

Hurricane Lili was located over the Gulf of Mexico near 25.3N 89.4W at 18:00 UTC. Lili has been moving northwestward at 13 knots with maximum sustained winds estimated at 115 knots, gusts to 140 knots.

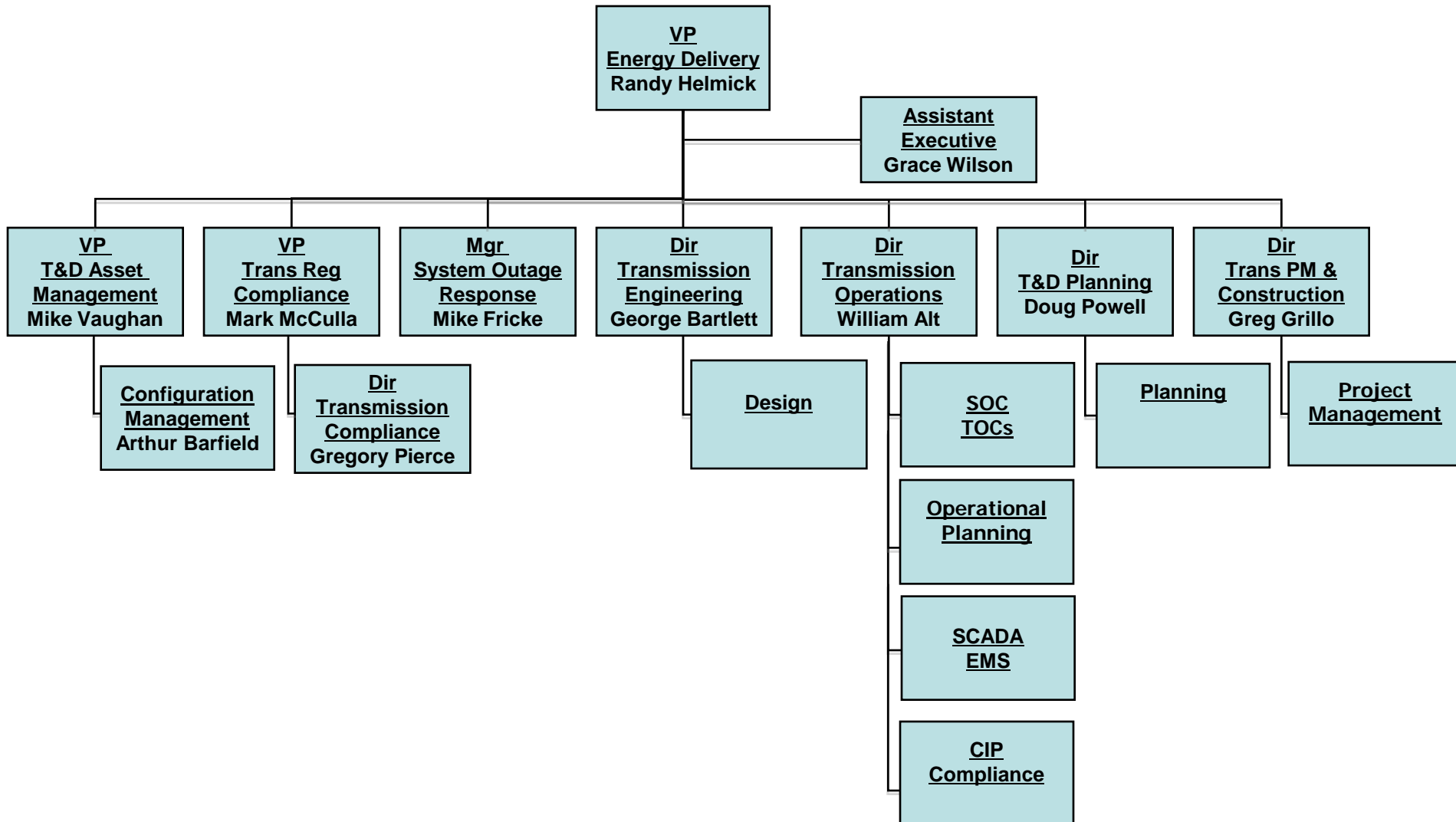
CREDIT: NOAA



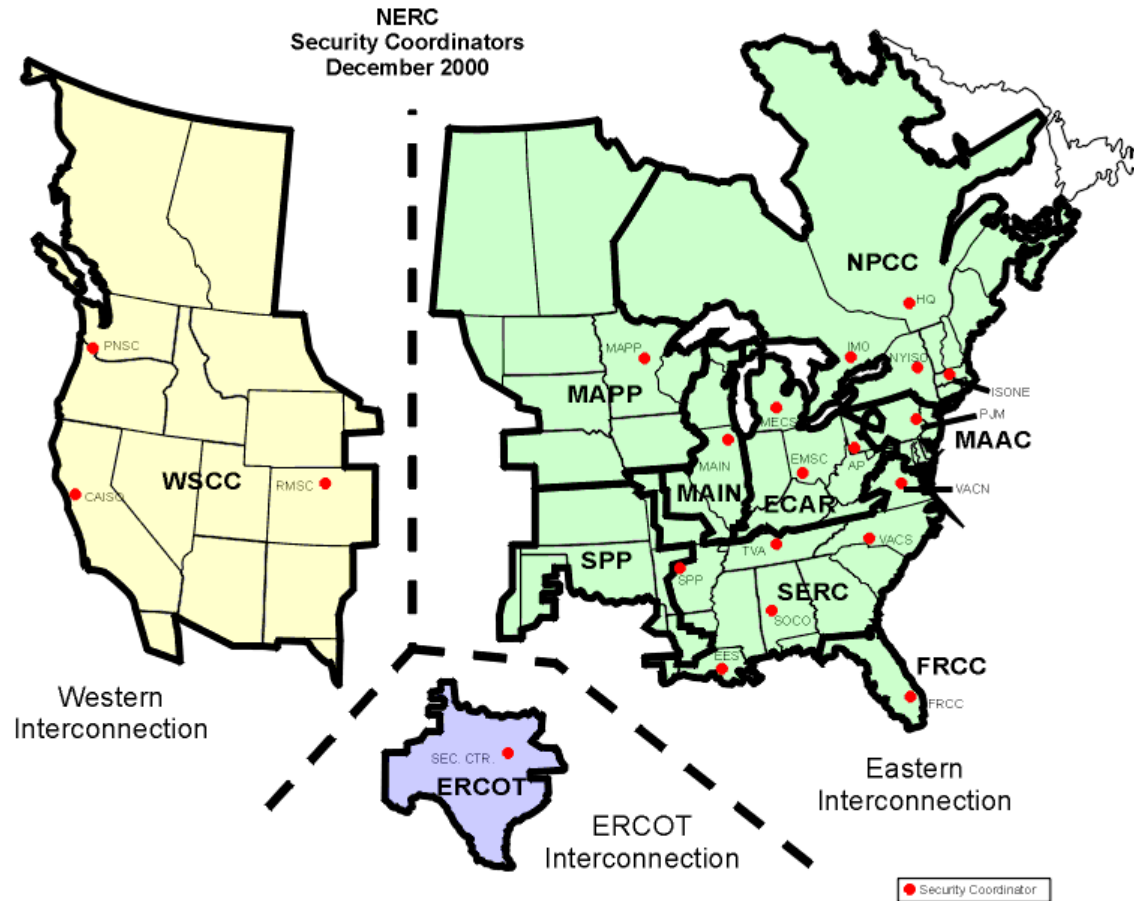
# Entergy Transmission System Overview

Iraq Ministry of Electricity  
April 19, 2010

# NEW ENERGY DELIVERY ORGINIZATION STRUCTURE



# North American Electric Grids



Entergy lies within the Eastern Interconnection and is a member of the SERC Reliability Corporation.

