



# Grid Operations and Planning Report

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**ERCOT Board of Directors  
October 19, 2010**

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# Summary

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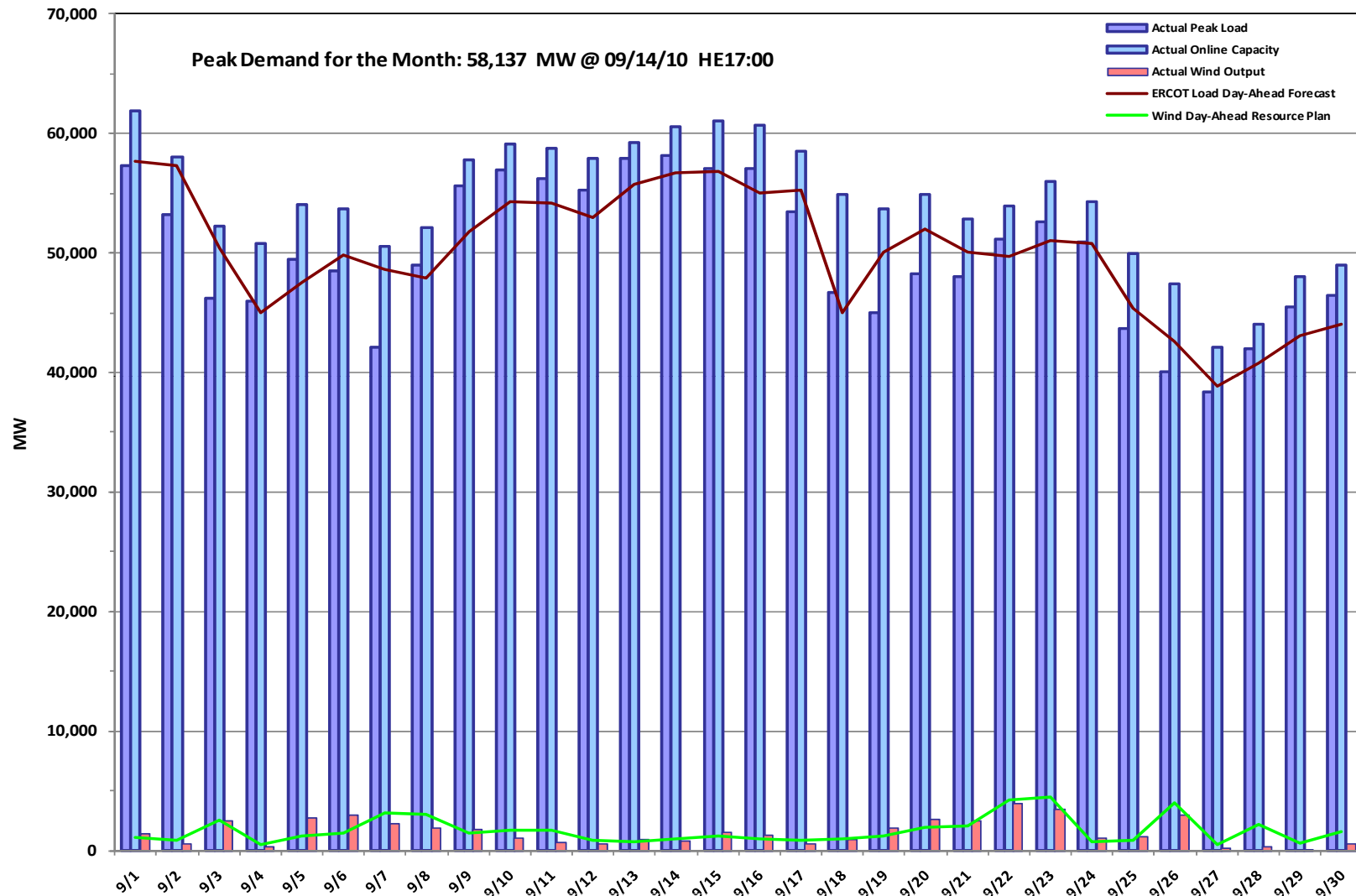
- **September 2010 Operations**

- The peak demand of 58,137 MW on September 14<sup>th</sup> was more than the long term forecast peak of 57,615 MW and more than the September 2009 actual peak demand of 55,383 MW.
- Day-ahead load forecast error for September was 3.14%.
- Advisory for Adjusted Responsive Reserve (ARR) below 3000 MW issued seven days
- No Watch for ARR under 2500 MW
- No Energy Emergency Alert (EEA) event
- Transmission Watches issued seven days

- **188 active generation interconnect requests totaling over 65,000 MW as of September 30, 2010. Two more requests than August 31.**

- **9,317 MW wind capacity on line September 30, 2010. No change from August 31.**

