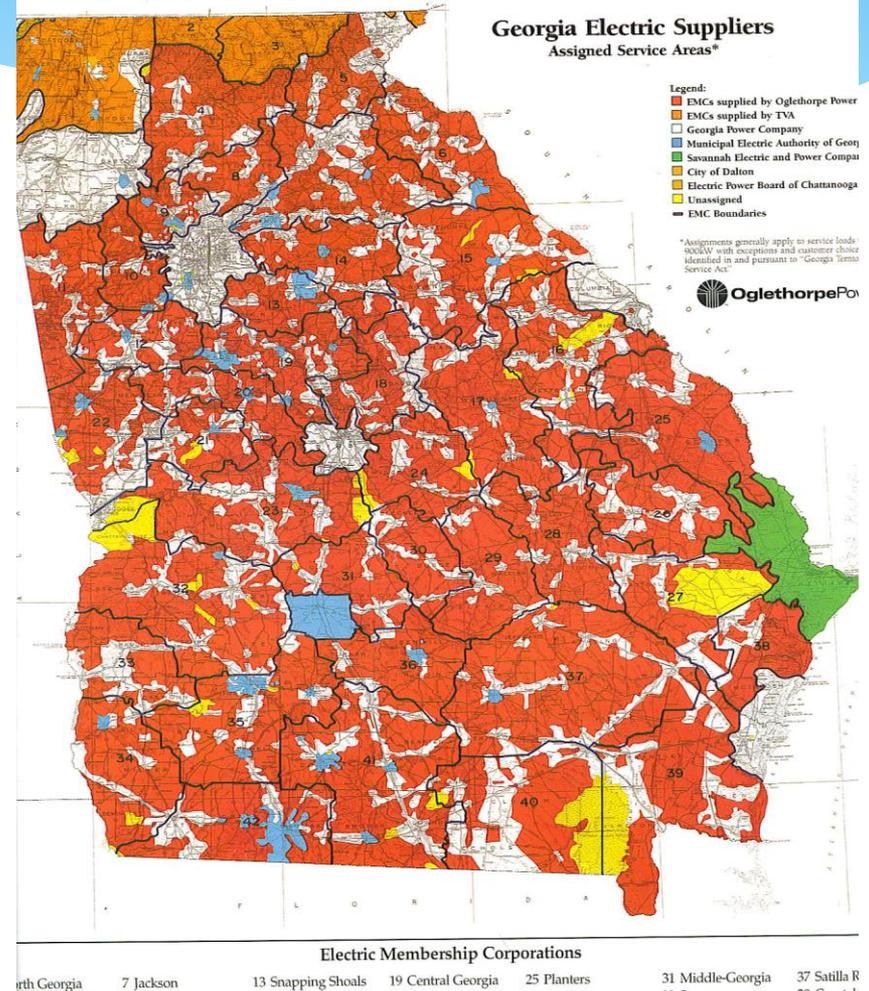
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# Georgia electricity providers

## Power Service Territories of Georgia



## Georgia Electric Suppliers Assigned Service Areas\*



# Georgia Public Service Commission

## ➤ Electric Utility Companies

- Investor Owned Utility (Georgia Power) - private Company with ownership shares held by stockholders
  - (1) Georgia Power fully regulated subsidiary of Southern Co.
- Publically Owned Companies
  - EMCs (42) – overseen by co-op boards
  - Munis (52) - overseen by municipal govts
    - territorial disputes & transfers, loan applications, rate tariff filings

# Regulation of Georgia Power (IOU)

## ▶ IOU – Georgia Power

- **Set rates in base and fuel rate cases (since 2000)**
  - Rate cases- 6month process (2001, 2004, 2007, 2010, 2013)
  - Fuel cases- 90 day process (2001,2003, 2005, 2006, 2007, 2008, 2010, 2011, 2012, 2014 (delayed))
- **Plan for resources in Integrated Resource Planning (IRP) & IRP certification proceedings**
  - IRP -every 3 yrs by state law, 180 day process
    - Utility files 20 year plan
    - 1992,1995, 1998, 2001, 2004, 2007, 2010, 2013, 2016 (next one)
  - Demand side management / energy conservation & energy efficiency/low income weatherization
  - Renewable resources- solar, wind, biomass
  - Demand response- load management, time-of-use rates
  - Transmission plan (10 year)
  - Environmental compliance strategy
  - Supply side resources(certified in separate certification proceedings- 240 days) -McDonough, Vogtle, PPAs, etc.