Entergy complies with NERC Planning, Operating, and Cyber Standards.

# Entergy's Transmission System Statistics

- Over 15,000 miles of transmission lines

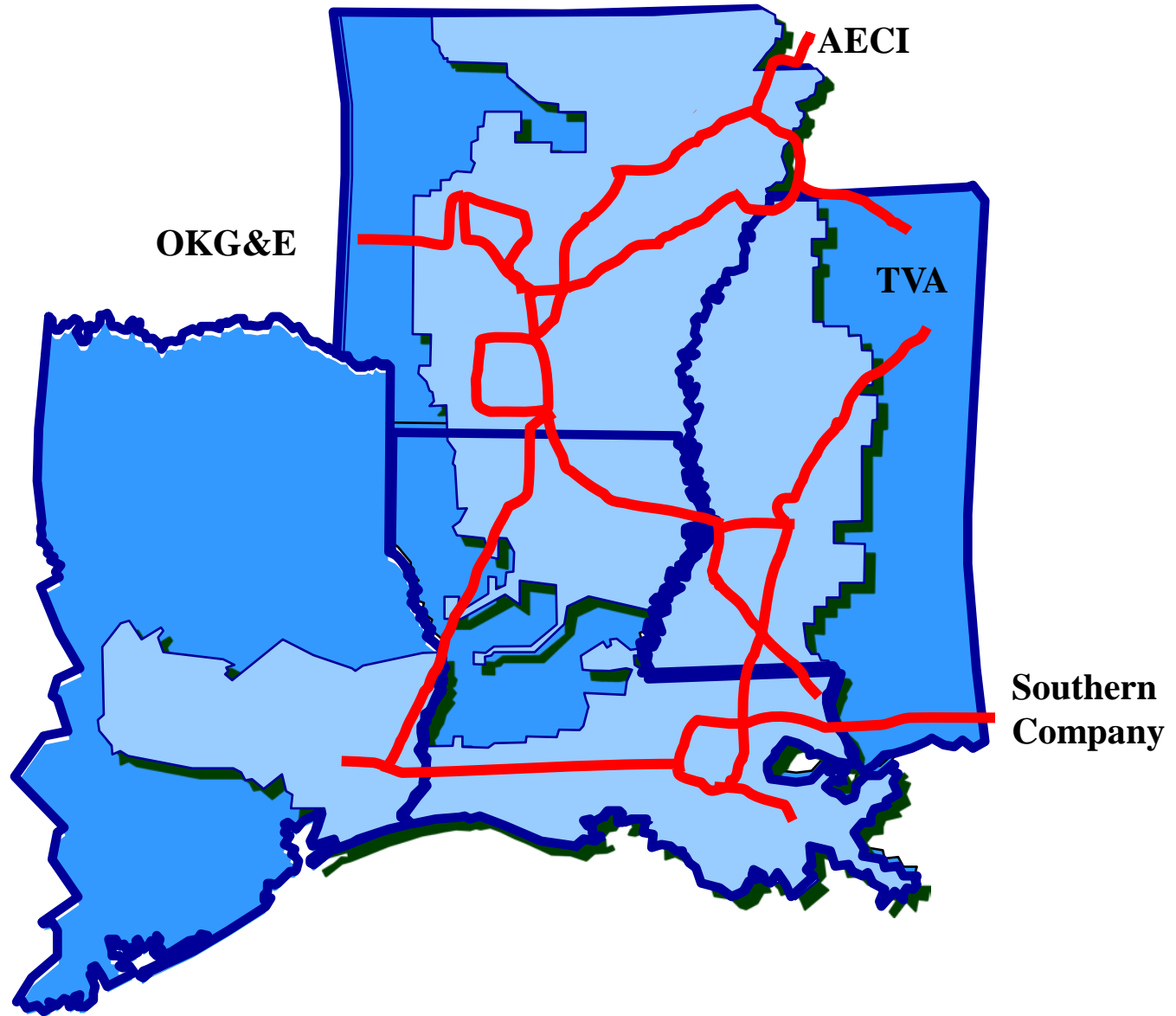
JURISDICTION	VOLTAGE LEVEL (kV)							Total
	69	115	138	161	230	345	500	
EAI	11	2114	0	1438	159	159	891	4772
EGSI	1536	30	2229	0	728	37	544	5104
ELI	30	1624	15	0	634	16	243	2562
EMI	0	1872	0	6	506	0	358	2742
ENOI	0	148	0	0	56	0	0	204
TOTAL	1576	5788	2245	1443	2083	213	2035	15384