# September 2010 Daily Peak Demand: Hourly Average Actual vs. Forecast, Resource Plan & On-line Capacity at Peak

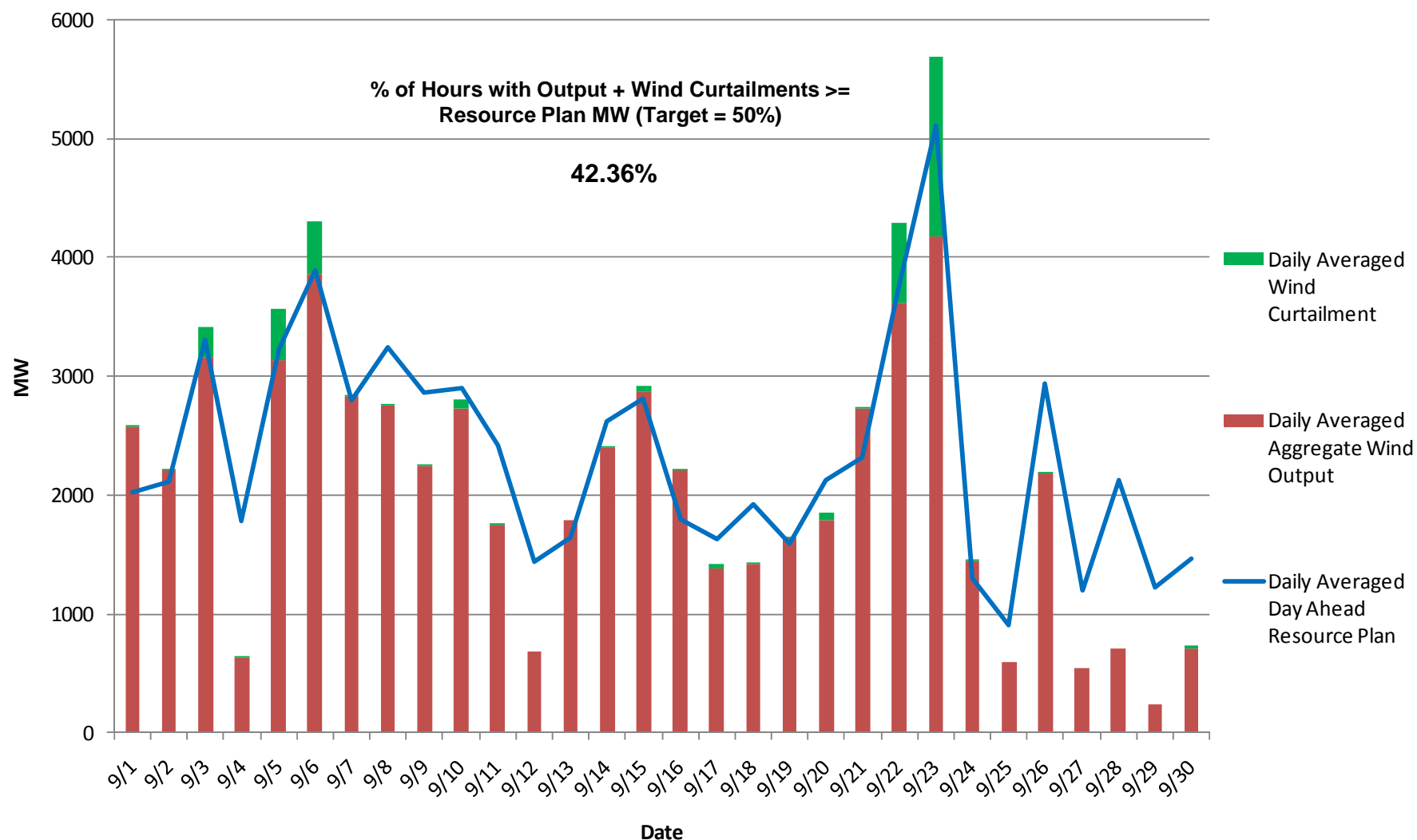


Note: All data are hourly averages during the peak load hour obtained from Resource Plans, and EMMS.

