



# Grid Operations and Planning Report

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**ERCOT Board of Directors  
July 20, 2010**

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# Summary

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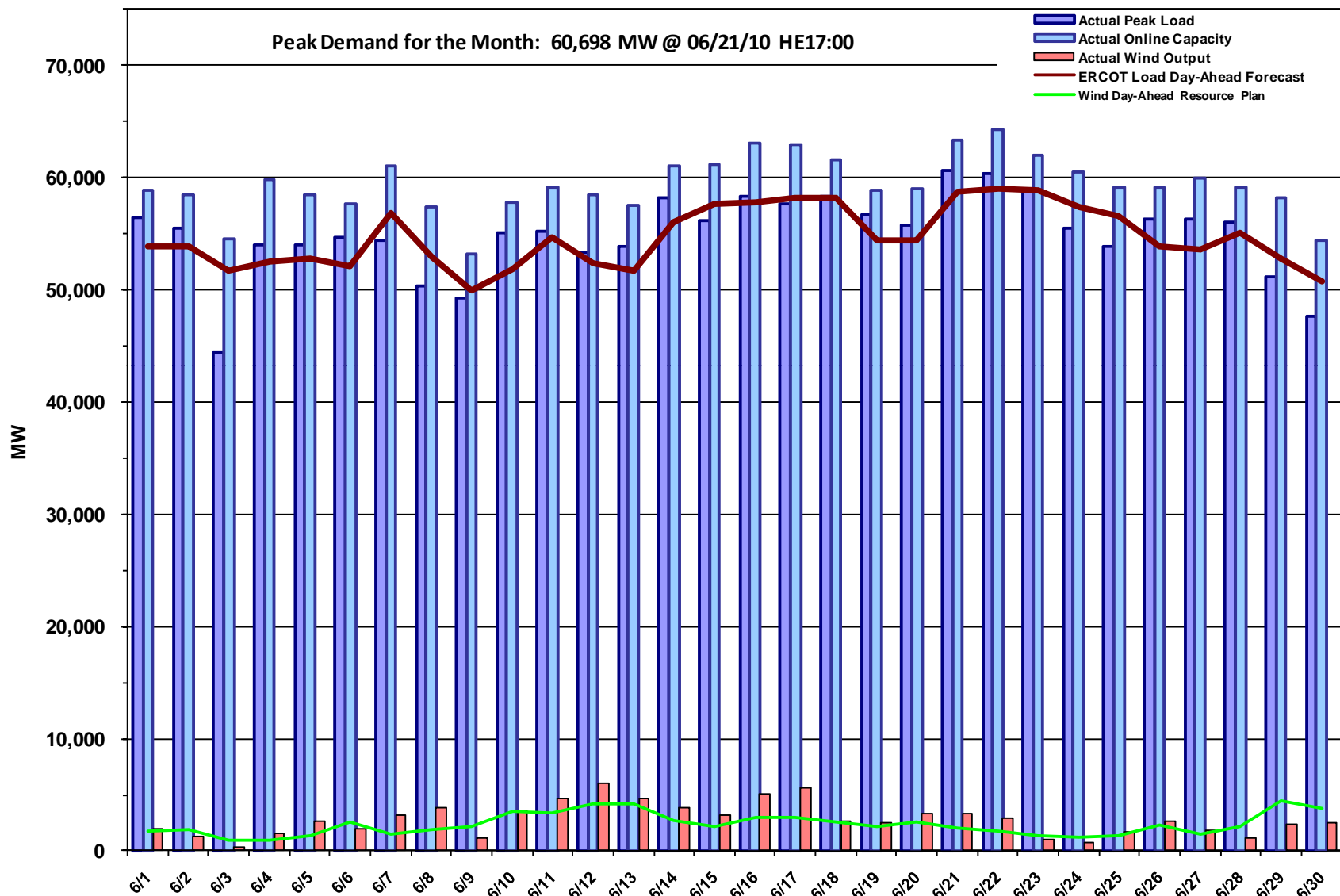
- **June 2010 Operations**

