



# Grid Operations and Planning Report

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Board of Directors Meeting  
October 18, 2011

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# Summary

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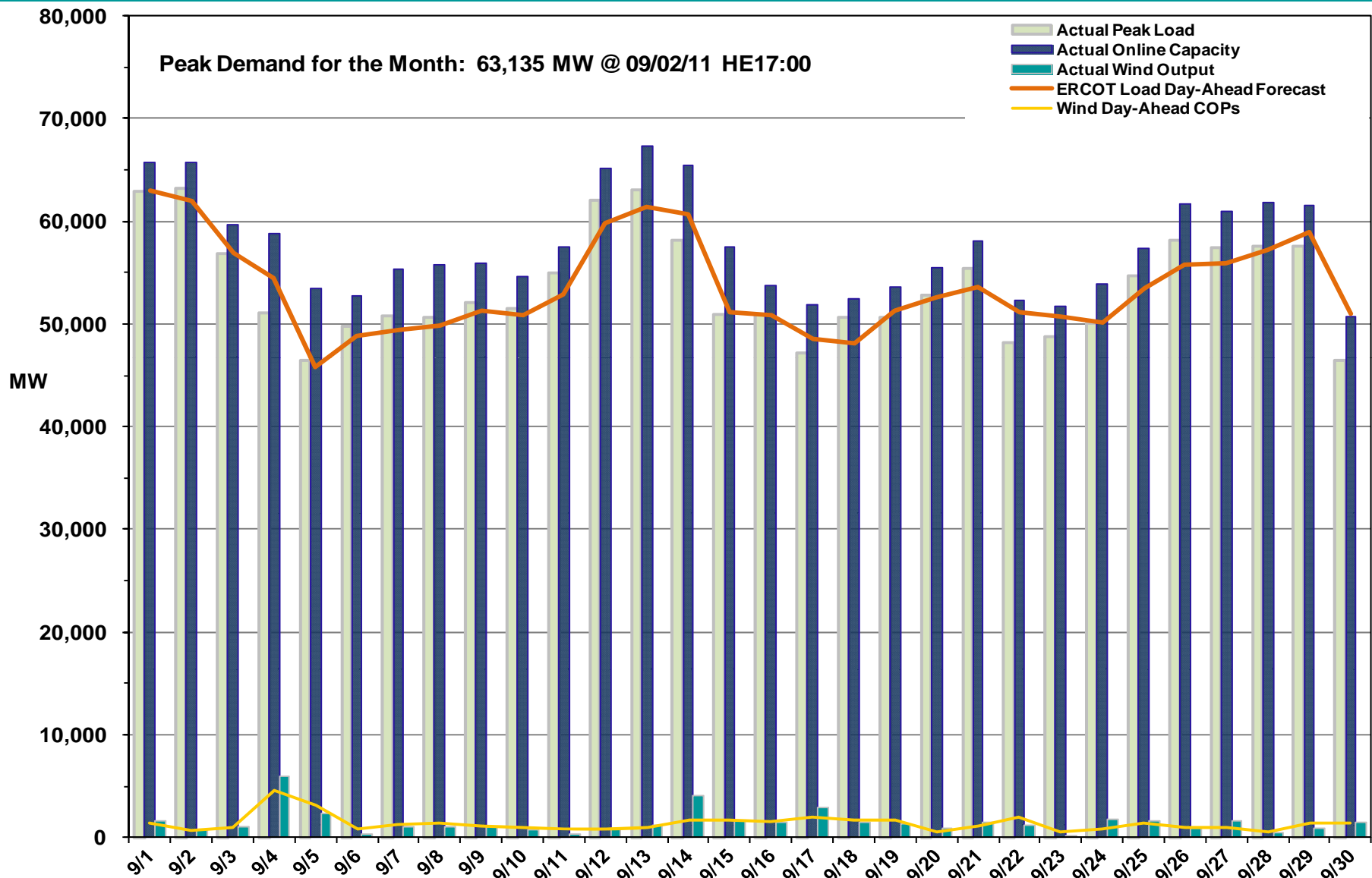
- **September 2011 Operations**

- The peak demand of 63,160 MW on September 03 was more than the mid-term forecast peak of 61,915 MW and more than the September 2010 actual peak demand of 58,201 MW.
- Day-ahead load forecast error for September was 2.70%
- Advisory for Physical Responsive Capability (PRC) below 3000 MW issued 19 days
- No Watches for PRC under 2500 MW issued
- No Energy Emergency Alert (EEA) events issued

- **Planning Activities**

- 185 active generation interconnect requests totaling over 59,000 MW as of September 30, 2011. Five fewer requests and 1,000 MW less than August 31, 2011.
- 9,400 MW wind capacity on line September 30, 2011. No change from August 31, 2011
- Determined Greens Bayou 5 not needed for RMR service