source: 2000 FERC Form 1

- 1,550 substations
- ~ 1,000 employees
- ~ 24,000MW of Entergy generation
- ~ 21,000MW of Entergy load

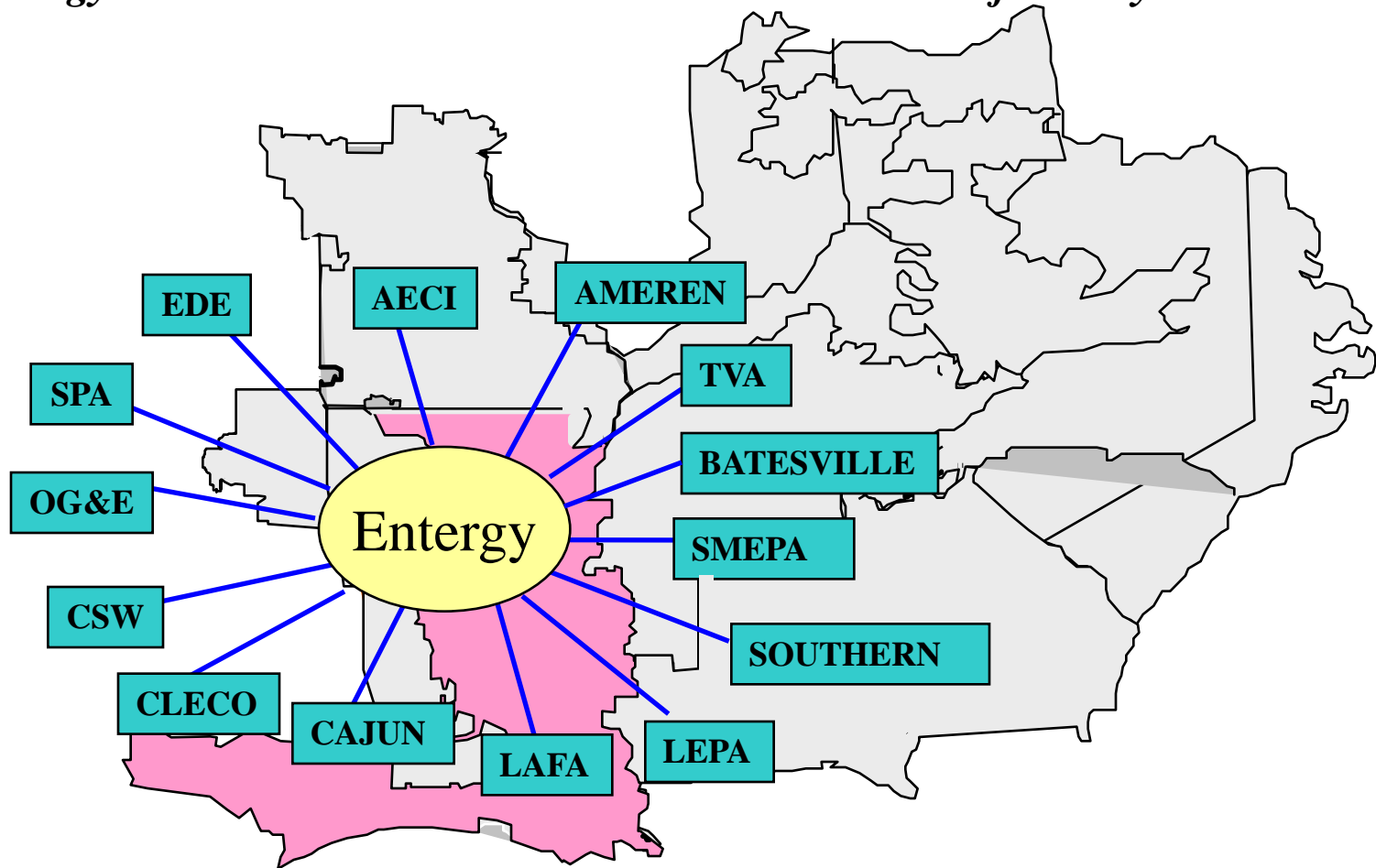


# Entergy's 500kV Transmission System



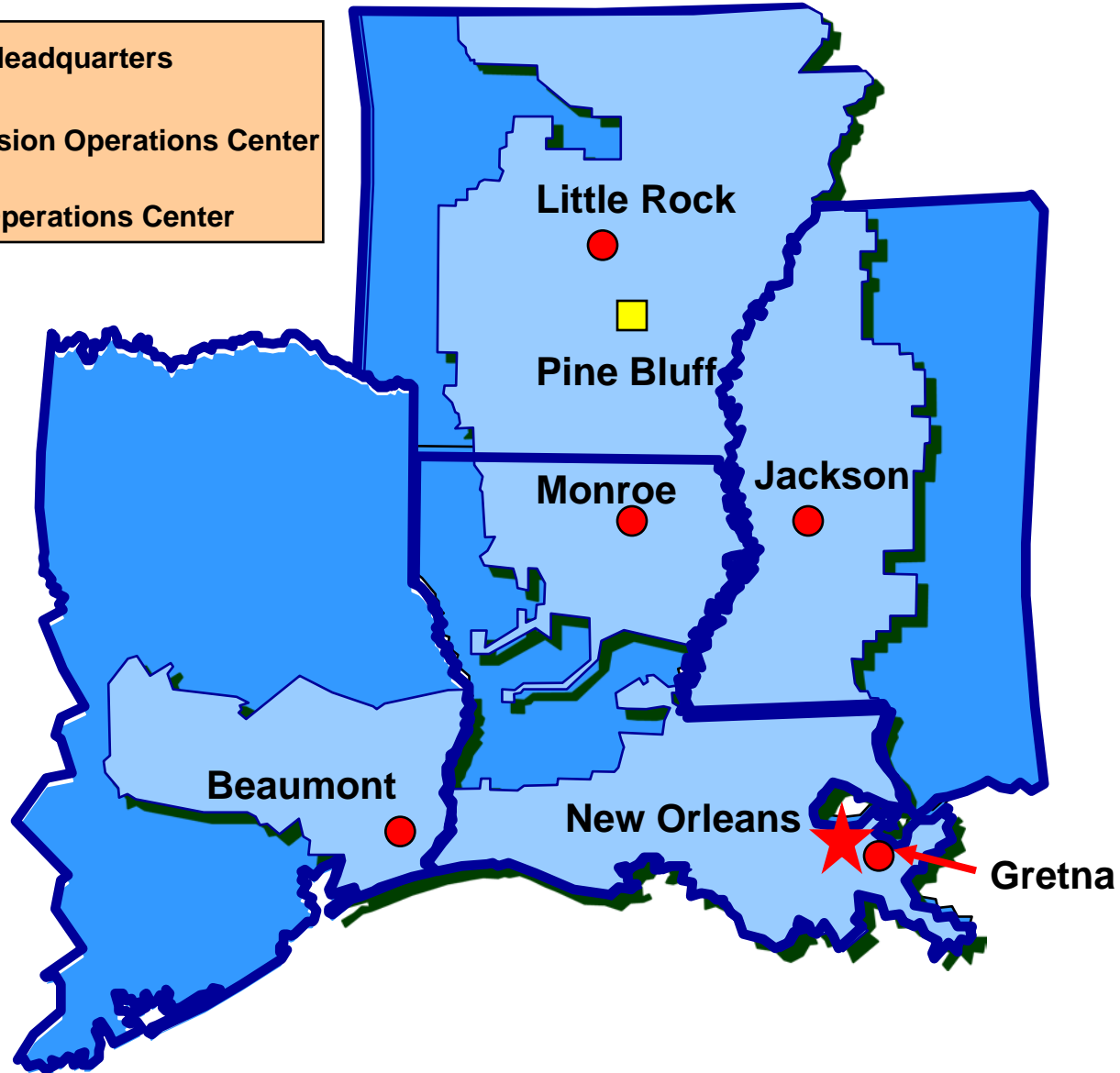
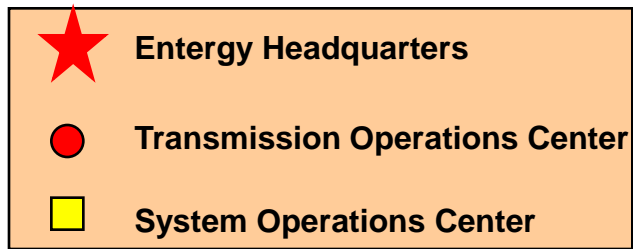
# ENTERGY INTERFACES

*Entergy has 75 transmission interconnections with 14 adjacent systems*



<b>Simultaneous Import Capability:</b>	<b>3,500 MW</b>
<b>Simultaneous Export Capability:</b>	<b>1,500 MW</b>
<b>Thermal capability of all tie-line interfaces:</b>	<b>25,000 MW</b>