- The peak demand of 60,698 MW on June 21<sup>st</sup> was more than the long term forecast peak of 59,027 MW and less than the June 2009 actual peak demand of 62,393 MW.
- Day-ahead load forecast error for June was 2.84%.
- Advisory for Adjusted Responsive Reserve (ARR) below 3000 MW issued one day
- A Watch for ARR under 2500 MW issued one day
- An Energy Emergency Alert (EEA) Level 1 event of 28 minutes duration occurred on June 23.
- Transmission Watches issued 2 days(Gails & Estelline substation block load transfers out of ERCOT)

- **220 active generation interconnect requests totaling over 72,000 MW as of June 30, 2010. Three additional requests from May 31.**

- **9,317 MW wind capacity on line June 30, 2010. An additional 200 MW from May 31.**

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

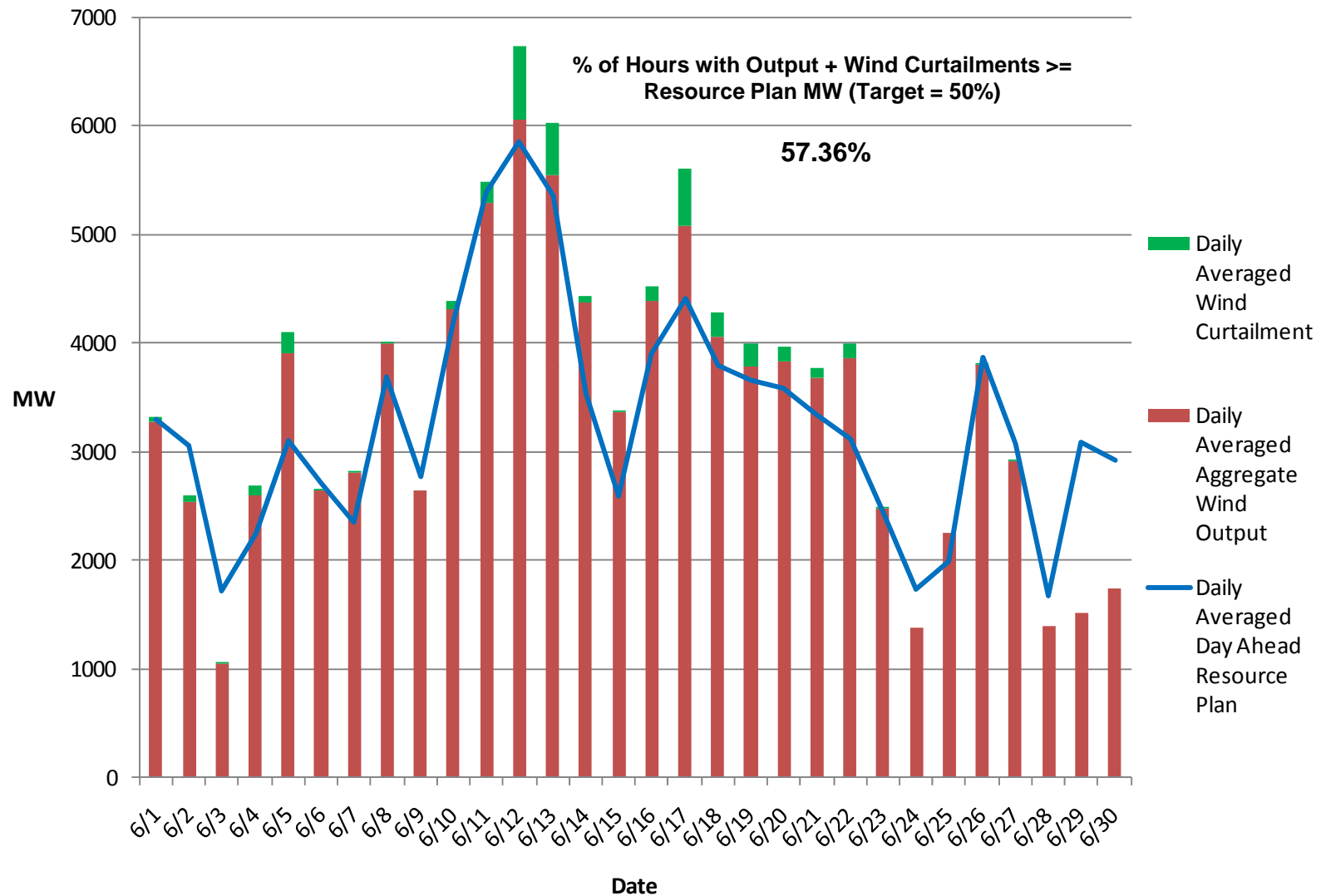


Note: All data are hourly averages during the peak load hour obtained from Resource Plans, and EMMS.



20 July 2010

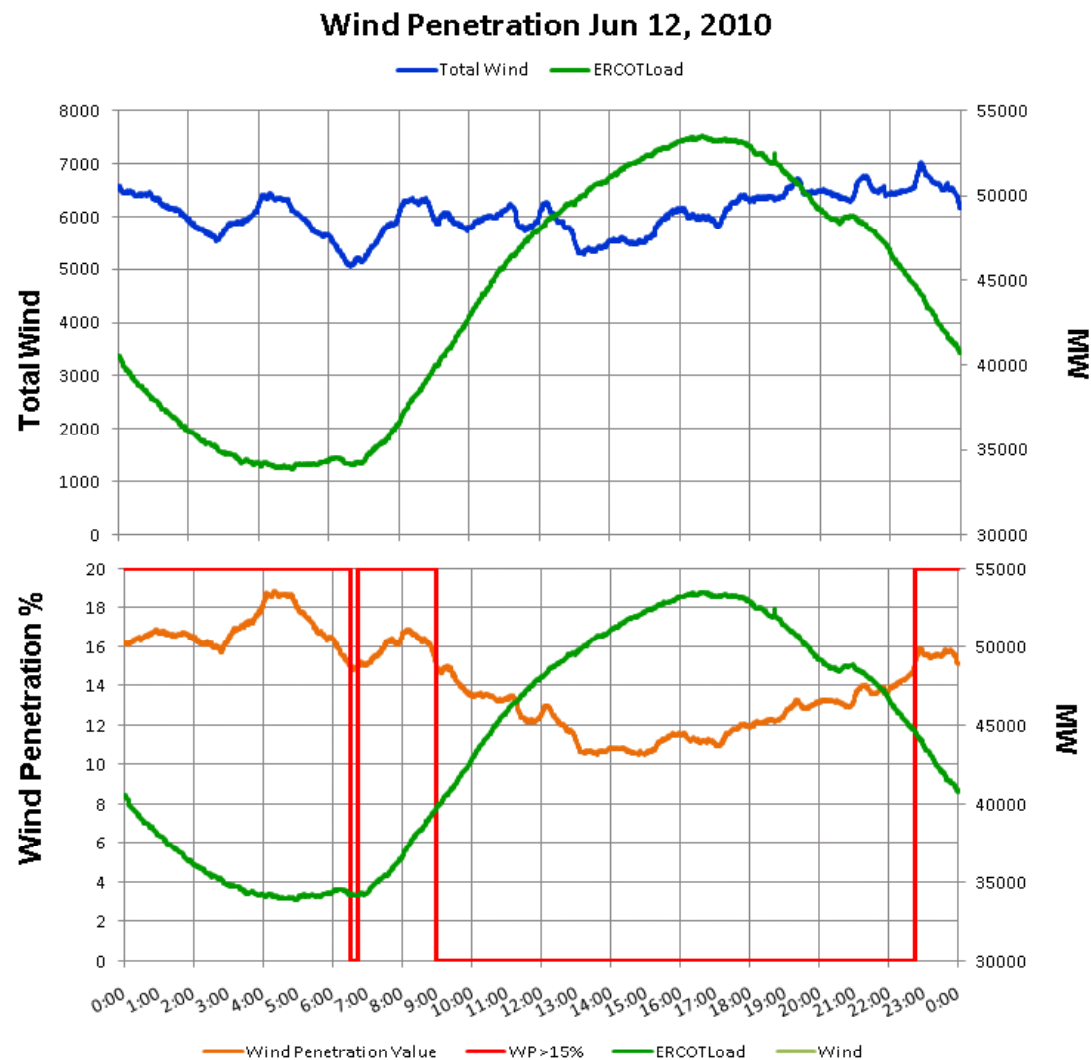
# June 2010: Actual Wind Output w/ Curtailment Added Back vs. Wind Day-Ahead Resource Plan Based on AWS Forecast for All Hours