# September 2011 Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs & On-line Capacity at Peak

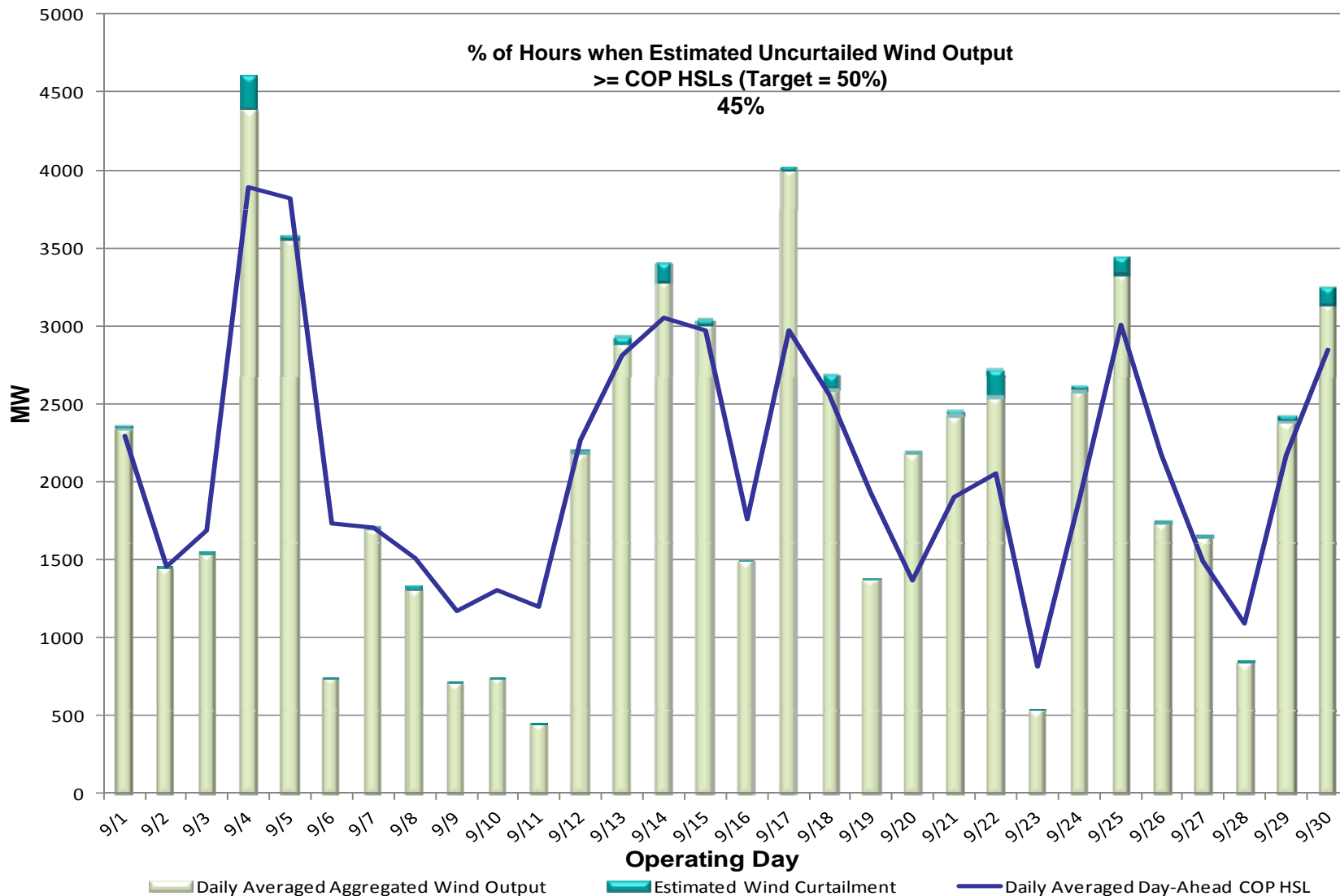


Note: All data are hourly averages during the peak load hour obtained from COPs, and EMMS.



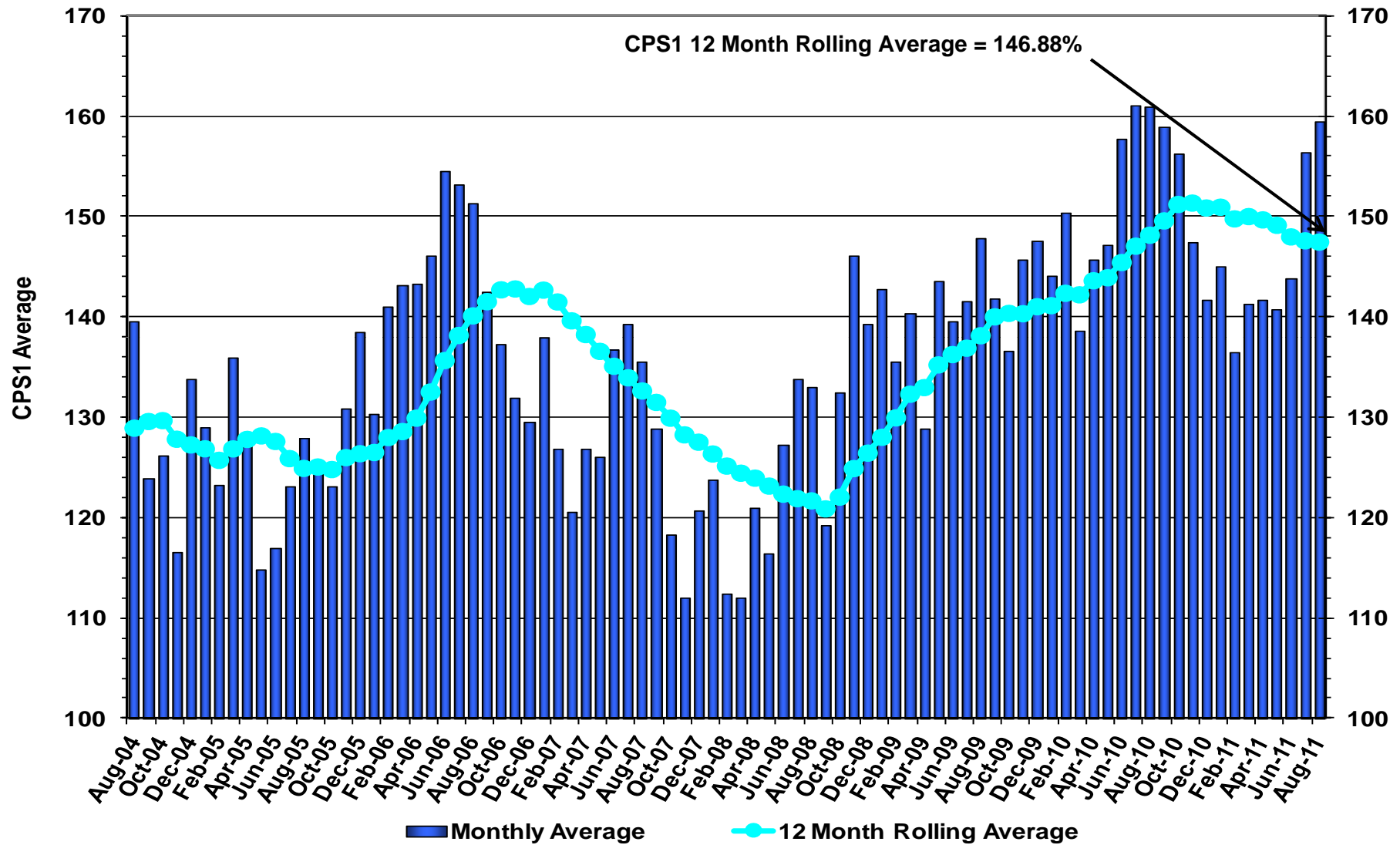
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# September 2011: Actual Wind Output plus Curtailments vs. Wind Day-Ahead COPs for All Hours