# Entergy's Operations Centers



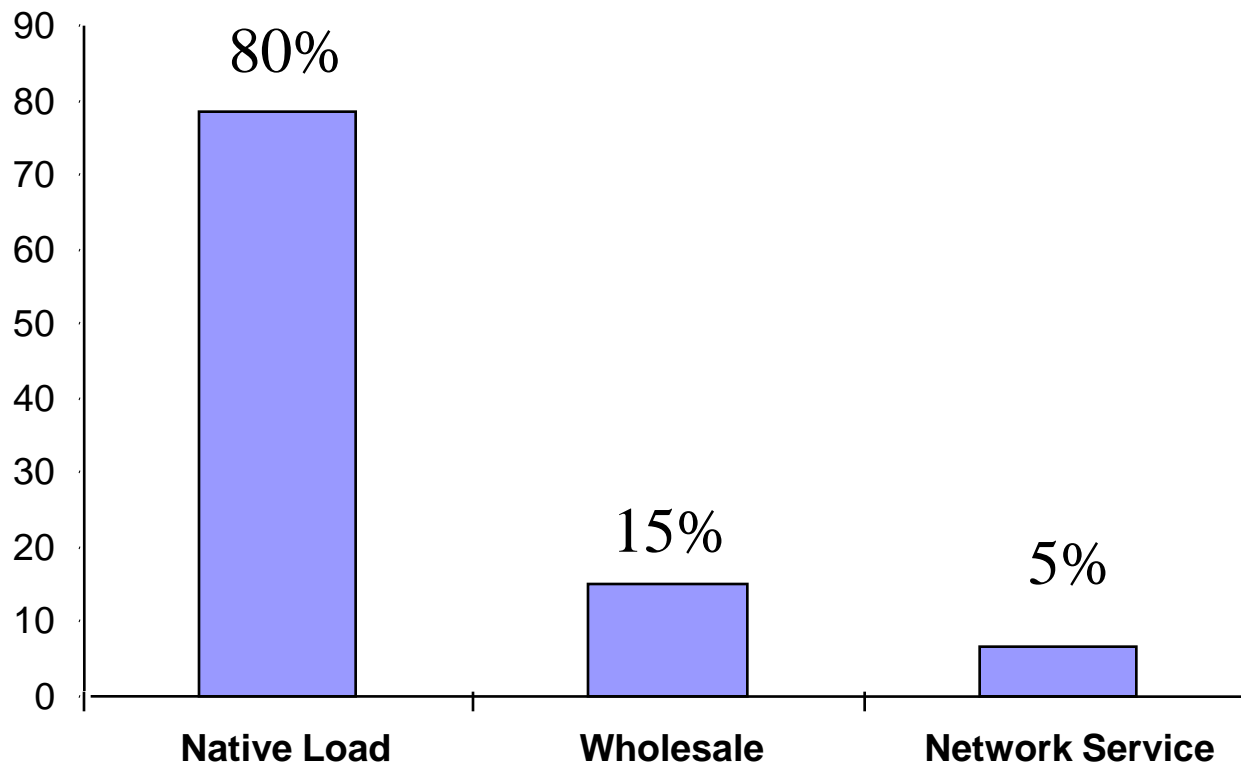




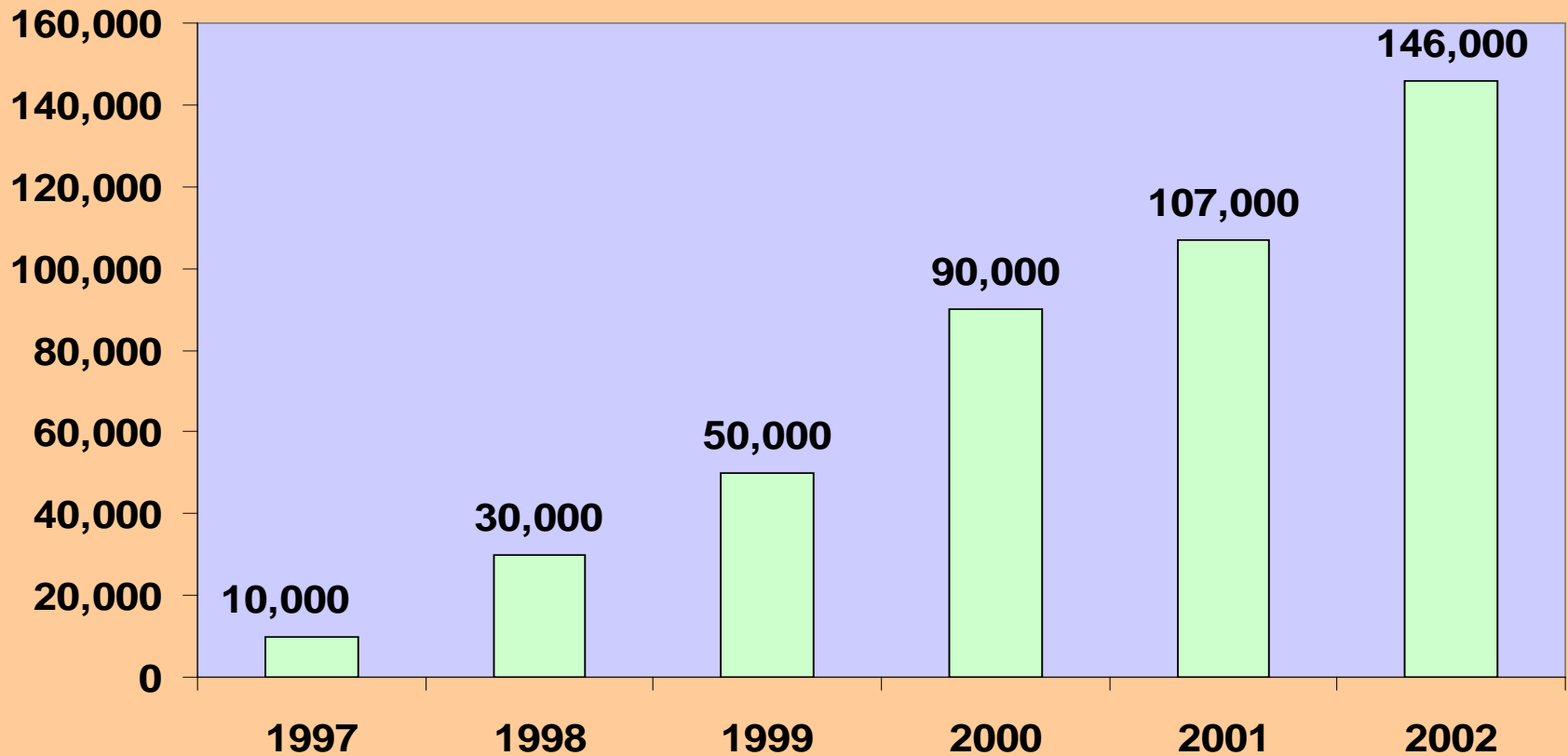


# *Transmission Customers*

**Revenue by Customer Class**



# Wholesale Transactions Across the Entergy System



# Current Transmission Planning Process

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GOAL: Ensure transmission system reliability through compliance with planning criteria

- Load and resource forecasts from native load and network service customers
  - Resources are generally the existing native Entergy generation.
- Update models
- Determine transmission system constraints (load flow, short circuit, and stability)
- Develop solutions and preliminary cost estimates

# Transmission Planning Process

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- Perform cost vs. benefit analyses
  - Rank and score proposed solutions based upon contingency probability, amount of load at risk, and estimated project cost (\$ per megawatt-hour saved)