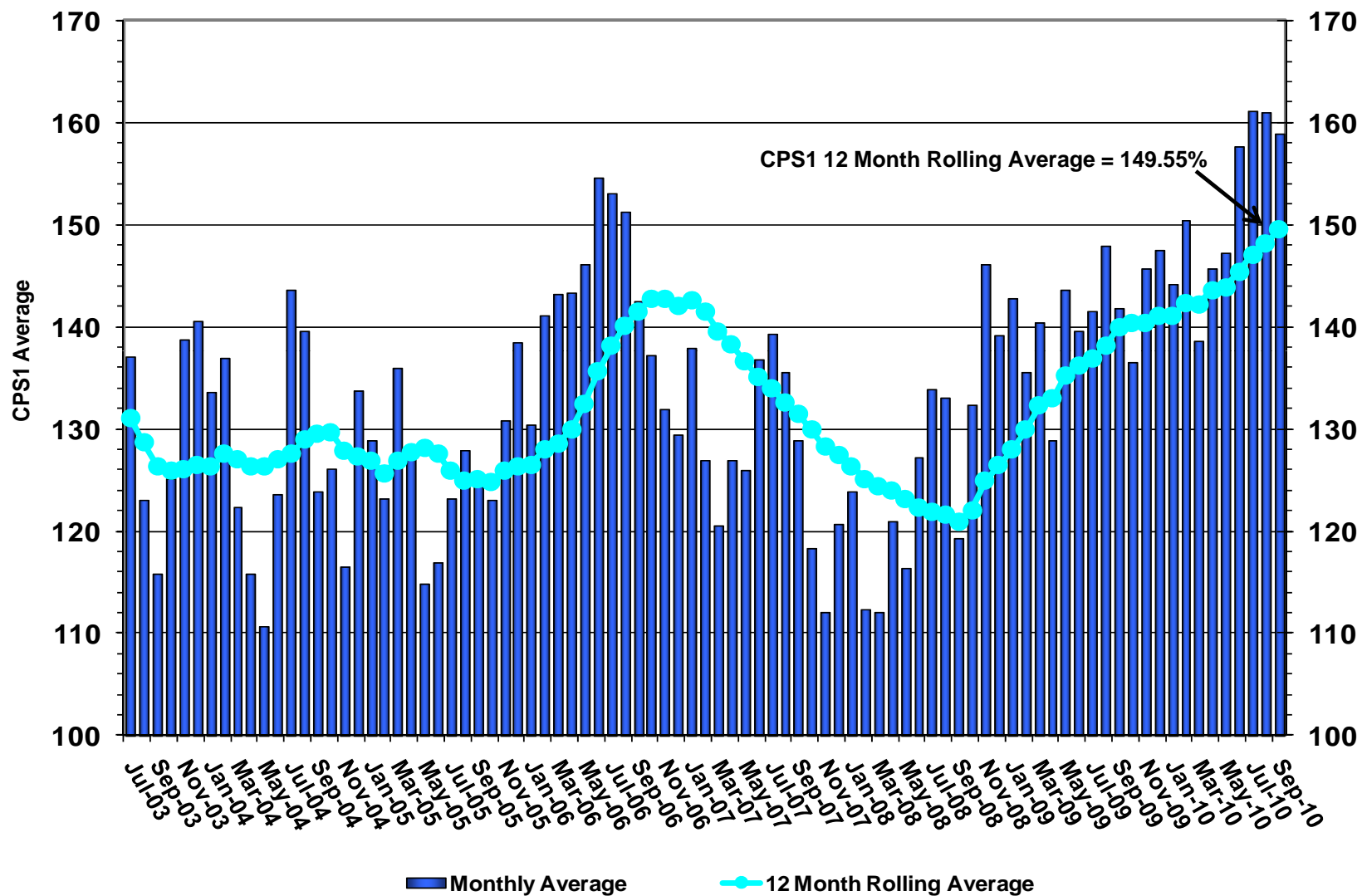


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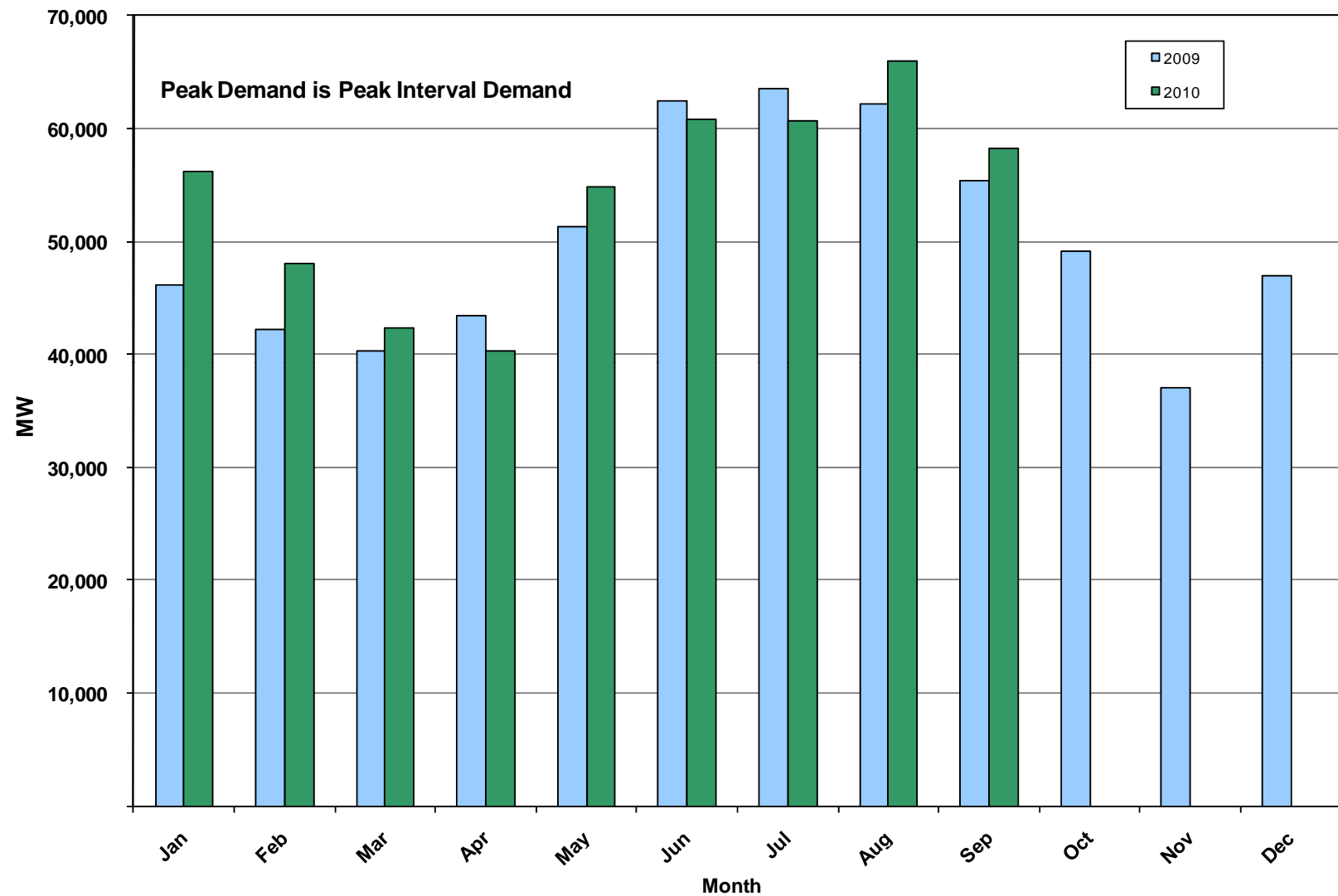
# September 2010: Actual Wind Output w/ Curtailment Added Back vs. Wind Day-Ahead Resource Plan Based on AWS Forecast for All Hours



