



U.S. Department of Energy
Energy Efficiency and Renewable Energy

federal energy management program

Grid Reliability

An Electric Utility Company's Perspective

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Southern Company Services

11/19/08



Topics

- Business Continuity at Southern Company
- NERC Cyber Security at Southern Company
- Homeland Security at Southern Company
- Physical recovery following a major outage
- 5 questions to ask your local utility
- Facing Realities

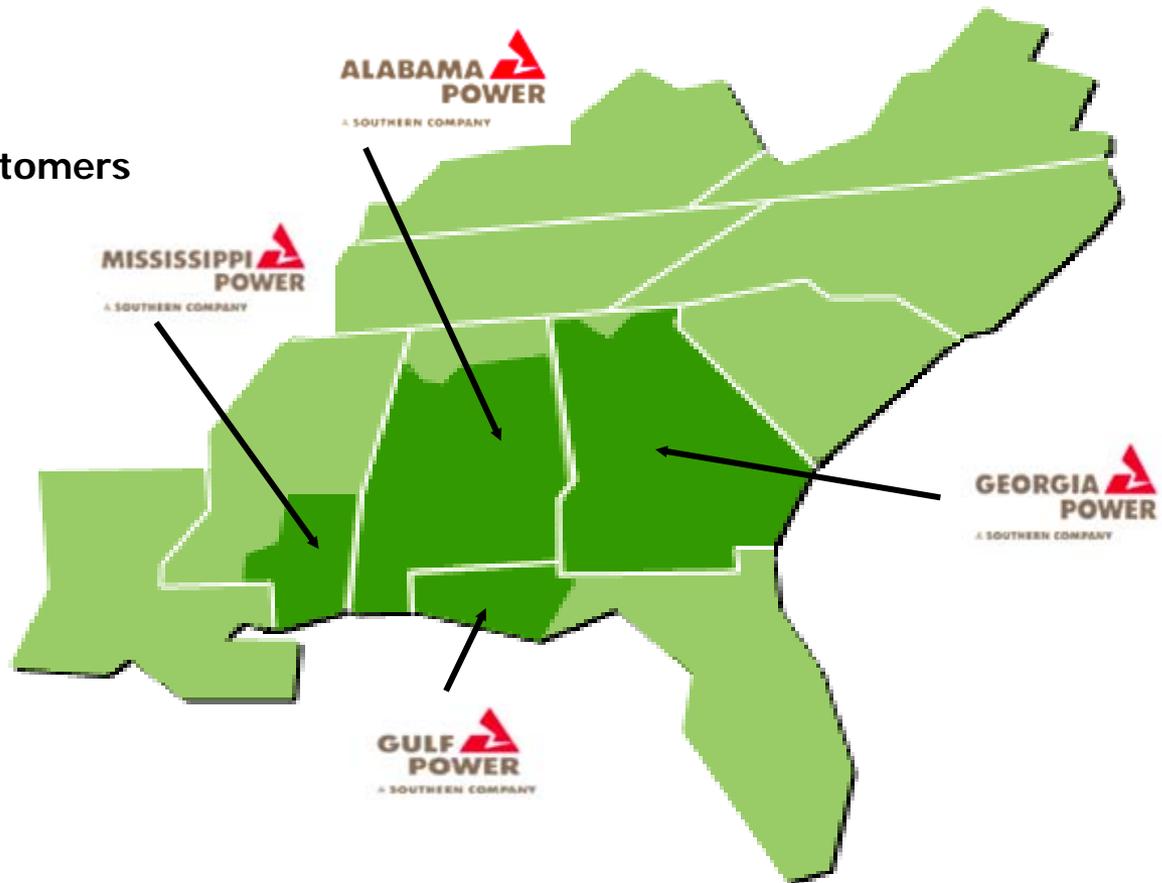


Service territory across four states: 120,000 square miles

Serves approximately **4 million** customers

Other Subsidiaries:

- Southern Linc
- Southern Power
- Southern Telecom
- Southern Nuclear





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Business Continuity at Southern Company



Southern Company Business Assurance Model

Business Unit Management (Asset Owners)

Protect

Infrastructure Protection

- Identify critical **assets**
- Design and implement security protocols
- Train & test
- *Complete business assurance agreements*

Prepare

Business Continuity

- Identify critical business **processes** and supporting infrastructure
- Prepare business continuity plans for restoration and recovery (including disaster recovery)
- Train & test
- *Complete business assurance agreements*

Respond

Incident Response

- Assess and calibrate alert levels
- Activate **incident response teams**
- Implement business plans
- Train & test
- *Complete business assurance agreements*

Southern Company Business Assurance Council



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NERC Cyber Security at Southern Company