  - Some projects are deemed mandatory (e.g., government-mandated, safety)
- Present proposed projects for approval to each of the jurisdictions
  - 3-year Expansion Plan
  - Approved budget for year 1
  - Plan does not include projects to accommodate bulk power transfer







# Entergy's Response to Major Hurricanes

# Katrina had unprecedented impact on Entergy

**1.1 million customers out; severe flooding**



Katrina Storm surge approaches Michoud plant, photo by Entergy Michoud plant manager Donald G McCrosky

***300,000  
ETR Mississippi  
outages***

***800,000  
ETR Louisiana  
outages***



# Flooding - affected a significant portion of our New Orleans customers

## Customers Affected by Floodwaters

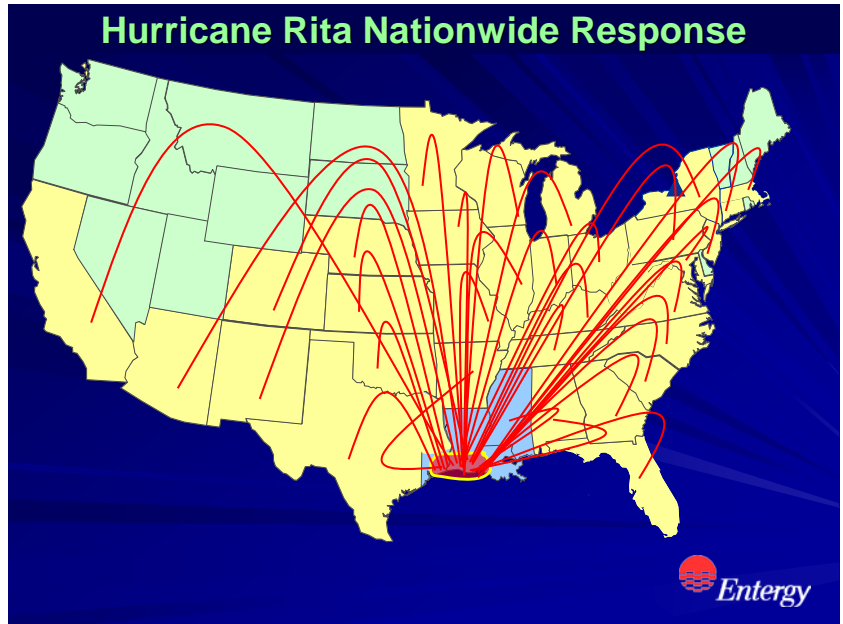
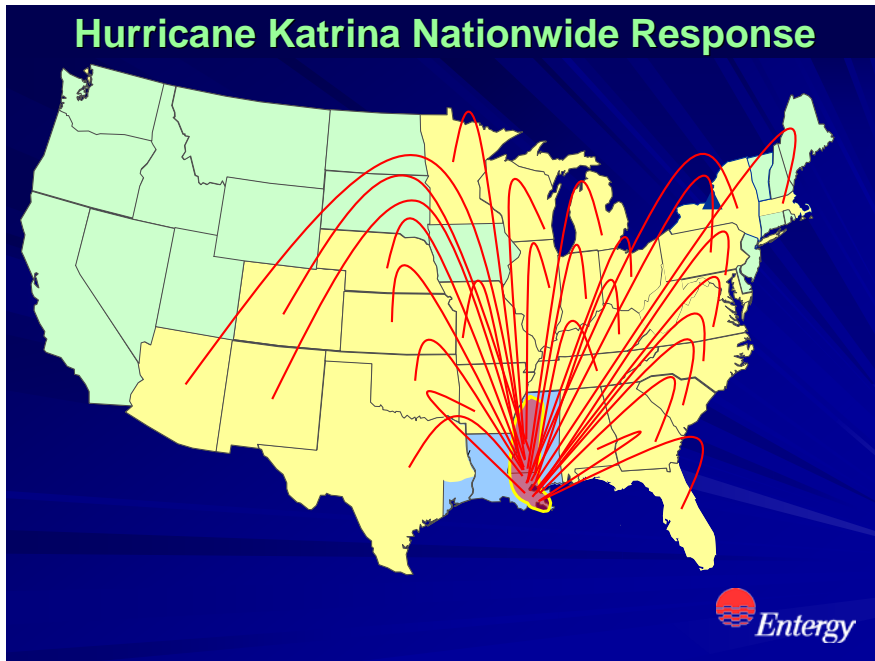
*Entergy New Orleans projects approximately half of their customers may be unable to take service without significant reconstruction*