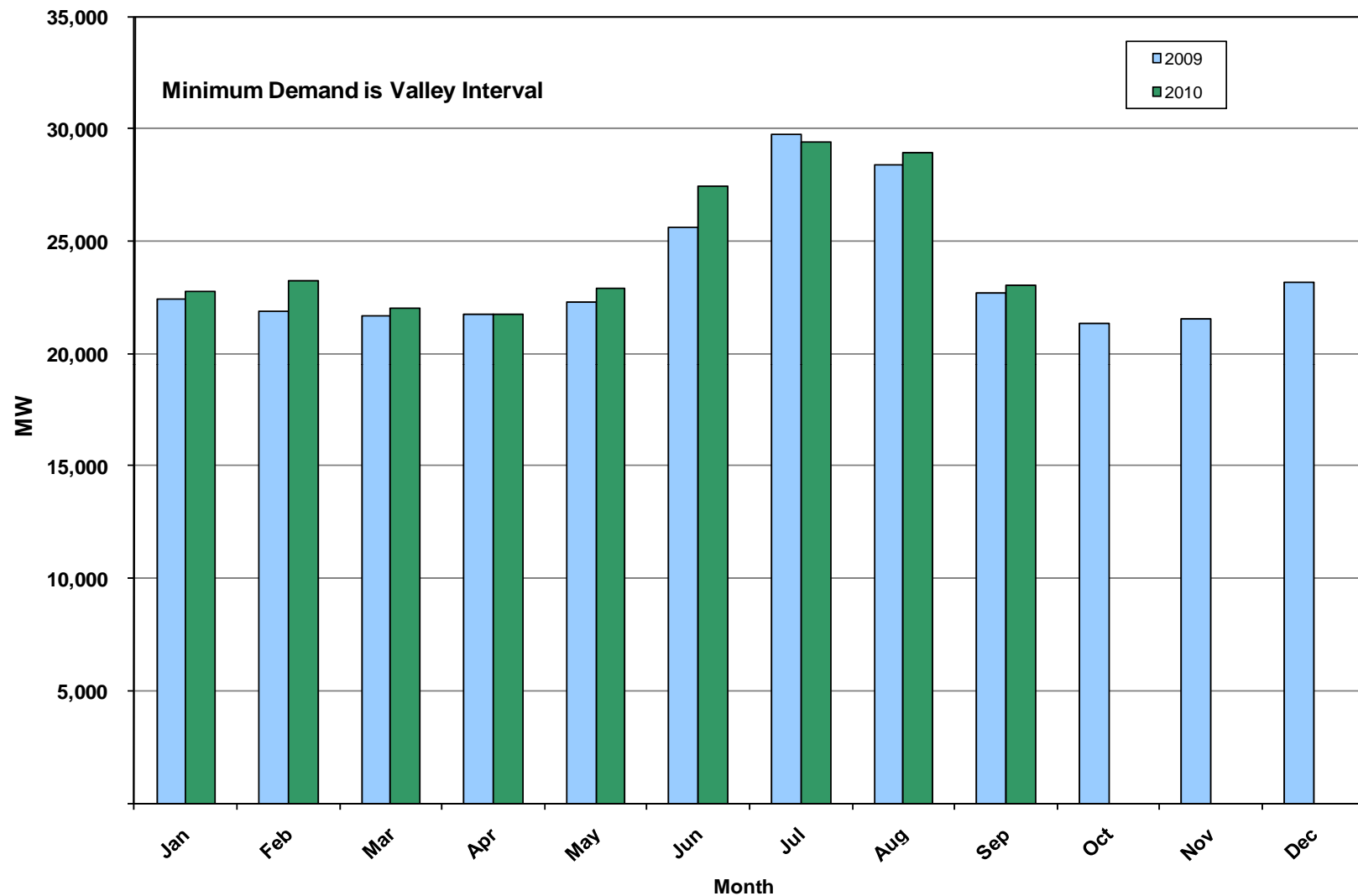
## September 2010 ERCOT's CPS1 Monthly Performance



# September 2010: Monthly Peak Demand: Actual



# September 2010: Monthly Minimum Demand: Actual



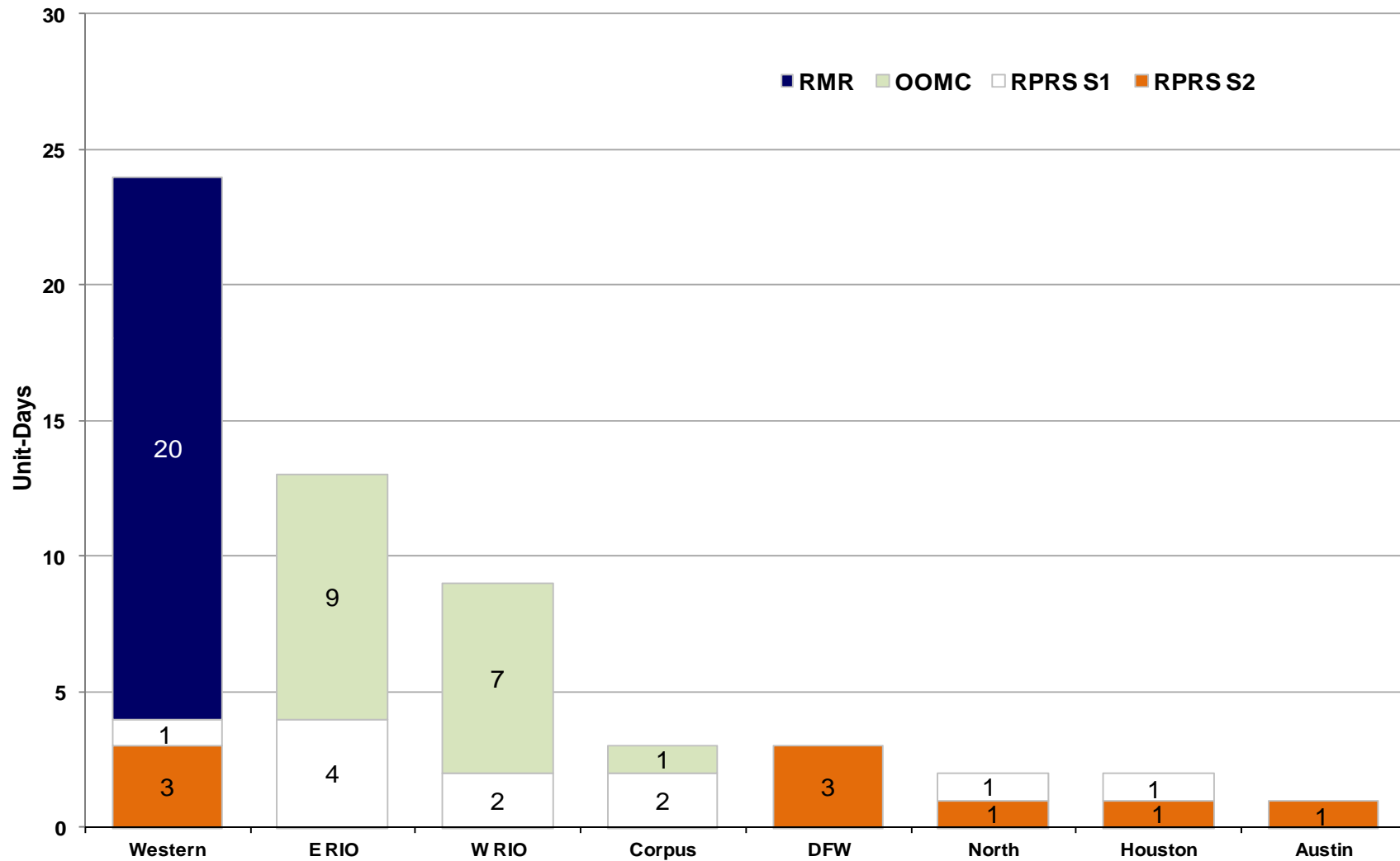


## Day-Ahead Load Forecast Performance in September 2010

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	Mean Absolute Percent Error (MAPE) for ERCOT Mid-Term Load Forecast (MTLF) Run at 16:00 Day Ahead				
	2007 MAPE	2008 MAPE	2009 MAPE	2010 MAPE (YTD)	September 2010 MAPE
Average Annual MAPE	3.55	3.30	3.11	2.84	3.14