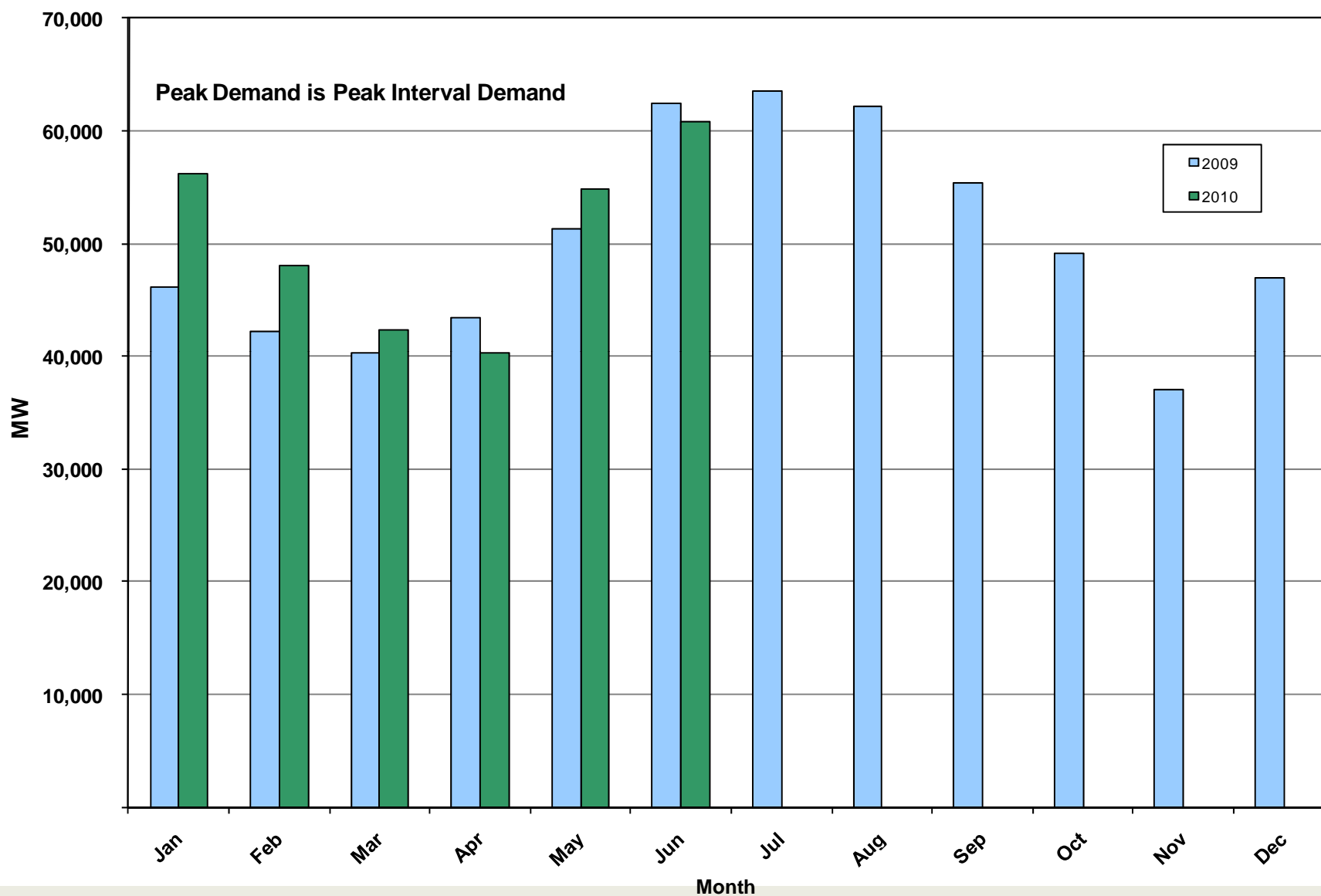
# New wind record June 12, 2010

ERCOT reached another wind generation record on June 12, 2010.