# Resources- a monumental support effort

## Katrina ...

- 10,200 tool workers
- 100 companies from
- 29 states
- 3500 support personnel



## Rita ...

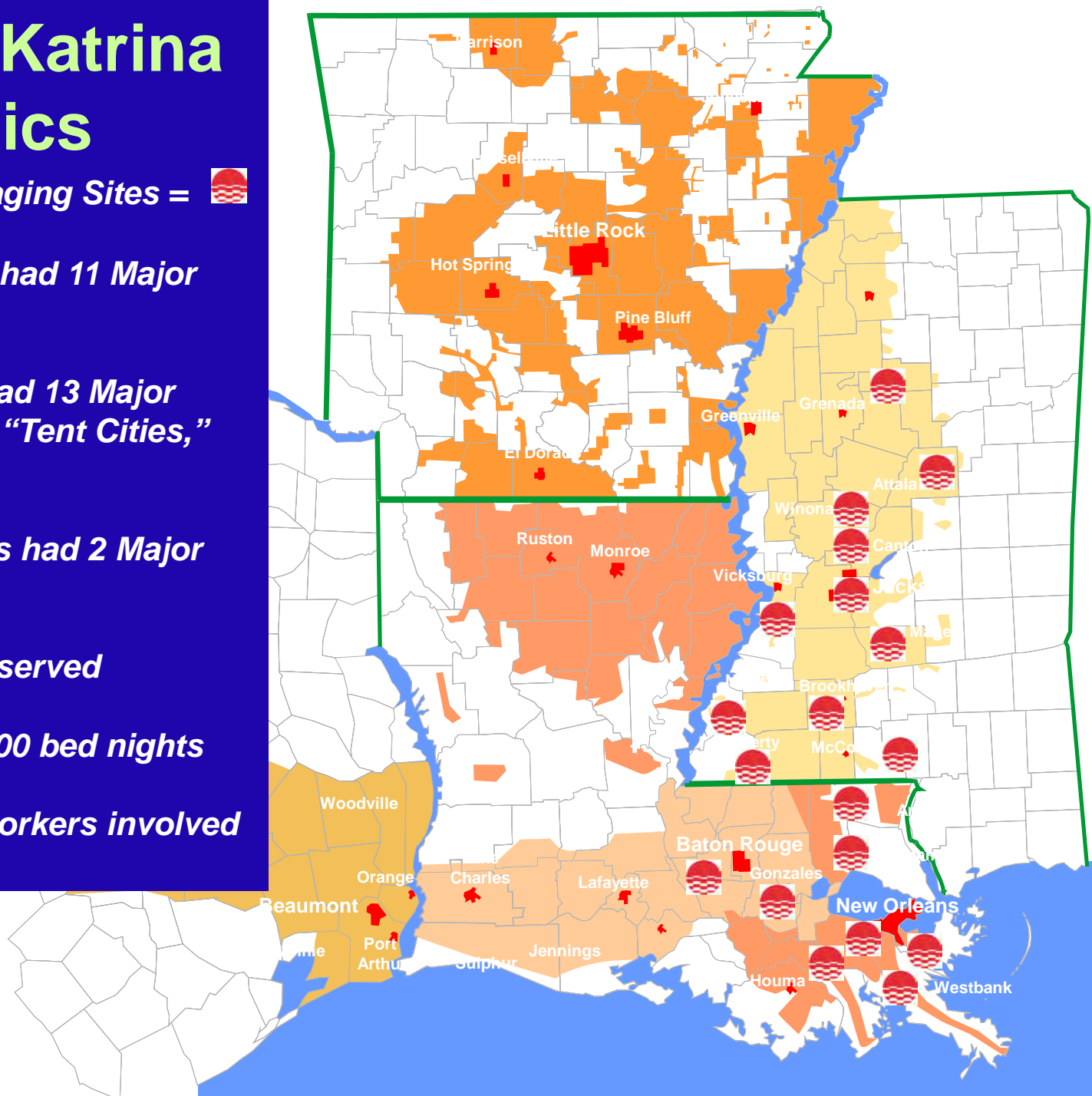
- 13,000 tool workers
- 130 companies from
- 33 states
- 4500 support personnel