## Capacity Purchases of RMR, OOMC & RPRS to Manage Local Congestion in September 2010



## Zonal Congestion

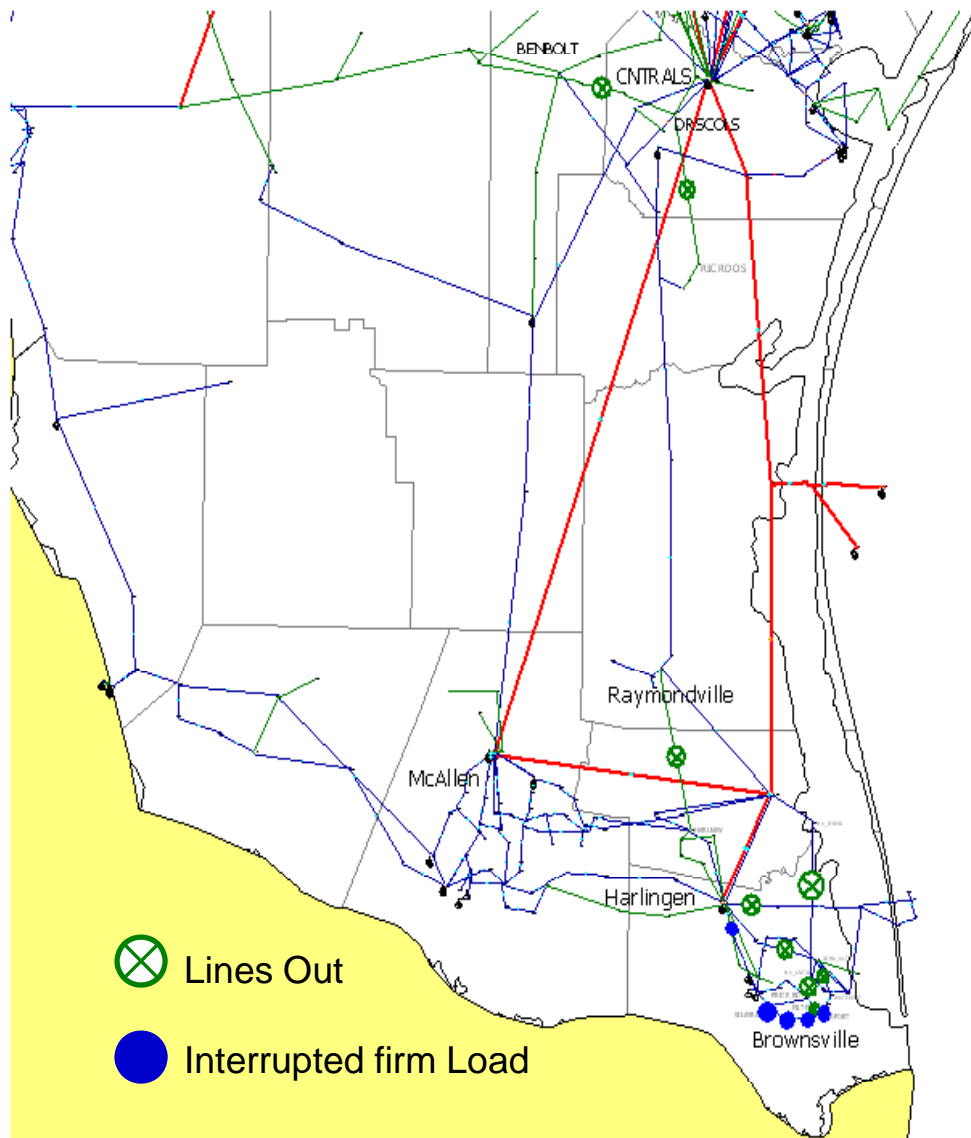
<b>CSC</b>	<b>Sept 09 Days</b>	<b>Jul 10 Days</b>	<b>Aug 10 Days</b>	<b>Sept 10 Days</b>	<b>Last 12 Months Total Days</b> (Sept 09 – Sept 10)
<b>North – Houston</b>	8	6	4	<b>8</b> Sept–(1, 2, 8, 15-17, 25, 26)	58
<b>North – West</b>	0	0	0	<b>0</b>	0
<b>West – North</b>	5	11	14	<b>15</b> Sept–(1-3, 5-8, 10, 14-18, 22, 23)	167
<b>South – North</b>	1	0	2	<b>0</b>	6
<b>North - South</b>	2	0	0	<b>0</b>	7

# Significant System Incidents in September 2010

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- **September 6<sup>th</sup>**
  - Loss of seven 138kV lines, seven 69kV lines, one 138/69kV Autotransformer and one 138kV Statcom in the Brownsville area. Effects of Tropical Storm Hermine being experienced in the area at the time.
- **September 19<sup>th</sup>**
  - Market Emergency Notice due to ERCOT not meeting the 16:00 time line regarding scheduling issues with Replacement Reserve Services (RPRS).
- **September 21<sup>st</sup>**
  - Market Emergency Notice issued for RPRS market delay of 2 hours and 55 minutes due to database issue.

# Tropical Storm: Hermine



**Sept 6:** Tropical Storm makes landfall at 10 pm with highest sustained winds of 60 mph.

## Distribution Outages

Approximately 340,350 customers lost electric service throughout ERCOT.

## Transmission Outages

Seven 138kV lines

Seven 69kV lines

One 138/69kV Autotransformer

One 138kV Statcom

**Sept 7:** ERCOT Issued a Transmission Watch for Brownsville at 07:00 due to forced outages in the Brownsville area.

ERCOT requested 17 MW of firm load to be shed in the Brownsville area for 31 minutes due to a combination of transmission forced outages and a Resource in Brownsville coming off line.

# Lessons Learned: Tropical Storm Hermine

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ERCOT utilized the Macomber Map (a new tool recently made available to the Operators) to provide a wide area view that helped the Operators quickly recognize that the Brownsville area was radially fed.

Training Department will develop training on this scenario to share how the ERCOT tools recognize a radial area.