# Role of the States/ States decide how they will cut carbon

## (EPA Fact Sheet)

- \* Some of the measures states can choose to rely on in their plans include, but are not limited to:
  - \* demand-side energy efficiency programs- 1993, 1995, 1998, 2001, 2004, 2007, 2010, 2013 IRPs
  - \* renewable energy standards- no formal RPS but approved in PSC orders
  - \* efficiency improvements at plants- ?? May have been approved in rate cases
  - \* co-firing or switching to natural gas- Yates & Gaston (2013 IRP)
  - \* construction of new Natural Gas Combined-Cycle plants- Plant McDonough Units 4,5,6, 2007 Certification, placed in rates 2012 & 2013 \$1.8 Billion
  - \* transmission efficiency improvements- SoCo, OPC, Muni- DOE SGIG (2013 completion)
  - \* energy storage technology

## Role of the States/ States decide how they will cut carbon (EPA Fact Sheet) cont.

- \* Retirements-2007 Decertification McDonough Units 1 & 2 IRP Update Docket 34218 2012 (Branch 1& 2), 2013 IRP (for MATs)
- \* expanding renewables like wind and solar- Green Energy Program 5mw solar (Docket 16573), ASI 2012 (online, 525 MW solar -2013 IRP ), renewable resource action plan (3-30 mw projects, 2007 IRP), Wind PPA (approved 2013)
- \* expanding nuclear- identified need (2007 IRP), Certified 2009
- \* market-based trading programs- none
- \* energy conservation programs- demand response rates (TOU, RTP), load control (Power credit), Residential demand (2013 rate case)
- \* Other measures to reduce emissions – AMI approved in 2007 rate case – eliminate manual meter reading/reduce vehicle use

# Southern Company SGIG

In 2010 Southern Company accepted \$165 million in federal funding matching to be dispensed throughout the company's four-state service territory over a three-year period

## Cost of SGIG Projects

Distribution Energy Efficiency Program	\$66
IDMD / SCADA / Fault Locating	\$44
Distribution Automation	\$83
Transmission Line Automation	\$20
Smart Substations	\$117
Total (in millions)	\$330

## SGIG Benefits

Southern Company planned and budgeted for these improvements before applying for the SGIG to:

- dramatically accelerate the deployment of smart grid technologies.
- optimize grid performance and reliability by using electronic data, intelligent devices and integrated systems.
- minimize the loss of energy as it travels across the grid.
- improve reliability, safety, power quality, and operating resiliency to natural disasters.

J.S. DEPARTMENT OF  
**ENERGY**

Office of Electricity Delivery  
and Energy Reliability

2009 American Recovery and Reinvestment Act  
Smart Grid Investment Grant  
Project Description

## Southern Company Services, Inc.

### Smart Grid Project

#### Abstract

The Southern Company Services' (Southern Company) Smart Grid project involves integrated upgrades of the distribution, transmission, and grid management systems throughout their large service territory. Major efforts include automation of major parts of the distribution system, automation of selected transmission lines, and new equipment for many substations. This project centers on deployment of new distribution technologies that intend to improve power factor at delivery, thereby increasing the effective usability of existing electricity generation. This reduction in line losses may lead to the deferral of new generation capacity investments and associated reductions in greenhouse gas emissions. The distribution automation equipment in this project also aims to enhance system reliability through better protections and faster response to outages while simultaneously lowering cost for operation and maintenance of the system by human operators.

#### Smart Grid Features

**Communications infrastructure** includes new radio communication equipment and upgrades to the outage management, distribution management, and supervisory control and data acquisition (SCADA) systems. These new software platforms enhance grid operator's visibility and control of new automated transmission and distribution equipment. A total of 110 radio towers are installed to provide a faster communications network, using a SCADA platform to connect real-time transmission and distribution monitoring capability with grid operators. Southern Company expects this upgraded communication and monitoring platform to enable more rapid responses and avoidance of outages.

**Distribution automation systems** include automated feeder switches, regulator controls, monitors, relays, capacitor banks, and remote fault indicators. Of the utility's 4,706 circuits, 321 are receiving new automation equipment. This equipment coordinates sensor data throughout the distribution grid to automatically and rapidly manage power quality, avert power disturbances, and quickly isolate outages. These distribution automation equipment will help reduce the occurrence and duration of power outages while deferring investment in new generation resources. Furthermore, automated distribution will improve operational efficiency of Southern Company's distribution grid and reduce costs and emissions maintenance by reducing equipment failures and truck visits.

#### At-A-Glance

Recipient: Southern Company Services

State: Georgia, Alabama, Mississippi, and Florida

NERC Region: SERC Reliability Corporation

Total Budget: \$330,130,482

Federal Share: \$164,527,160

Project Type: Electric Distribution Systems Electric Transmission Systems

#### Equipment

- Distribution Automation Equipment for 321 out of 4,706 Circuits
  - o Distribution Management System
  - o Equipment Condition Monitors
  - o Automated Distribution Circuit Switches
  - o Automated Capacitors
  - o Automated Voltage Regulators
- Substation Automation Equipment for 359 of 3,325 Substations
  - o SCADA Communications Network
  - o Smart Relays

#### Key Targeted Benefits

- Deferred Investment in Generation Capacity Expansion
- Improved Electric Service Reliability and Power Quality
- Reduced Operating and Maintenance Costs
- Reduced Costs from Equipment Failures and Distribution Line Losses
- Reduced Truck Fleet Fuel Usage
- Reduced Greenhouse Gas and Criteria Pollutant Emissions

# Georgia Systems Operation Corporation (39 emcs)

- \* **Georgia System Operations Corporation**

- \* The Georgia System Operations Corporation (GSOC) Energy Management Infrastructure Initiative (GEMINI) Project involves upgrades to the company's transmission operations, communications and control systems, along with new analysis tools for grid operators. The objective of the GEMINI project is to increase the reliability, security, interoperability, and efficiency of the GSOC electric grid, which supports 39 rural electric distribution cooperatives that then sell electricity from the GSOC system to consumers.