# Hurricane Katrina Logistics

Cities with Major Staging Sites = 

- *Entergy Mississippi had 11 Major Staging Sites*
- *Entergy Louisiana had 13 Major Staging Sites with 6 “Tent Cities,” providing 4,500 cots*
- *Entergy New Orleans had 2 Major Staging Sites*
- *Over 715,000 meals served*
- *Acquired over 224,000 bed nights*
- *Over 185 logistics workers involved*

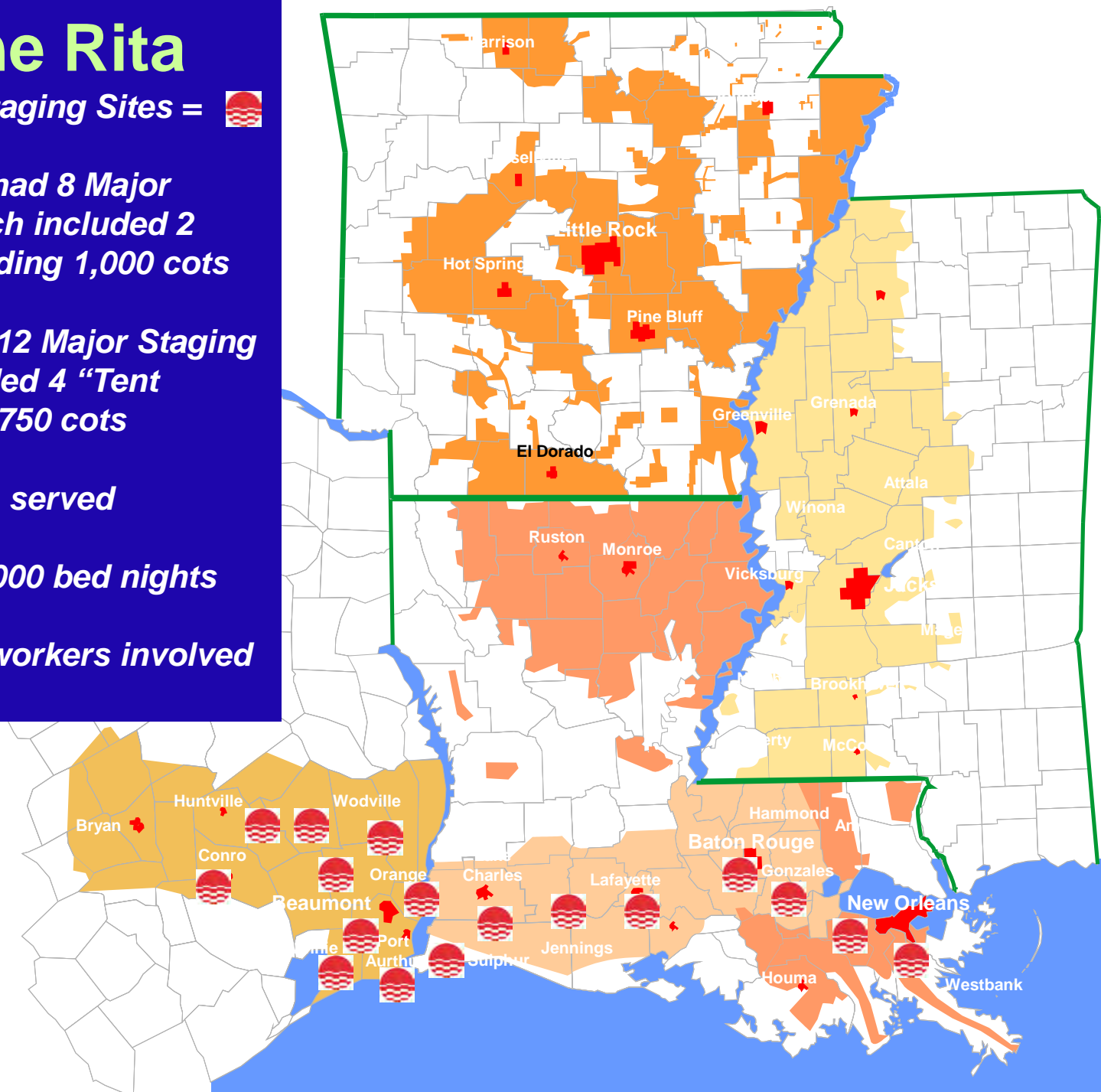




# Hurricane Rita

Cities with Major Staging Sites = 

- *Entergy Louisiana had 8 Major Staging Sites, which included 2 “Tent Cities,” providing 1,000 cots*
- *Entergy Texas had 12 Major Staging Sites, which included 4 “Tent Cities” providing 3,750 cots*
- *Over 551,000 meals served*
- *Acquired over 255,000 bed nights*
- *Over 145 logistics workers involved*



# Tent City Images



# Innovative Restoration Techniques







# Restoration

- ***“SAFETY TRUMPS SPEED”***
- ***1.87 million total electric customers***
- ***145,000 gas customers***
- ***28,900 Distribution poles replaced***
- ***522 Transmission lines out of service***
- ***715 Substations out of service***
- ***29 fossil/1 nuclear units shut down***