Updated the Transmission and Security Desk Procedures to issue Dispatch Instructions to QSE's to notify ERCOT before shutting down OOMC'd units.

# Advisories and Watches in September 2010

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- **Advisories issued for Adjusted Responsive Reserve (ARR) below 3000 MW.**
  - Issued 7 Days.
- **Watches issued for Adjusted Responsive Reserve (ARR) below 2500 MW.**
  - None
- **Transmission Watches**
  - Sept 1<sup>st</sup> and 2<sup>nd</sup> ERCOT issued a Transmission Watch due to a 69kV line forced outage at Welch substation. Implemented Block Load Transfer up to 3 MW from ERCOT (Oxy Welch substation) to SPP.
  - Sept 2<sup>nd</sup> ERCOT issued a Transmission Watch due to area voltage support for the Laredo area.
  - Sept 7<sup>th</sup> – Sept 10<sup>th</sup> ERCOT issued a Transmission Watch for the Brownsville area due to Tropical Storm Hermine (related transmission outages).
  - Sept 19<sup>th</sup> ERCOT issued a Transmission Watch for the Valley due to forced 345kV transmission outage.
- **Energy Emergency Alerts**
  - None

## Planning Summary

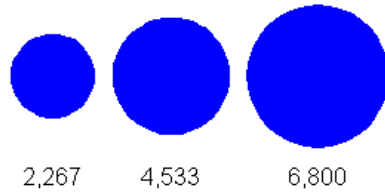
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- **ERCOT is currently tracking 188 active generation interconnection requests totaling over 65,000 MW. This includes almost 39,000 MW of wind generation.**
- **ERCOT is currently reviewing proposed transmission improvements with a total cost of \$80.8 Million**
- **Transmission Projects endorsed in 2010 total \$230.4 Million**
- **All projects (in engineering, routing, licensing and construction) total approximately \$9.4 Billion**
- **Transmission Projects energized in 2010 total about \$791.7 million**

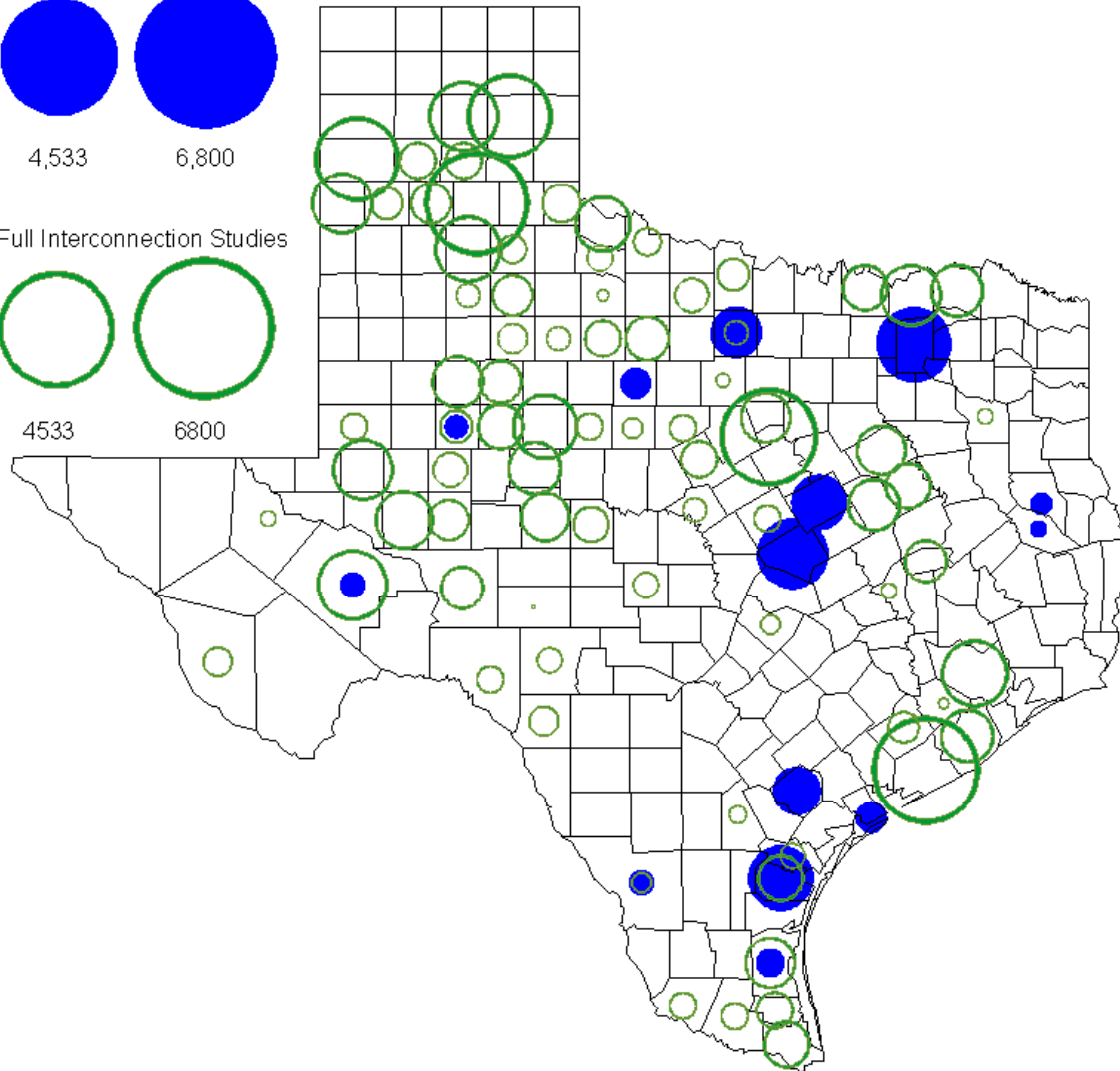
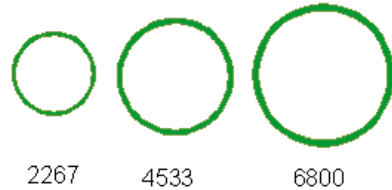