NERC Cyber Security

- Southern Company's CIP Effort
 - Working to identify the critical assets and protect the critical cyber assets that affect the reliable operation of the bulk electric system.
 - A Project Leader and team leaders for each of the 8 NERC cyber standards
 - Over 105 team members
- NERC CIP Standards compliance is one effort among many to secure our assets



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Homeland Security at Southern Company



Homeland Security at Southern Company

- A team that addresses NERC alerts and advisories.
 - Subject matter experts from each of the company's technical areas
 - Over 30 team members working on the investigation and response to each Advisory
 - Assesses the risk to the company from each advisory and plans remediation if needed
 - Assembles on an as needed basis



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Physical Recovery Following a Major Disaster



Hurricane Katrina
NOAA-15 AVHRR 1KM
August 29, 2005 @ 1148 UTC

TEXAS

LOUISIANA

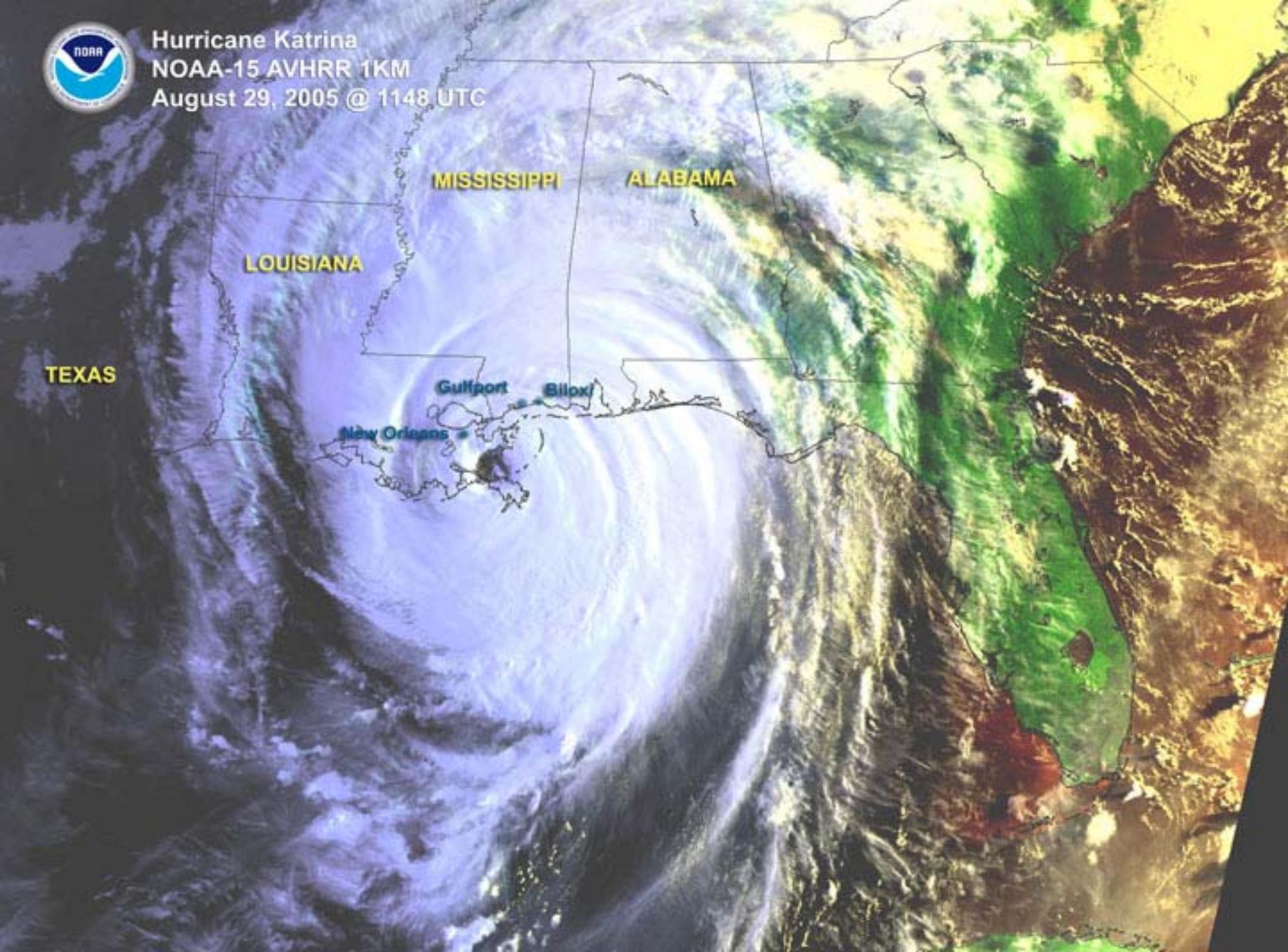
MISSISSIPPI

ALABAMA

New Orleans

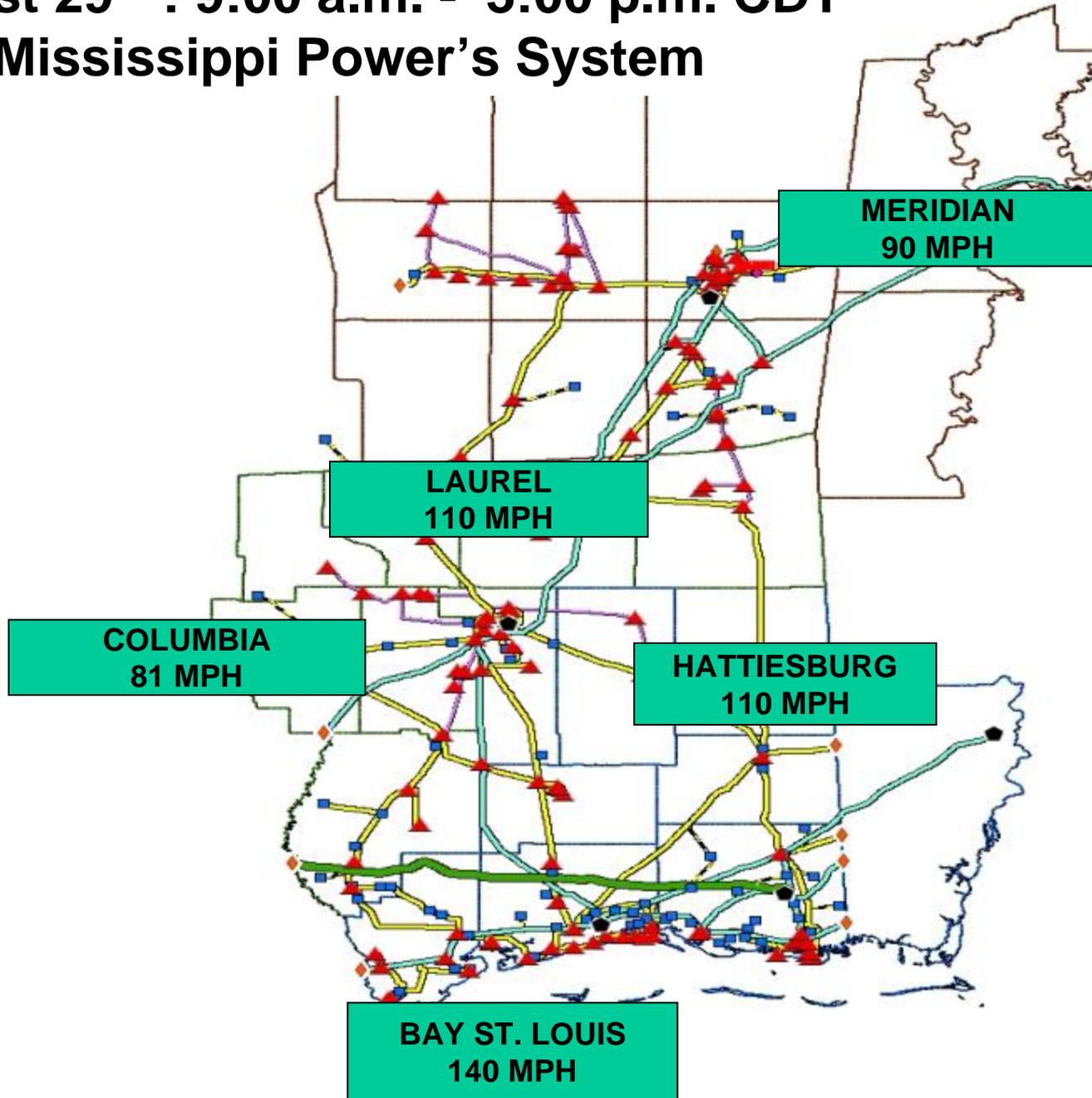
Gulfport

Biloxi



August 29th : 9:00 a.m. - 3:00 p.m. CDT

Mississippi Power's System







Hurricane Katrina Statistics - Distribution

Infrastructure Damage – Mississippi Power

Poles:	9,000 broken poles
Transformers:	2,300 transformers damaged
Wire:	23,500 spans of wire down
Customers Out of Service:	192,000



Hurricane Katrina Statistics - Transmission

Number of Transmission Lines Affected

	500 kV	230 kV	115 kV	46 kV	TOTAL
Alabama Power	0	8	32	27	67
Mississippi Power	1	21	80	18	120