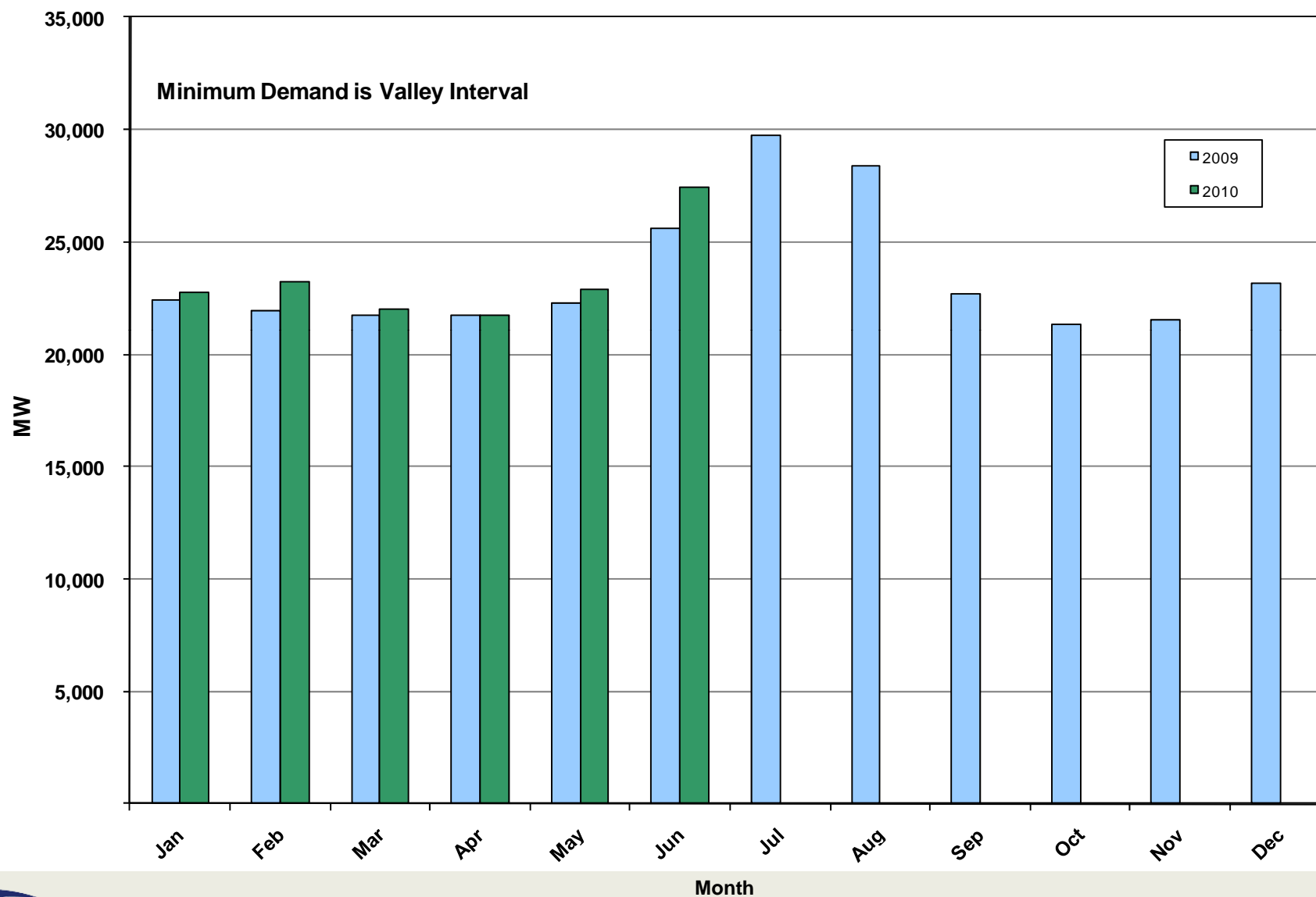
Wind generation hit **7,016 MW** at 22:52, representing 15.89 percent of the load.