# County Location of Planned Generation with Interconnection Requests (all fuels) September 2010

MW under Interconnection Agreements

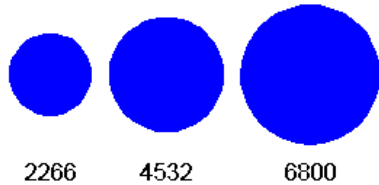


MW under Full Interconnection Studies

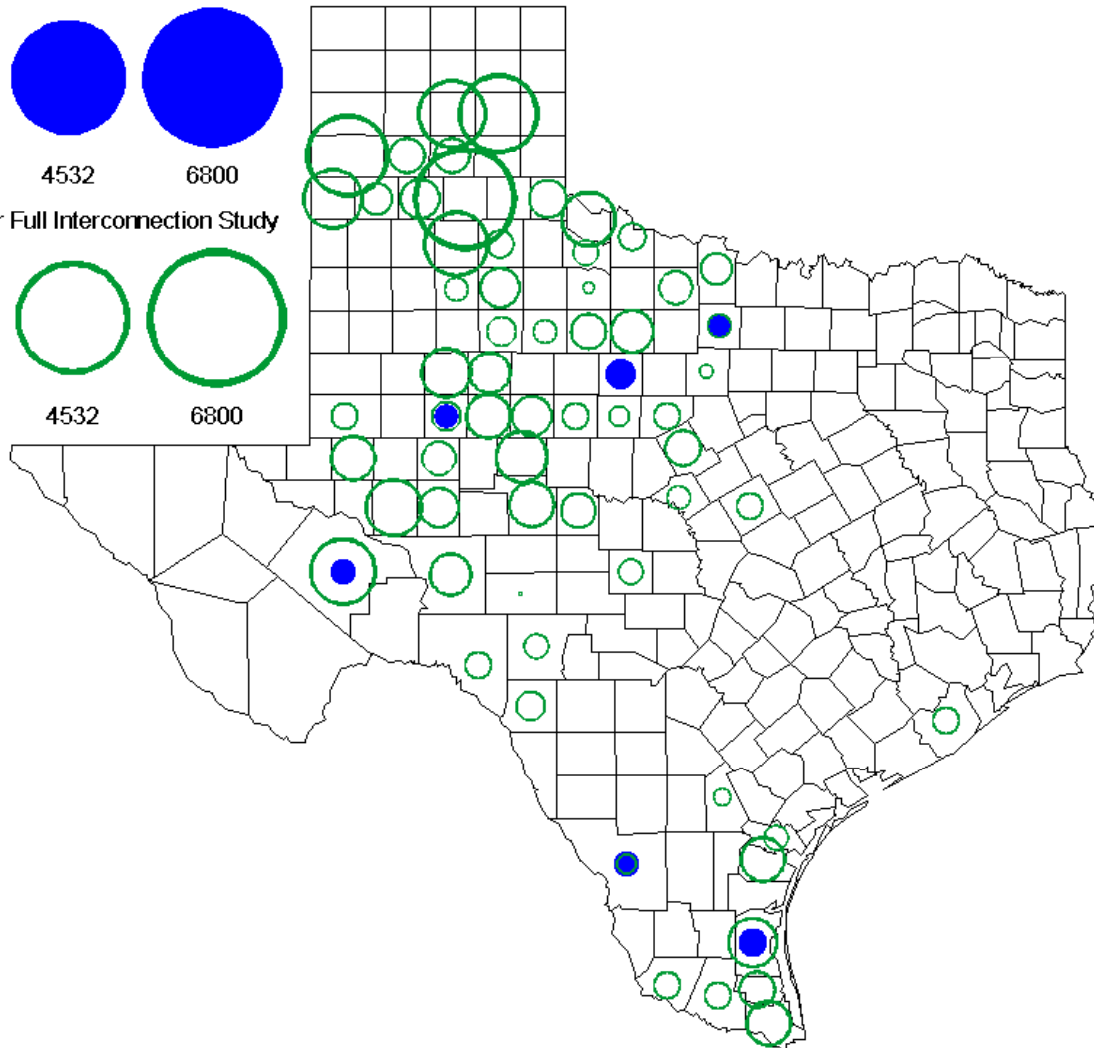
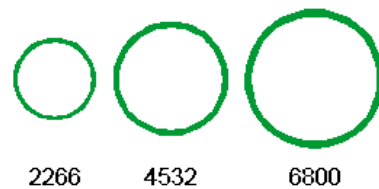


