

Welcome

2015 Grid Protection Alliance User's Forum



Atlanta, GA
August 4th and 5th, 2015

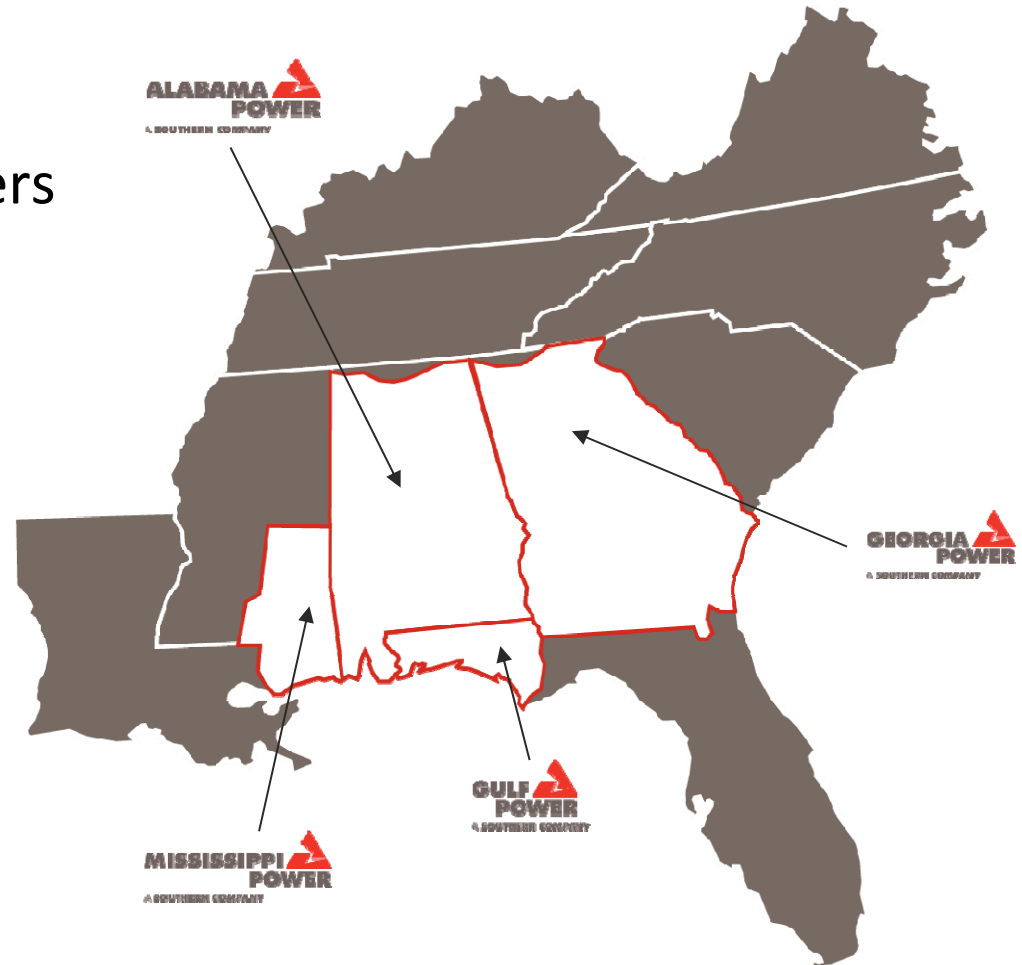
Edwin C. (Ed) Carlsen
Manager, Distribution Management Systems - Georgia Power
eccarlse@southernco.com



A SOUTHERN COMPANY

Southern Company (NYSE:SO)

- Founded in 1912
- One of the largest providers of electricity in the U.S.
- More than 4.4 million customers
- 26,000 employees
- 120,000 square miles of territory



Southern Company Overview

Vertically Integrated – Generation / Transmission / Distribution

- 4 Electric Operating Companies
- **Southern Co Services** (IT, HR), **Southern Linc** (Telecom), **Southern Nuclear**, **Southern Power** (wholesale generation)

2014 Revenue / Net Income: \$18.5 billion / \$1.96 billion

2014 Generation – 45,500 MW

- Coal – 40% (*was 78% in 2004*)
- Natural Gas – 40% (*was 4% in 2004*)
- Nuclear – 16%
- Hydro, Renewable – 4%



Georgia Power

- Largest of four Southern Company electric utilities
- Headquartered in Atlanta, GA
- More than 2.4 million customers
- Electric rates below the national average
- **Top quartile among peer utilities in customer satisfaction (*as are the other sister OpCos*)**