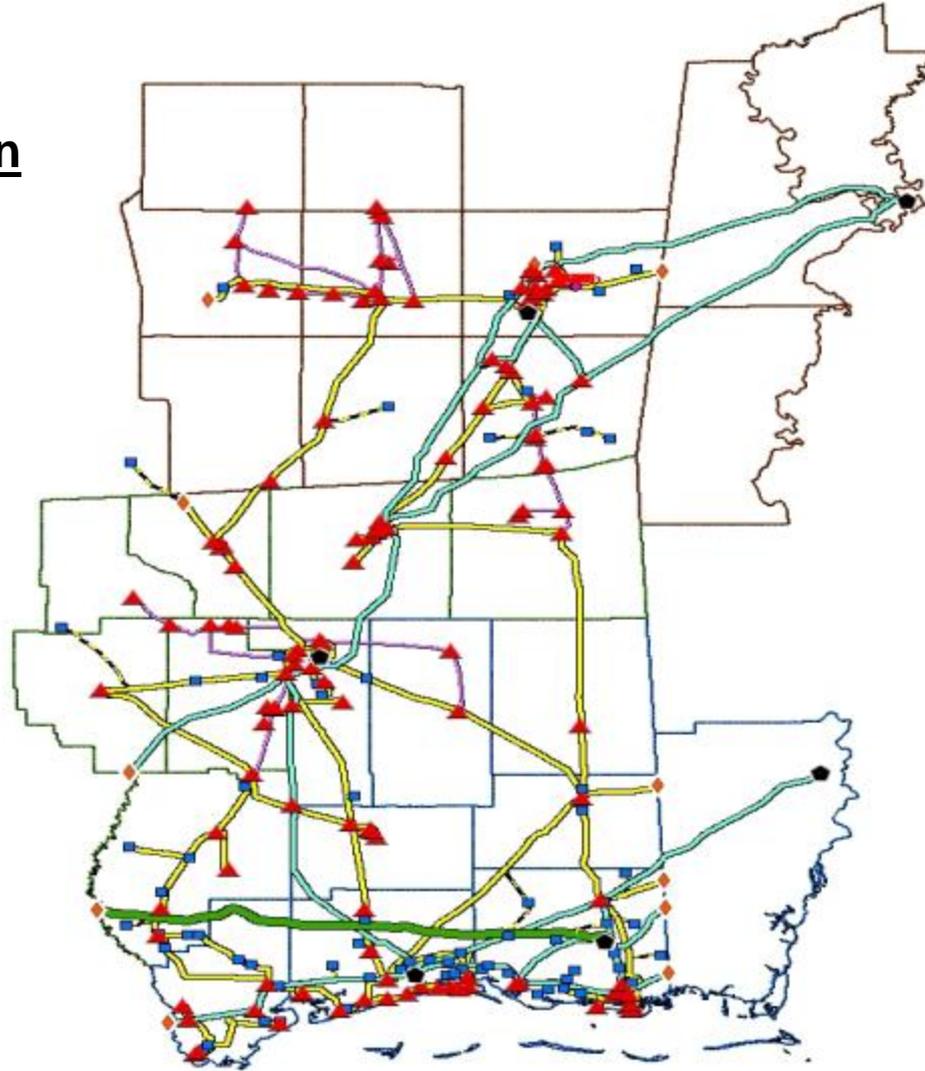


MPC Transmission

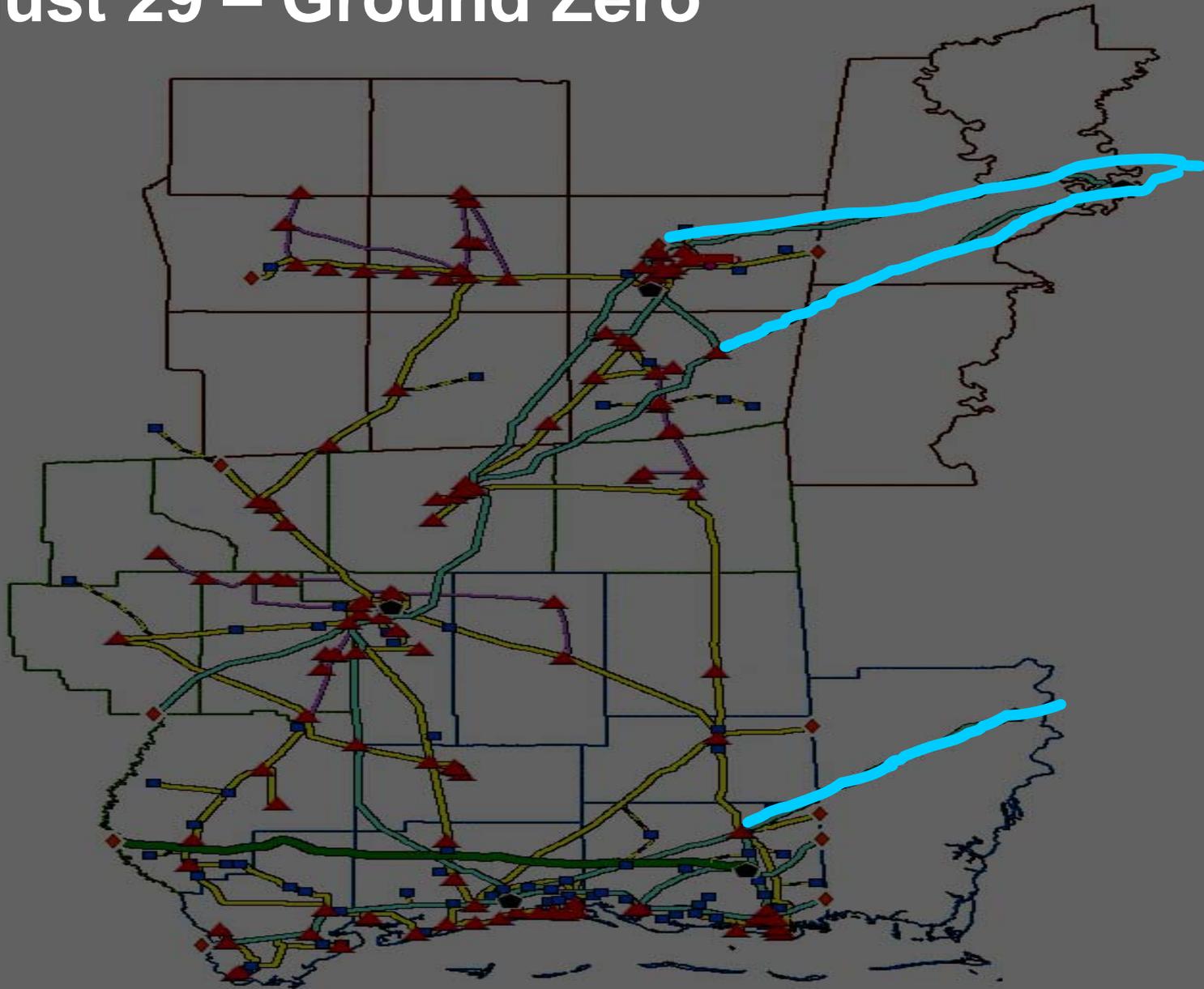
“green” = 500kV

“blue” = 230kV

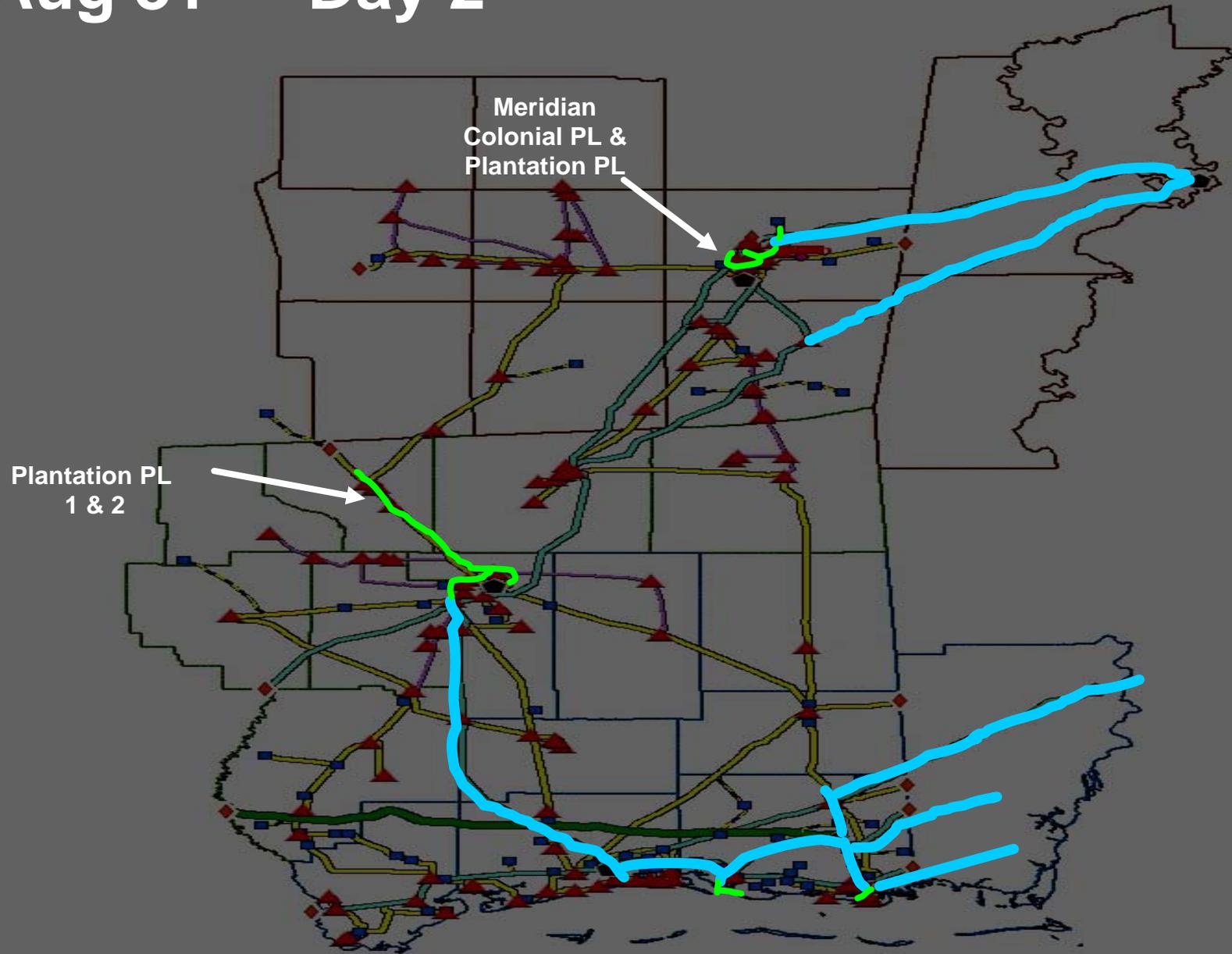
“yellow” = 115kV



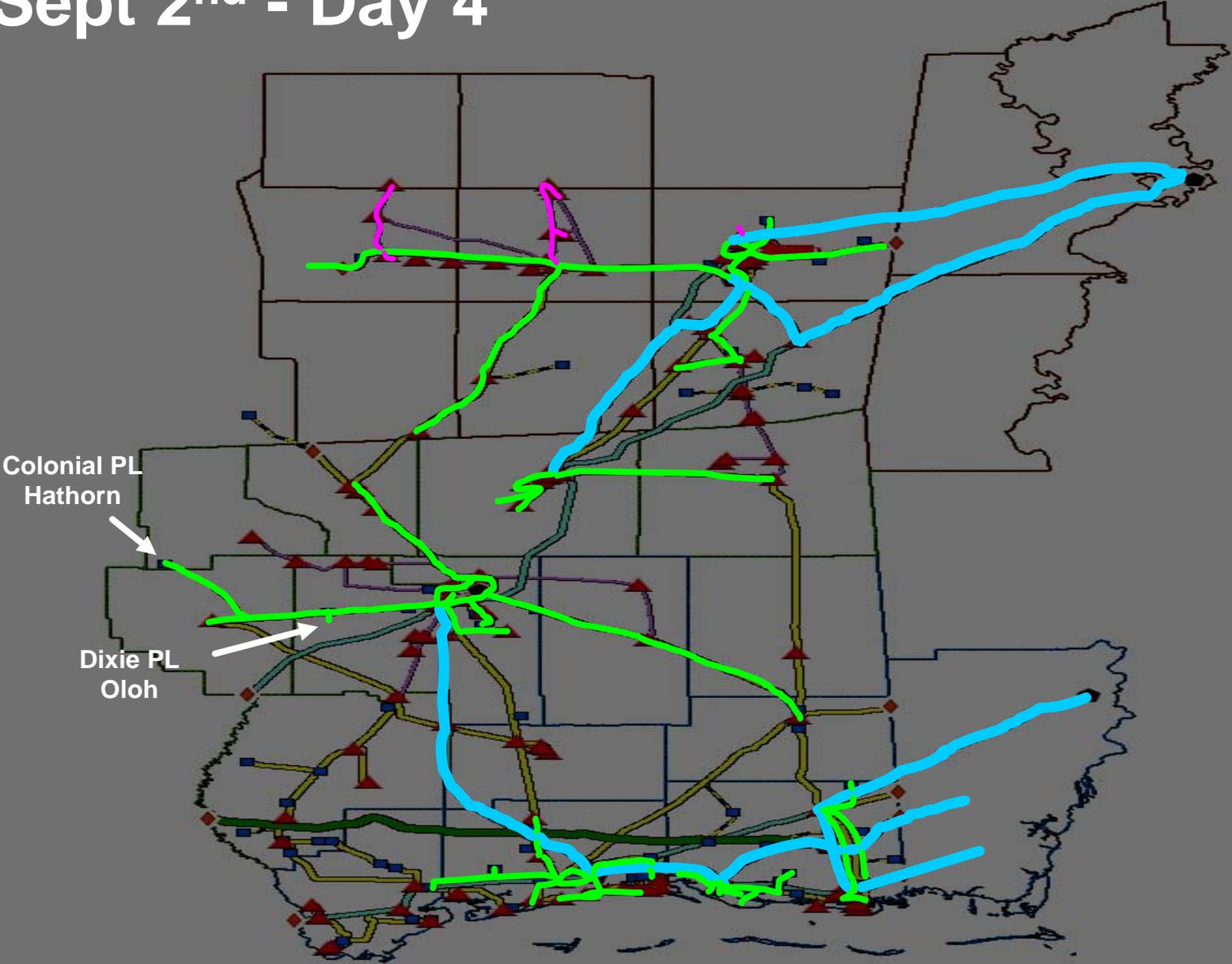
August 29 – Ground Zero



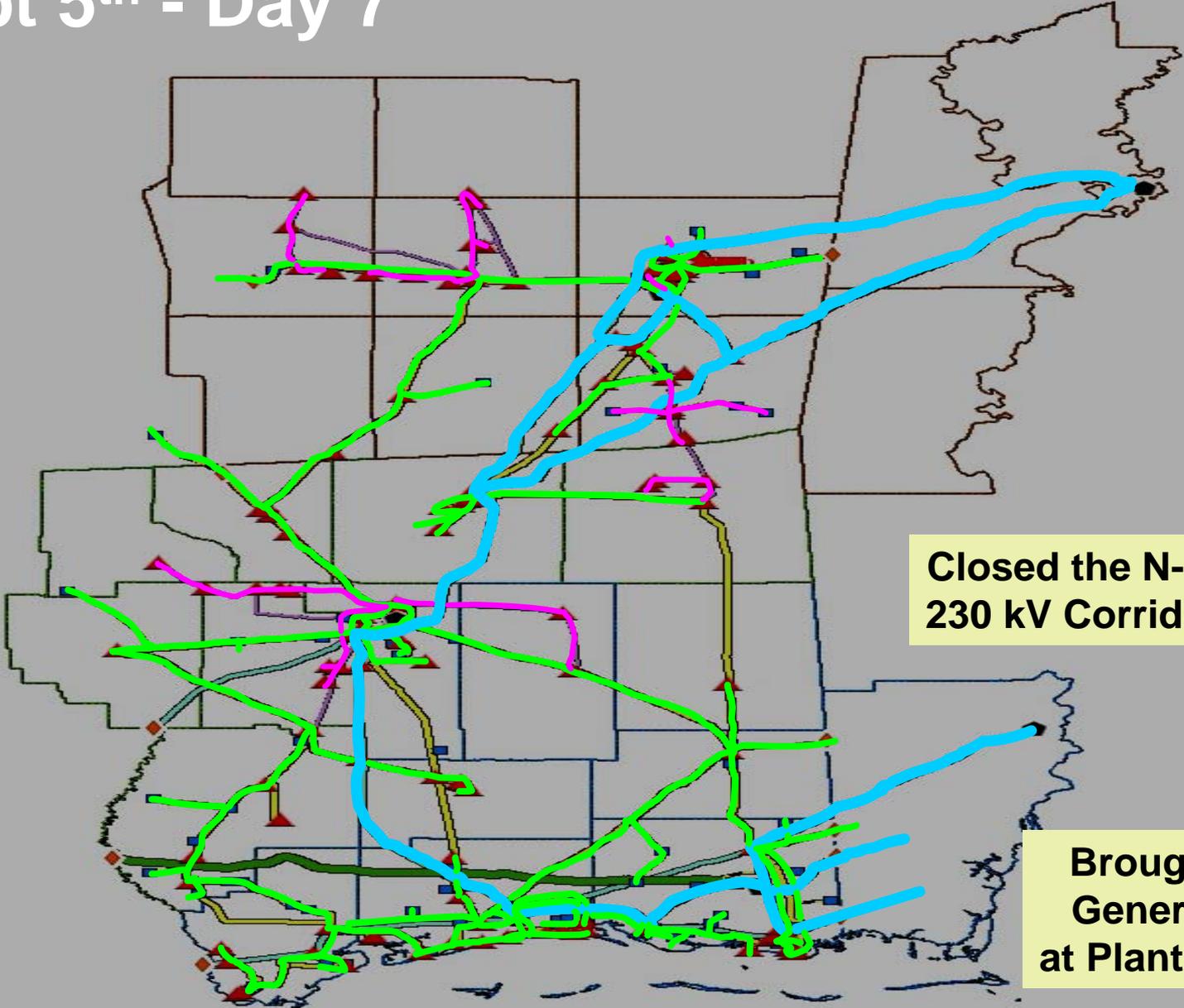
Aug 31st - Day 2



Sept 2nd - Day 4



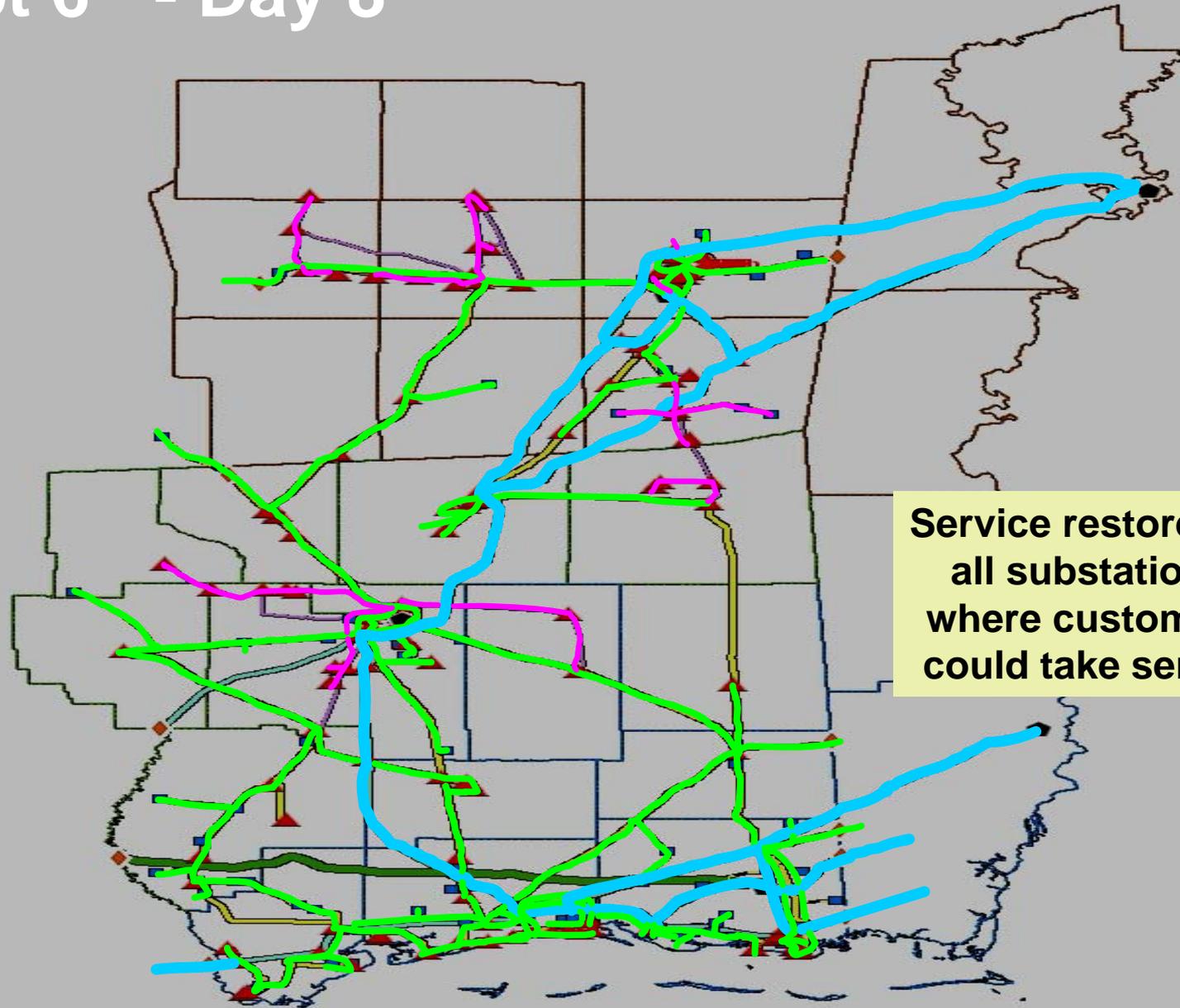
Sept 5th - Day 7



**Closed the N-S
230 kV Corridor**

**Brought up
Generation
at Plant Daniel**

Sept 6th - Day 8



**Service restored to
all substations
where customers
could take service**



Emergency Plans at Southern Company

- We have a Transmission Emergency Restoration Plan (TERP) that outlines all actions needed following a disaster.
- Outlines procedures for: Preplanning, External communications, Logistics support, Restoration teams, Storm Centers, etc.



5 Questions To Ask Your Local Utility



5 Questions to ask:

1. Does your company have an overall Business Continuity Plan?
2. Have you identified your critical assets?
3. Do you have a cyber security program in place for your critical assets?
4. What is your response time to major outages like Hurricanes or Tornadoes?
5. What type of emergency plans do you have in place for Transmission and Distribution?



Facing Realities

- Realize the electrical system - by its very nature - cannot be protected from all catastrophic events – may need backup source
- The only thing certain about catastrophic events is that they cannot be predicted with accuracy - prepare for anything
- Realize there are regulatory process constraints to providing far superior protection to some customers.
- Realize that evaluating protection in an energy market may involve engaging multiple entities and asking about coordination between them – utilities in an RTO.



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EASY QUESTIONS