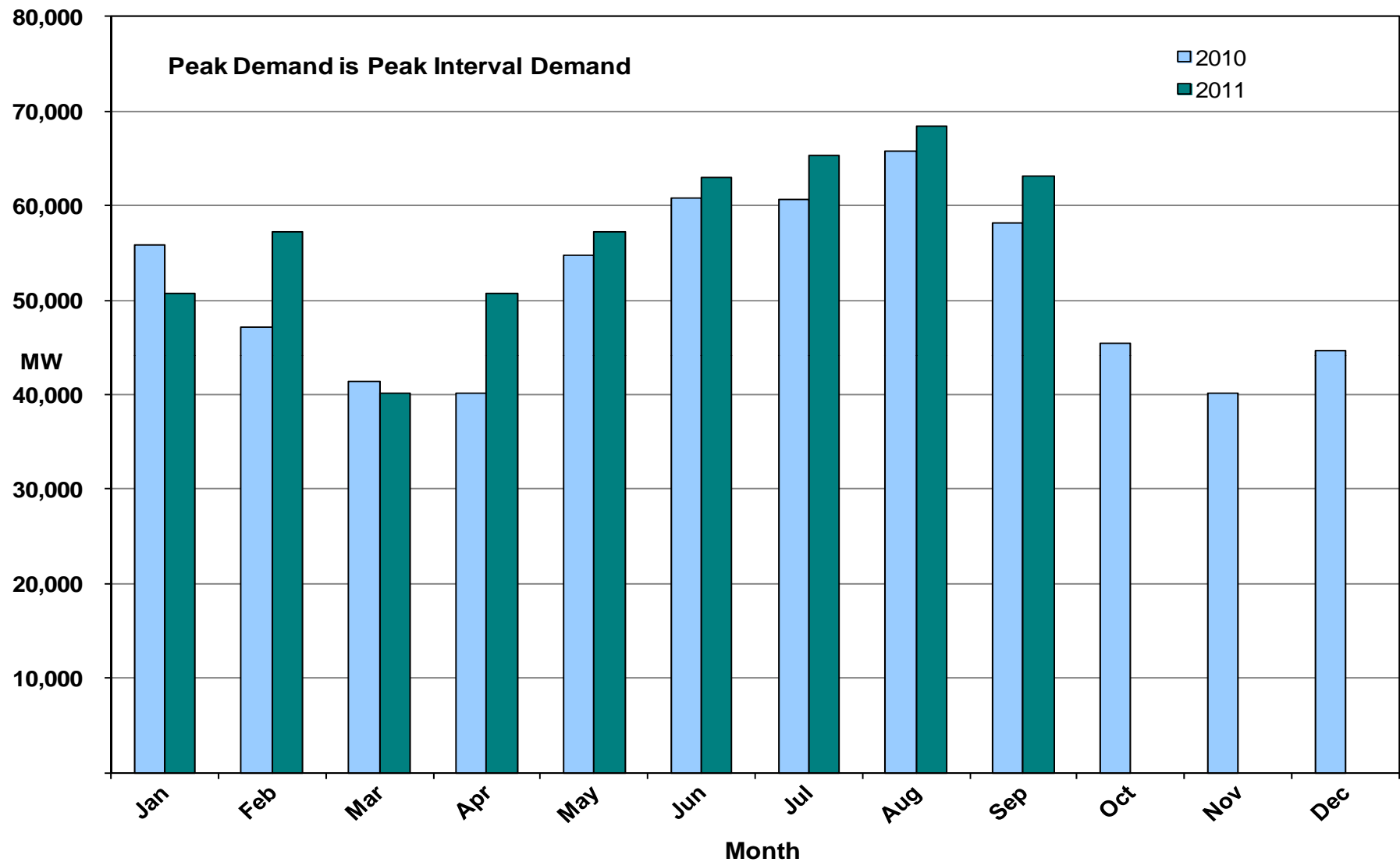


**Note: QSEs must use the AWT 50% probability of exceedance forecast as the HSL in their COPs**

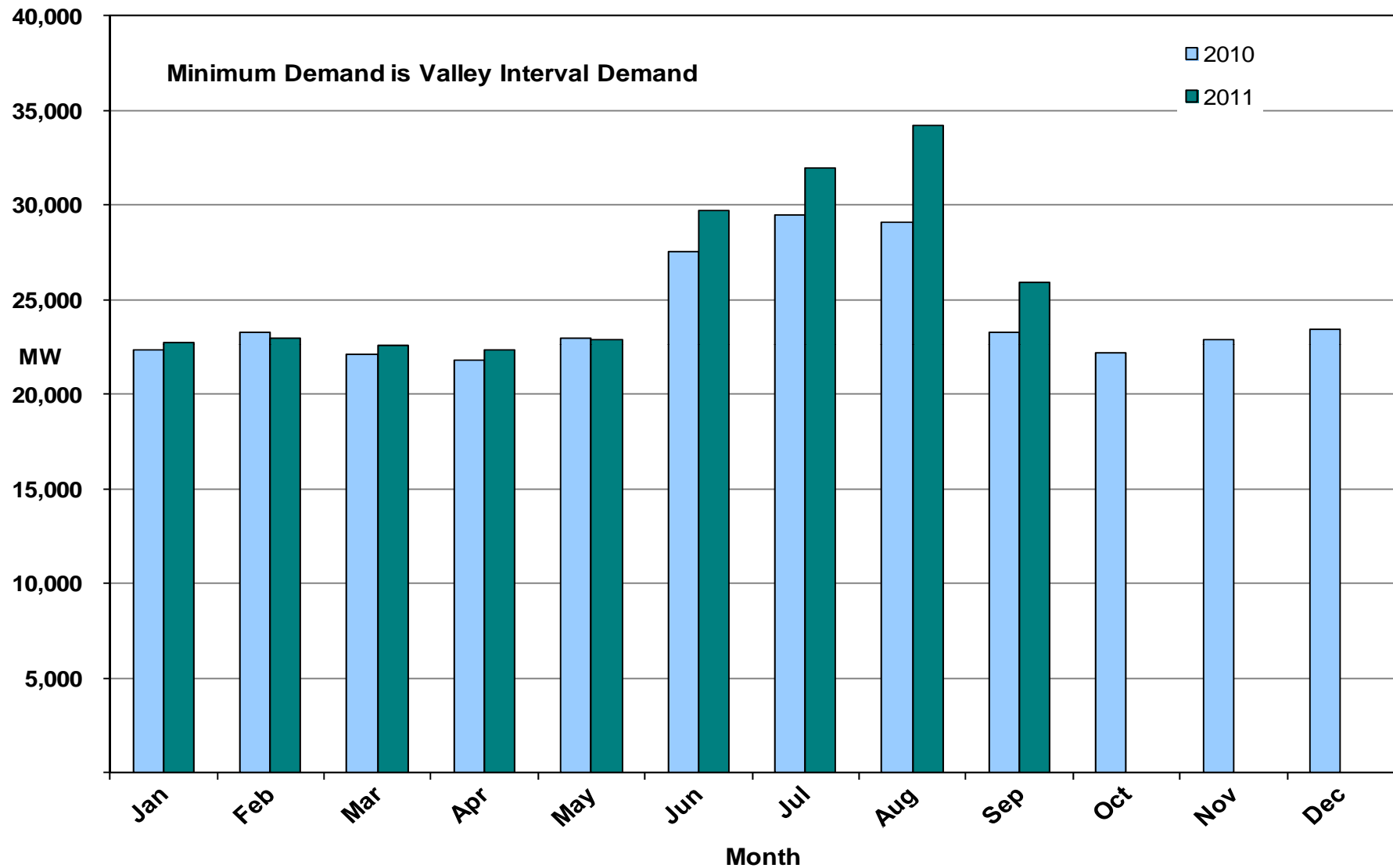
# September 2011 ERCOT's CPS1 Monthly Performance



# September 2011: Monthly Peak Actual Demand



## September 2011: Monthly Minimum Actual Demand



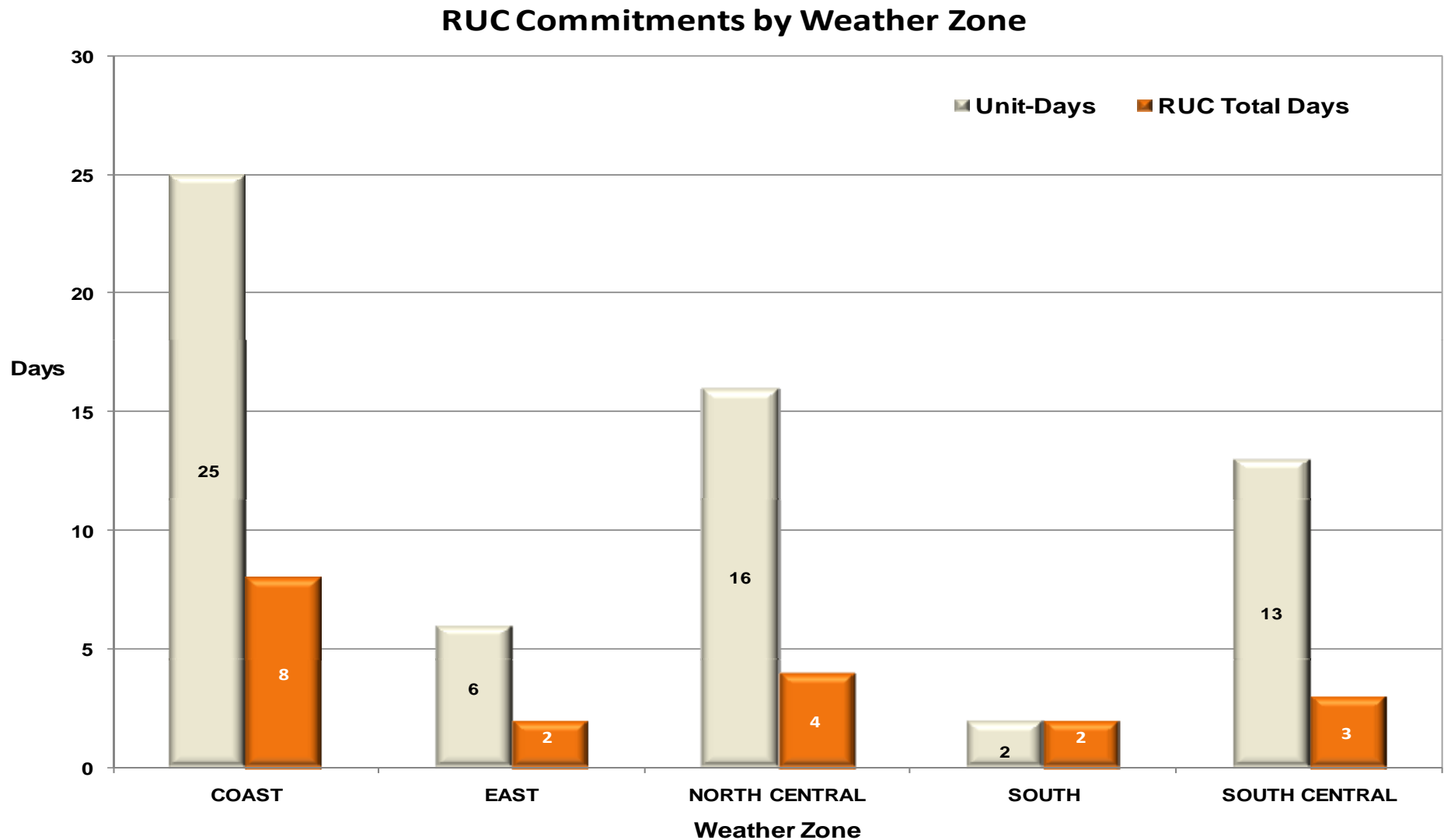


# Day-Ahead Load Forecast Performance in September 2011

**Mean Absolute Percent Error (MAPE) for ERCOT Mid-Term Load Forecast (MTLF)  
Run at 14:00 Day Ahead**

	<b>2008 MAPE</b>	<b>2009 MAPE</b>	<b>2010 MAPE</b>	<b>2011 MAPE</b>	<b>September 2011 MAPE</b>	
<b>Average Annual MAPE</b>	3.30	3.11	2.83	<b>2.68</b>	<b>2.70</b>	
<b>Lowest Monthly MAPE</b>	2.45	1.93	2.24	1.63	<b>Lowest Daily MAPE</b>	0.70 Sep – 15
<b>Highest Monthly MAPE</b>	4.99	4.11	3.79	3.55	<b>Highest Daily MAPE</b>	7.74 Sep – 30