## June 2010: Monthly Peak Demand: Actual



## June 2010: Monthly Minimum Demand: Actual

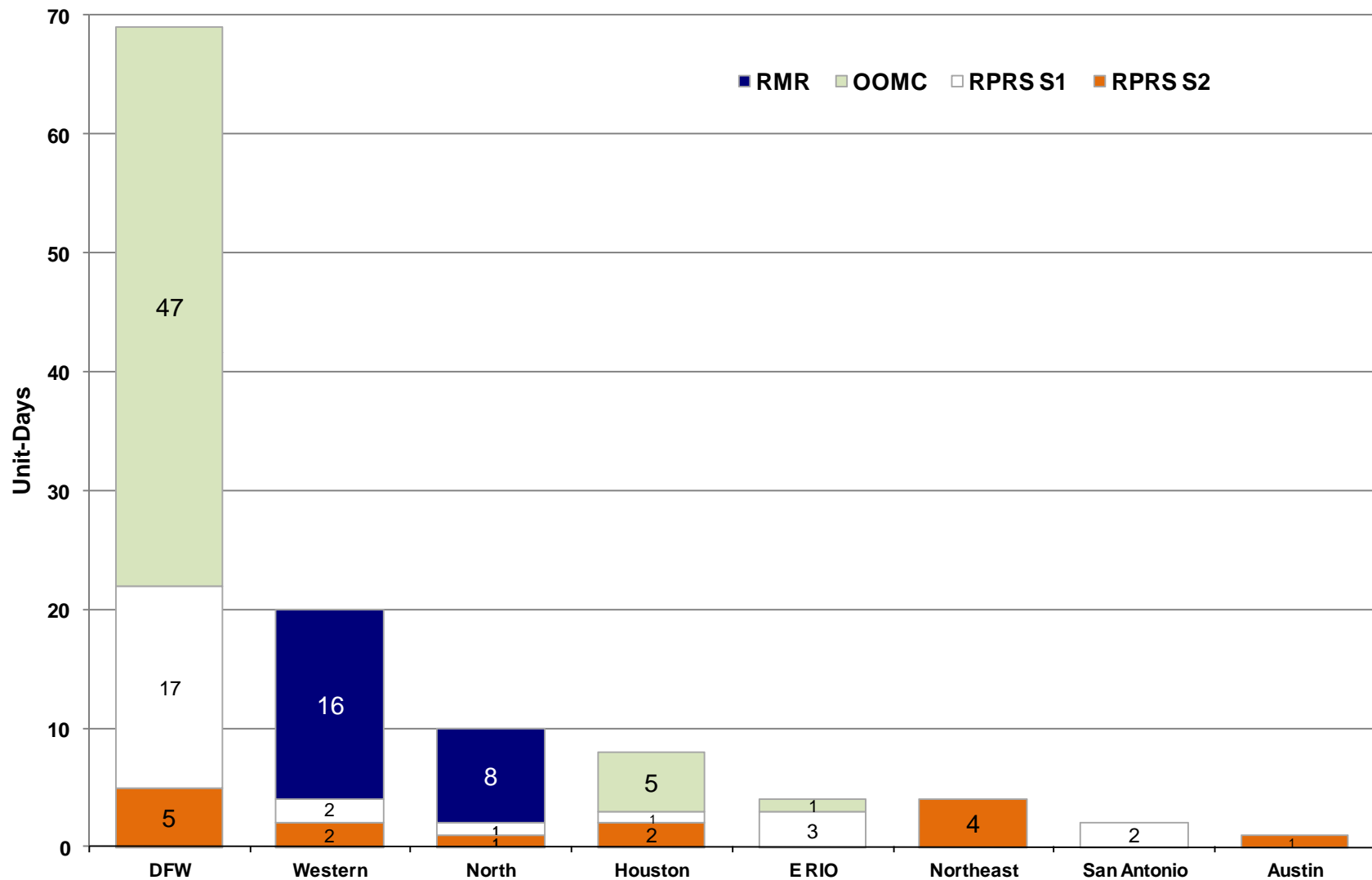


## Day-Ahead Load Forecast Performance in June 2010

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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)	June 2010 MAPE
Average Annual MAPE	3.55	3.30	3.11	2.96	2.84