- \* GSOC has completed its upgrade of the software and hardware platforms for the energy control system, which is used to manage the operation of the transmission system and the dispatch of generation resources. The GEMINI project has also implemented advanced analysis software for improved monitoring, planning, and electricity cost analysis. The improvements to the communications infrastructure—wide-area monitoring, visualization, and control systems—enable GSOC to rapidly analyze operations across its entire transmission system and automatically communicate information about disruptions or changes in power flow on the grid to its member electric cooperatives. The project has enhanced GSOC's capability to detect, prevent, communicate, respond to and recover from system disruptions. The GEMINI project has resulted in increased efficiency of the overall power delivery system, in part by furnishing GSOC with the ability to use digital controls to manage and modify electricity demand.

- \* Source: DOE October 2013 SmartGrid Progress Report

- \* [http://www.smartgrid.gov/sites/default/files/doc/files/SGIG\\_progress\\_report\\_2013.pdf](http://www.smartgrid.gov/sites/default/files/doc/files/SGIG_progress_report_2013.pdf)

# SmartMeter Status Report For July, 2012

(Prepared August, 2012: This will be the final monthly SmartMeter status report.)

## AMI Meter Deployment Summary

Meter Status	No. of Meters	Regions
Total Number of Meters Installed	2,443,077	<ul style="list-style-type: none"> <li>Metro Regions</li> <li>Northeast</li> <li>Northwest</li> <li>West, Central</li> <li>East</li> <li>Coastal</li> </ul>
In Production (Used For Billing)	2,442,959	
Total GPC Meters	2,444,206	
AMI As A Percent of Total GPC Meters	100%	
		Total Company (Current Month)

## TGB (Network) Deployment Summary

TGB Status (On Preparation Date)	No. of TGB's	Region(s)
Total Number of TGB's Installed	219	Metro Regions, Northeast, Northwest, West, Central, East, Coastal, and Southern
Number of TGB's Currently Planned	218	Total Company by 2012 (Note: Additional TGB's will be added in Coastal, South, and other Regions as needed.)
Percent of TGB's Installed	100%	

## Upcoming Month's Rolling Deliverables

Work Plan Deliverable
Clean up remaining meter installation exceptions.
Continue deployment and operation of RC/DC meters and other meters to support customer growth.
Install or adjust network components to expand coverage and improve performance where needed.
Continue AMI operations

## Summary of the Month's Accomplishments

- During the month, a total of 18,552 Smart Meters were installed. Year to date, 269,611 Smart Meters have been installed.
- Concluded the general AMI meter deployment for Georgia Power Company on July 25<sup>th</sup>, 2012 in the Bainbridge area of South Region.

## Upcoming Activities

The general deployment of AMI meters across the service territory is completed.

Ongoing and normal AMI operating activities, including meter reading, network enhancements, firmware updates, security enablement, etc. will continue.

## Summary of Meter Quality

Type Test	Low (<98%)	Within Limits (98% to 102%)	High (>102%)
New meter incoming quality test	0	1,461	0
Existing in-service meters tested for re-use	8	3,057	2
Initiated by metering systems	0	8	13
Customer-requested test (AMI)	0	16	0
Customer-requested test (non-AMI)	0	0	0
Total	8	4,542	15

## Summary Of Overall Project Completion

Meter Deployment Completion Status	Project Areas (See Map On Reverse)
Completed	All of Georgia Power Company.
Ongoing	Some "clean up work remains for approximately 1,500 meters, including those having refused a Smart Meter and inaccessible meter locations.

# GPSC Action Taken in IRPs & Rate Cases

- \* Smart Grid (AMI) – eliminate manual meter reading (reduce vehicle usage/ emissions) - **2007** Rate case
- \* Construction of Natural Gas CC (plant McDonough)- approved 24506 (**2007** certification)
- \* Retirement McDonough coal units 1 & 2- approved Docket 24505 (**2007** certification)
- \* Approve New Nuclear (Vogtle 3&4)- Docket 27800 (March **2009** certification) *need based on load forecast filed in 2007 IRP*
- \* Approve DSM pilot programs- Docket 24505 (2007 IRP certification)
- \* Approve DSM programs – Docket (2010 IRP certification)
- SoCo awarded DOE Smart Grid Investment Grant (\$165 million across all operating companies)- optimize grid (**transmission**) performance & reliability by using electronic data, intelligent devices and integrated systems, **minimize the loss of energy** as it travels across the grid. (**2010**)
- Renewable resource action plan- (3-30 mw projects)approved 2007 IRP , issued RFP 1.325 mwhs solar.
- \* RNR tariff for renewables- approved 2004 (Green Energy program Georgia Power buys solar and landfill gas total of 5.4 MW of solar
- TOU/RTP, EV, Powercredit rates- residential demand,

# Questions?

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