# Reliability Unit Commitment (RUC) Capacity by weather zone in September 2011



## September 2011: Generic Transmission Limits (GTLs)

GTLs	Sep 10 Days CSC	Jul 11 Days GTLs	Aug 11 Days GTLs	Sep 11 Days GTLs	Last 12 Months Total Days (Aug 10 – Aug 11)
North – Houston	8	0	0	0	32
West – North	15	4	2	11 Sep– (4,5,14,15,17,18,22,24,25,29,30)	259
Valley Import	0	0	0	0	15

**GTL:** A transmission flow limit more constraining than a Transmission Element's normal limit established to constrain flow between geographic areas of the ERCOT Transmission System that is used to enforce stability and voltage constraints that cannot be modeled directly in ERCOT's transmission security analysis applications.

**Note:** This table lists how many times a constraint has been activated to avoid exceeding a GTL limit, it does not imply an exceedance of the GTL occurred.

# Advisories and Watches in September 2011

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- **Advisories issued for Physical Responsive Capability (PRC) below 3000 MW.**
  - Issued 19 Days
- **Watches issued for Physical Responsive Capability (PRC) below 2500 MW.**
  - None
- **Transmission Watches**
  - None
- **Energy Emergency Alerts**
  - None

# Significant System Incidents in September 2011

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- **September 4-9**

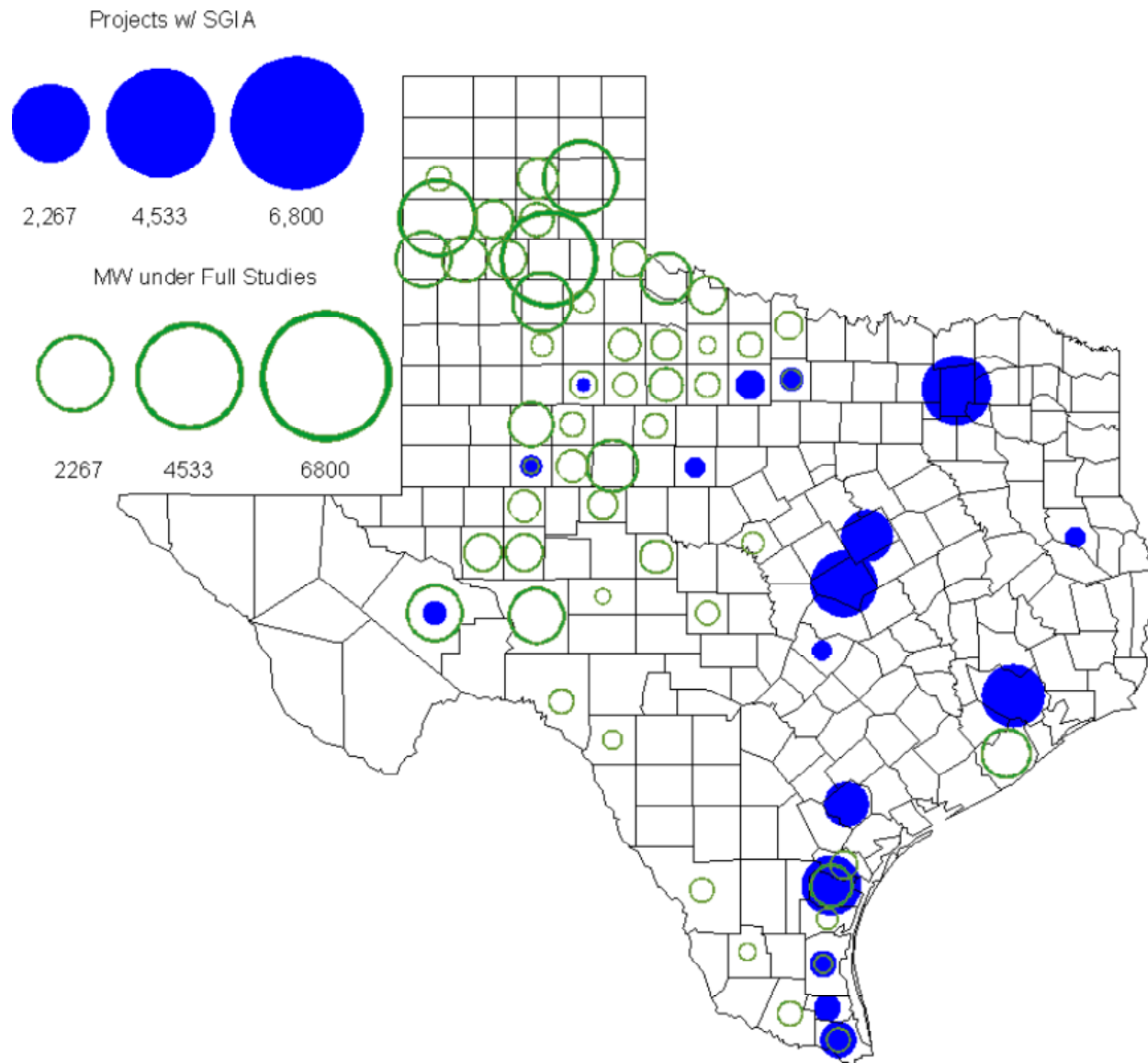
- Wildfires impacted two 345KV lines, sixteen 138KV lines, three 69KV lines and two generating stations in the Bastrop area. All lines back in service by September 18.
- Two 345 KV lines from Jewett to Zenith impacted by a separate wildfire. Back in service by September 9.
- No significant reliability issues caused by the outages