Plant Vogtle Nuclear - Units 3 & 4



- Location: Waynesboro, GA (south of Augusta)
- Co-ownership:
 - Georgia Power: 46 %
 - Oglethorpe: 30 %
 - MEAG: 23 %
 - Dalton Utilities: 2 %
- Design: Westinghouse “AP1000” - 1,117 MW (ea.)
- 5500 jobs now, 800 permanent
- *2019/2020 Commercial Operation*



Renewable Energy



- 165 MW online now (July 2015)
- Almost 1000 MW expected by EOY 2016
- Small to Utility Scale installations
- Some owned by GPC – 3x30MW at GA Military bases
- Will present opportunities and challenges




Southern Company Circle of Life



Data and Analytics

GPC before AMI

53 million 
readings per year

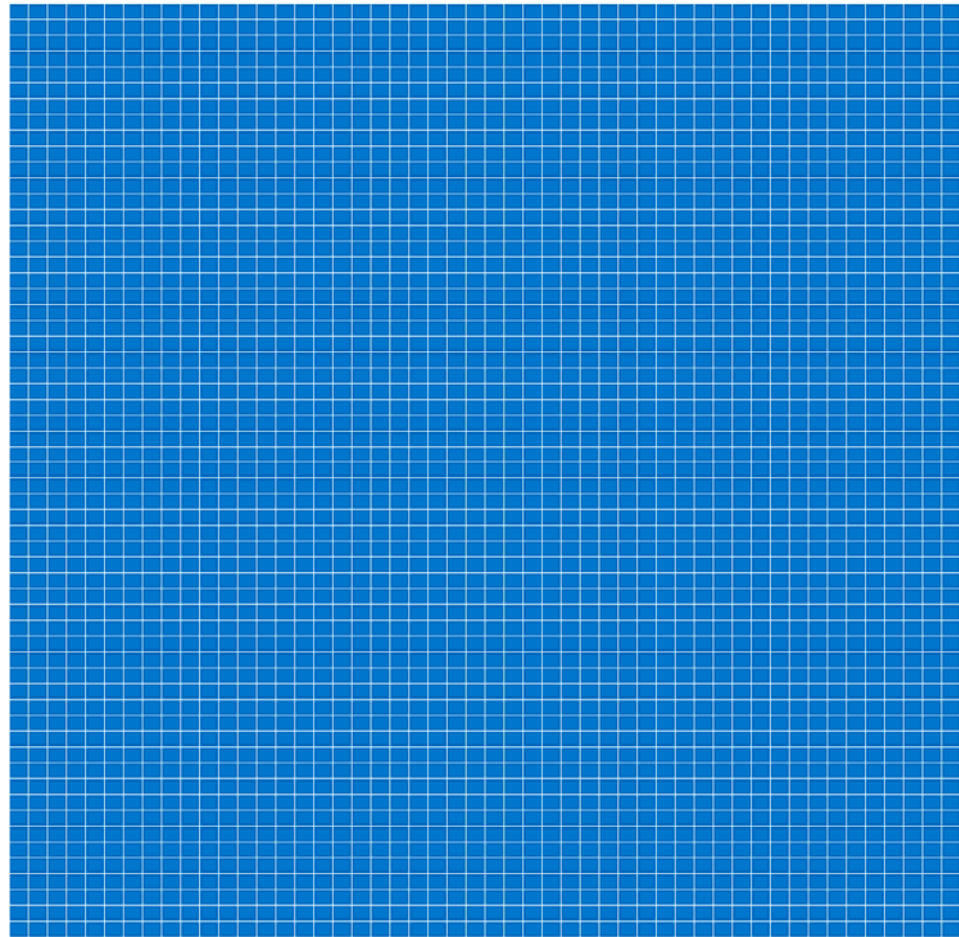


Data and Analytics

GPC before AMI
53 million
readings per year



GPC after AMI
154 billion reads
per year
+ other meter
events



Distribution Operations Areas for Analytics

- AMI-OMS
- Fault Location Analysis
- Overload / Voltage Deficiency Mitigation
- Load reduction capability (Conservation Voltage Reduction)
- Volt/Var Optimization
- Asset Management
- Work Management
- etc
- etc



Other Drivers

- Safety – Worker and Public
- Distributed Generation – Solar, wind
- “Beyond the Meter” Control/Info
- Regulatory (data collection/reporting)
- Customer Outage Communication (growing expectations)

- *Everyone wants more data, more info... and wants it now!*
- *Utilize this data to the greatest benefit... through analytics*



**Have a great meeting!
Enjoy Atlanta!**