# County Location of Planned Generation with Interconnection Requests (Wind) September 2010

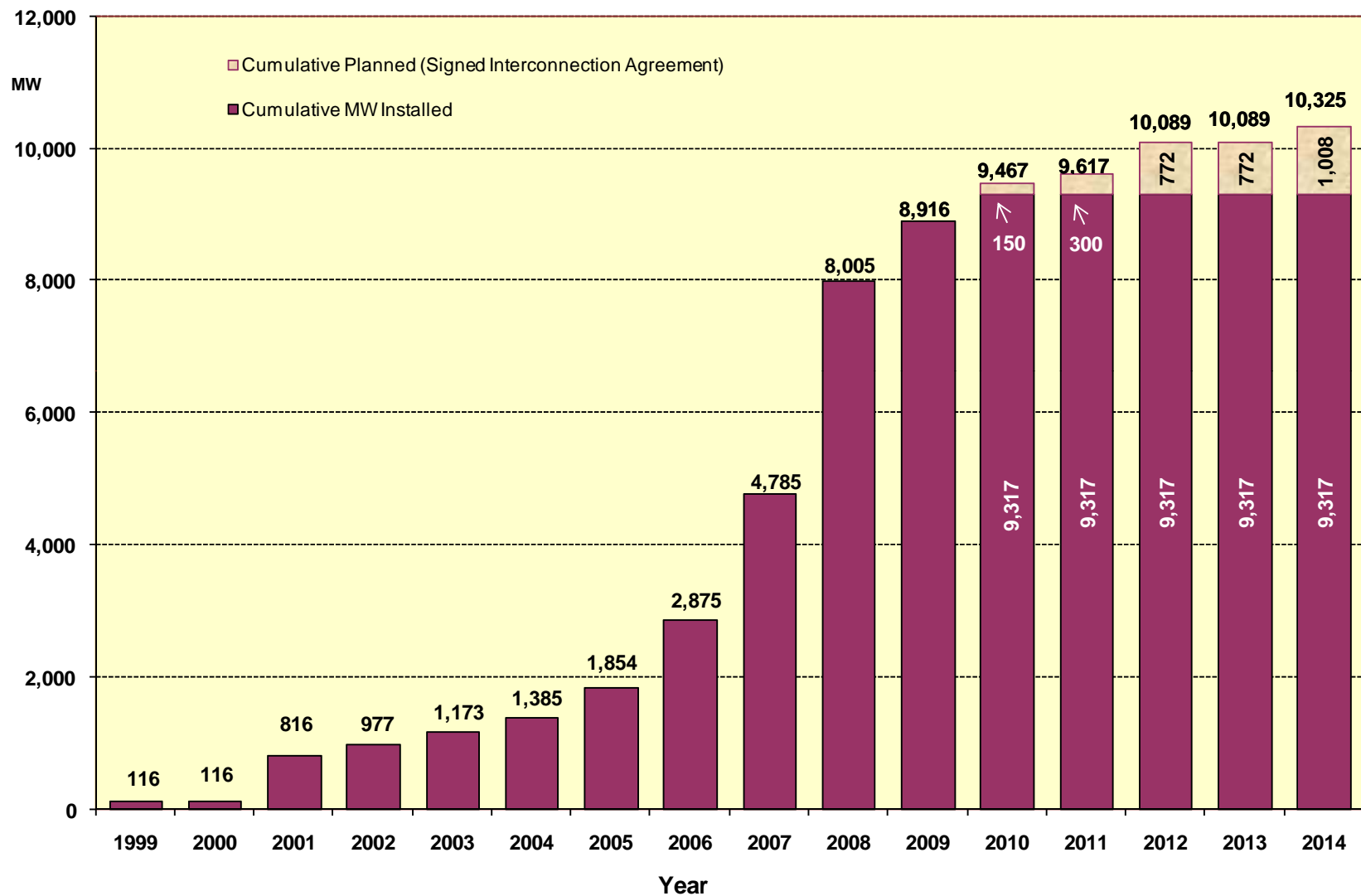
MW, under Interconnection Agreement



MW, under Full Interconnection Study

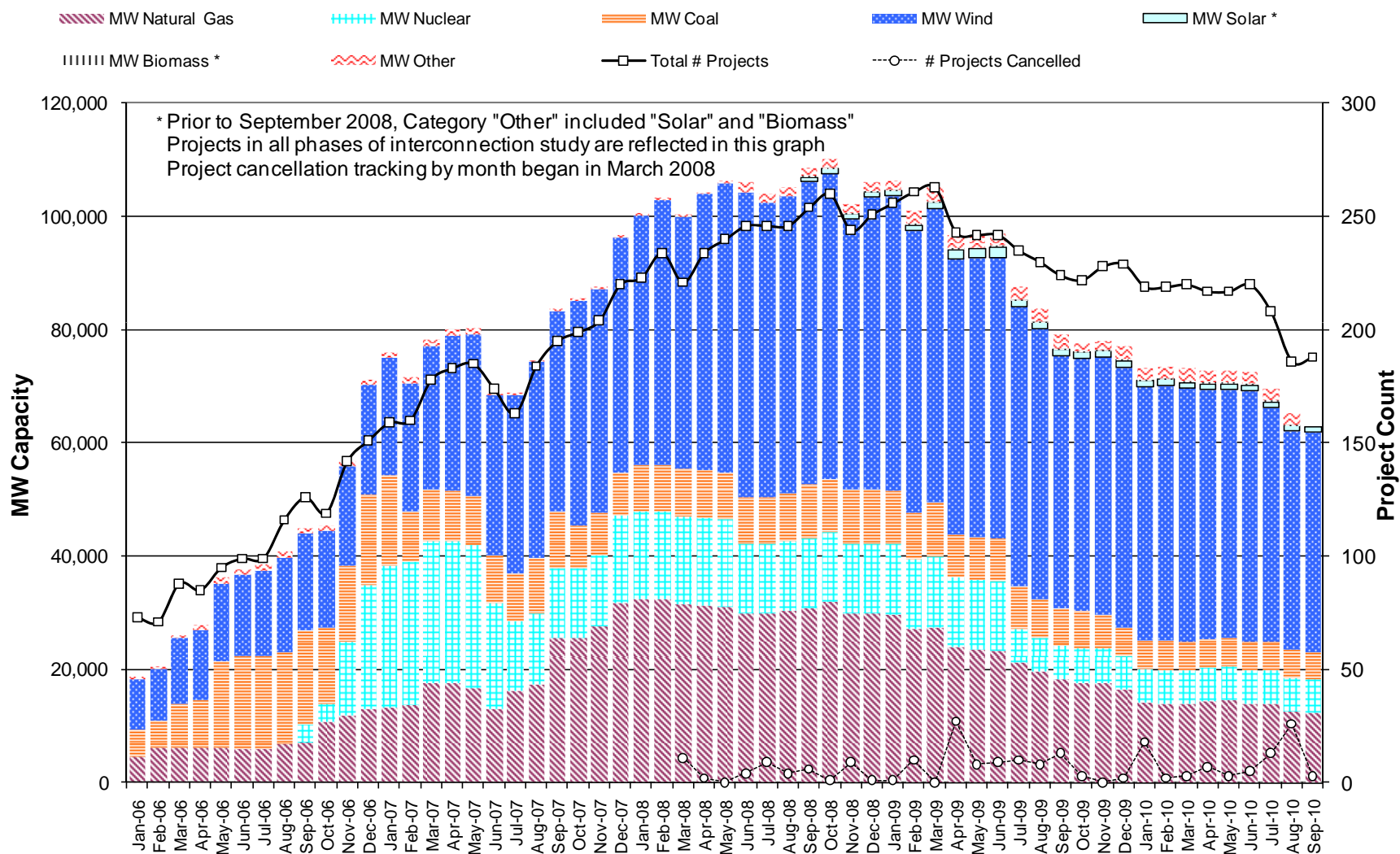


# Wind Generation



as of September 30, 2010

# Generation Interconnection Activity by Fuel



# Generation Interconnection Activity by Project Phase