## Planning Summary

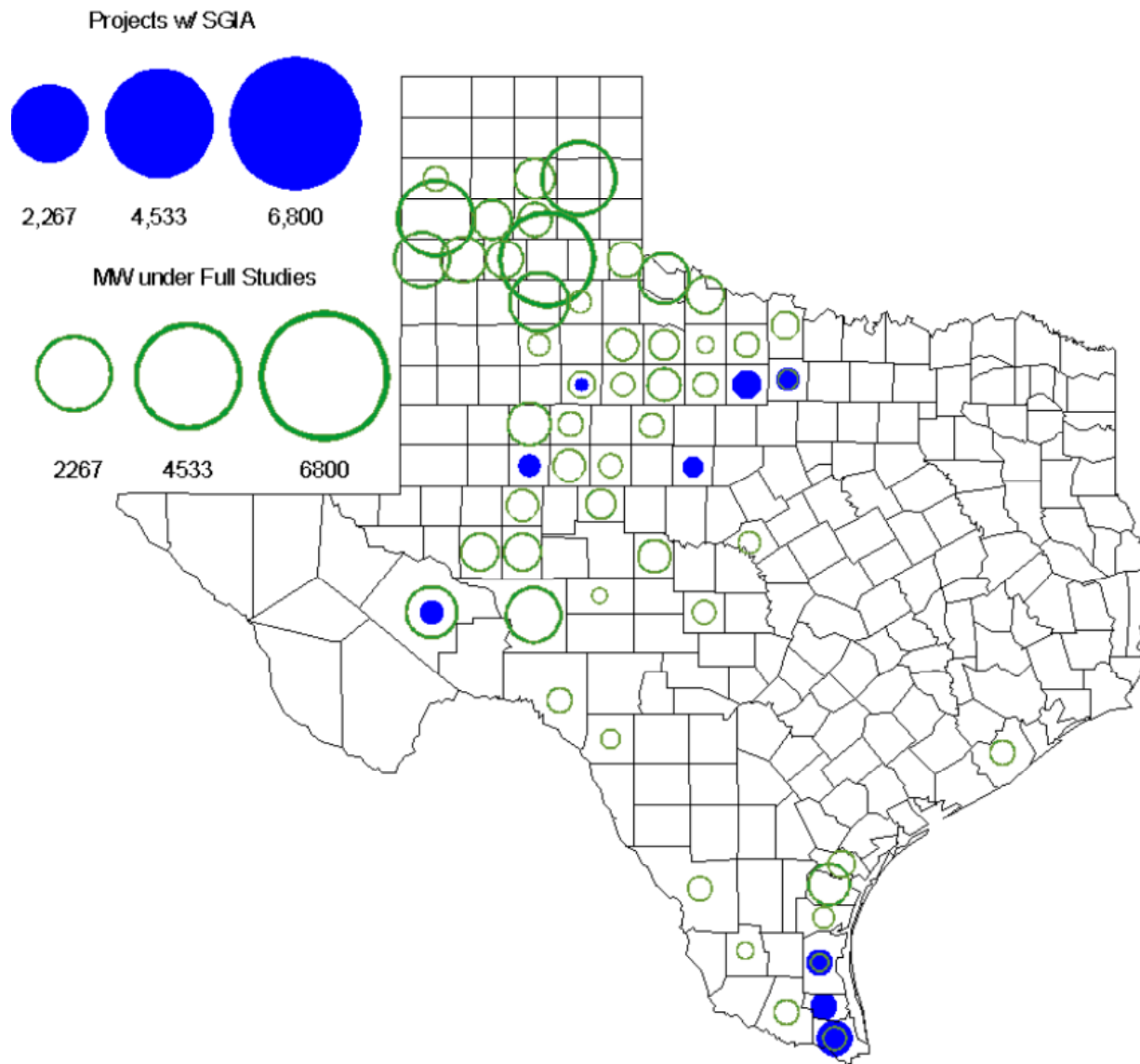
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- **185 generation interconnection request studies totaling over 59,000 MW are ongoing. This includes almost 34,000 MW of wind generation.**
- **ERCOT is currently reviewing proposed transmission improvements with a total cost of \$117.9 Million**
- **Transmission Projects endorsed in 2011 total \$579.9 Million**
- **All projects (in engineering, routing, licensing and construction) total approximately \$9.8 Billion**
- **Transmission Projects energized in 2011 total \$694.8 million**

# County Location of Planned Generation with Interconnection Requests (all fuels) September 2011

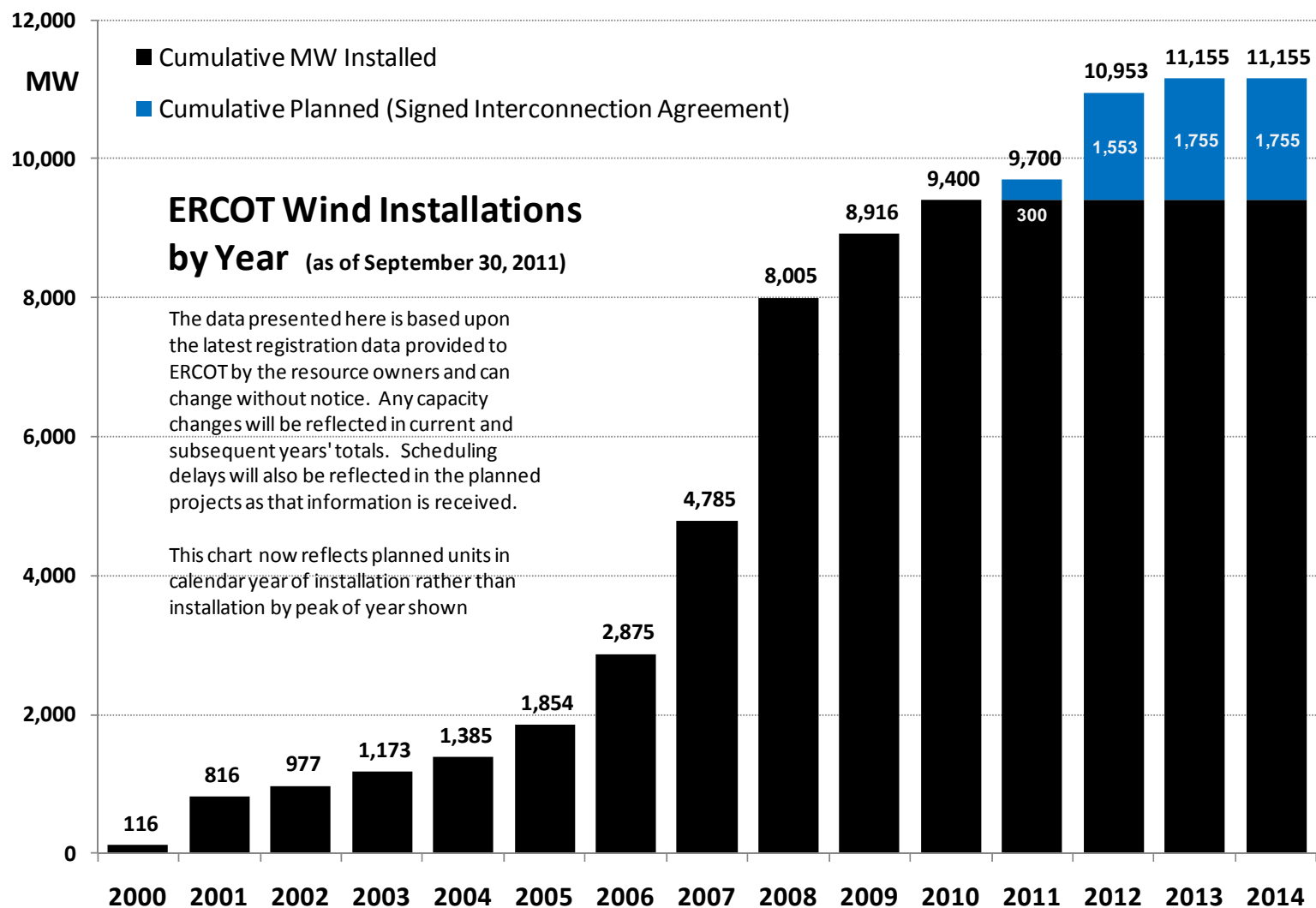


# County Location of Planned Generation with Interconnection Requests (Wind) September 2011

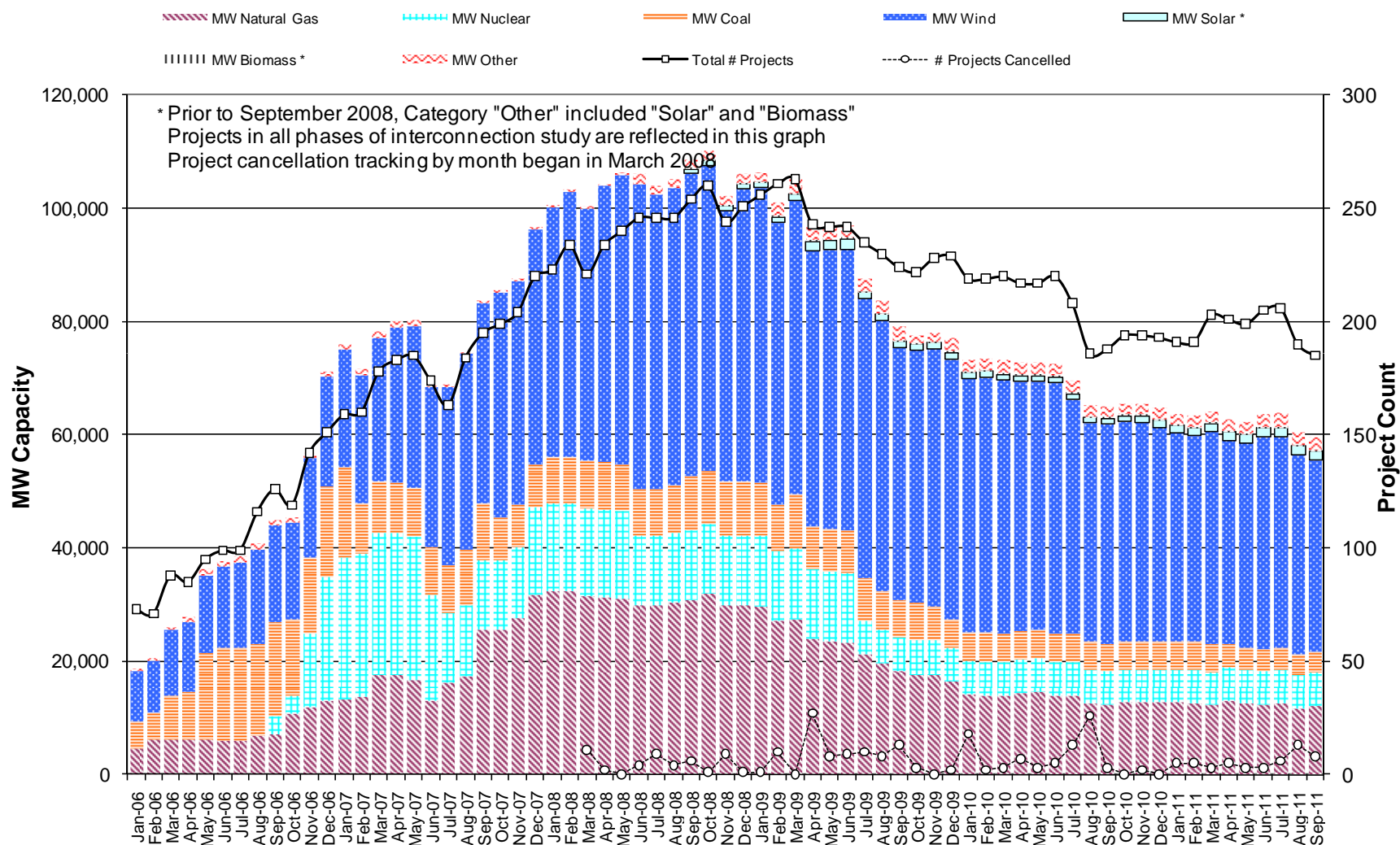




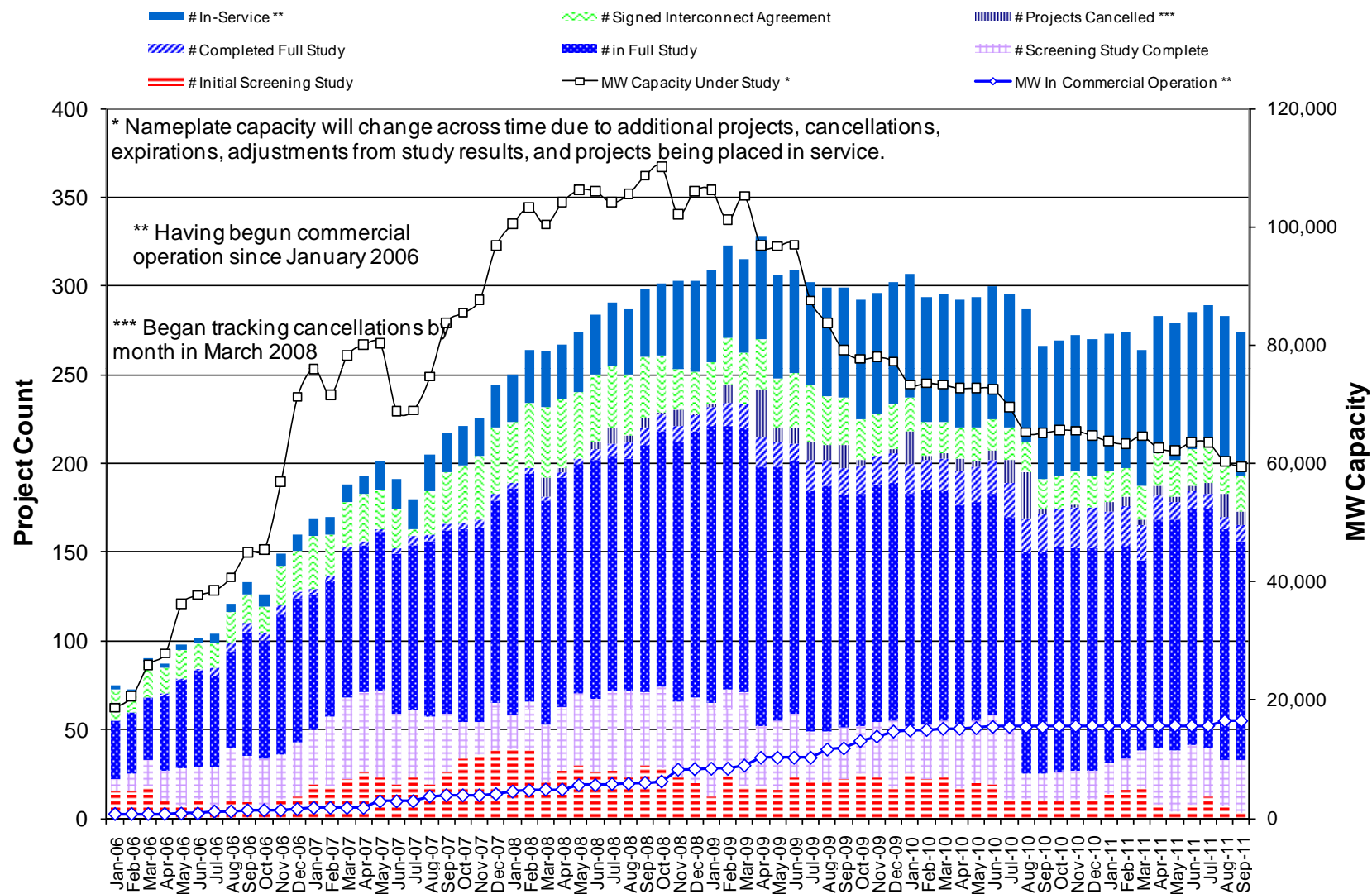
# Wind Generation



# Generation Interconnection Activity by Fuel



# Generation Interconnection Activity by Project Phase



# Reliability Must Run Update

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- **Greens Bayou 5**

- ERCOT re-evaluated the need to enter into a RMR contract with Greens Bayou 5 (GBY 5)
- GBY 5 assists in resolving the Garrott to Midtown 138 kV overload which tends to occur during shoulder months
- Determined that other generators can reasonably resolve the constraint until the transmission improvement to remove the constraint is completed in the first quarter of 2012
- GBY 5 put in mothball status on October 1, 2011

- **Spencer 4 and 5 and SR Bertron 2**

- Contracted with owners to return from mothball status the end of August
- Contracts expire October 31, 2011

# Status Update on Gas Curtailment Risk Study

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- **Project Management**
  - Contracting completed on 9/23/2011
  - Project kick-off meeting on 9/26/11
- **Data Gathering & Analysis**
  - Survey to electric generators sent on 9/20/2011 and 9/28/2011
    - Responses being collected; deadline is 10/07/2011
  - Additional data requests to ERCOT and RRC underway
  - Research and analysis of curtailments from 3<sup>rd</sup> party sources is ongoing
- **Next Steps:**
  - Compile information from remaining surveys
  - Complete database of Historical Curtailments
  - Complete database of Gas Infrastructure
  - Analysis of risk of curtailment in defined scenarios
- **Results expected January 2012**

# Drought Effect on Generation

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- **ERCOT has been periodically surveying generators during and since the summer to monitor the effect of drought on generation availability**
- **Based on most recent survey:**
  - Current unavailability due to drought is only 24 MW
  - If East Texas receives only half of it's normal winter/spring rainfall, unavailability could go up to 434 MW by May
  - If no significant rainfall received, unavailability is estimated to be as much as 3,044 MW by May
  - Approximately 9,000 MW is dependent on water rights from sources at historically low levels
- **Mitigation actions being taken:**
  - Building of pipelines to remote water sources
  - Procuring additional water rights
  - Adding pumping capability
- **ERCOT will continue to monitor the situation as long as the drought exists**