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



## Zonal Congestion

<b>CSC</b>	June 09 Days	April 10 Days	May 10 Days	<b>June10 Days</b>	<b>Last 12 Months Total Days</b> (June 09 – June 10)
<b>North – Houston</b>	7	2	10	<b>11</b> June–(9-15, 25, 27-29)	58
<b>North – West</b>	0	0	0	<b>0</b>	0
<b>West – North</b>	14	17	19	<b>19</b> June– (4, 5, 7, 8, 10-14, 16-23, 26, 27)	161
<b>South – North</b>	0	0	0	<b>0</b>	4
<b>North - South</b>	16	1	0	<b>0</b>	24

# Significant System Incidents in June 2010

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- **June 23<sup>rd</sup>**

- Emergency Notice for a NERC Reportable Disturbance Control Standard (DCS) Event for loss of five units at different plants for a total of 1253 MW of generation in the Houston area.

ERCOT declared Level 1 of its Energy Emergency Alert (EEA) due to Adjusted Responsive Reserve dropping below 2300 MW. Loads acting as Resources (LaaRs) were automatically deployed due to underfrequency.

- **June 30<sup>th</sup>**

- Simultaneous loss of two buses and seven 138kV lines in the Brownsville area. Effects of Hurricane Alex being experienced in the area at the time.

# Advisories and Watches in June 2010

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- **Advisories issued for Adjusted Responsive Reserve (ARR) below 3000 MW.**
  - Issued 1 Day.
- **Watches issued for Adjusted Responsive Reserve (ARR) below 2500 MW.**
  - Issued 1 Day.
- **Transmission Watches**
  - June 1<sup>st</sup> ERCOT issued a Transmission Watch due to a transformer forced outage at Gails substation. Implemented Block Load Transfer up to 2 MW from ERCOT (Gails substation) to SPP (Draw substation).
  - June 15<sup>th</sup> ERCOT issued a Transmission Watch due to a forced outage on Flomot - Muleta 69KV. Implemented Block Load Transfer up to 2 MW from ERCOT to SPP at Estelline.
- **Energy Emergency Alerts**
  - June 23<sup>rd</sup> ERCOT declared Level 1 of its Energy Emergency Alert (EEA) due to Adjusted Responsive Reserve dropping below 2300 MW after LaaRs were deployed due to underfrequency after several unit trips (see previous slide). The EEA was ended after 28 minutes.

# Hurricane Alex

- **June 30<sup>th</sup>, 2010**

The only weather related outage ERCOT experienced happened at about 12:55 p.m. (7 hours before the storm made landfall) on 6/30/10. Two buses at the Military Highway substation in Brownsville tripped, resulting in a loss of about 12 MW of load and seven 138kV lines. The lines were re-energized sequentially and all the outages were restored by 18:00.

In spite of high winds, heavy rain and two tornados, the power grid only experienced distribution outages as the direct effect of Alex, resulting in about 4,400 customers without power.

Individual customer losses are as followed:

Brownsville : Approximately +1,000

Magic Valley: Approximately 600

AEP: Approximately 3,695



ERCOT proactively acquired generation in the valley, preparing for a worst case scenario of tripping of major lines into the valley. The hurricane took a southern path, avoiding direct impact to the ERCOT grid.

## Other Items

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- **June 21<sup>st</sup>**

- Held Real-Time Balancing Energy for interval ending 07:00 due to incorrect offset value entered. Resumed with interval ending 07:30 deployments.

- **June 26<sup>th</sup>**

- Held Real-Time Balancing Energy for interval ending 24:00 on 06/25/2010 for interval ending 00:15 on 06/26/2010 due to incorrect offset value entered. Resumed with interval ending 00:30 deployments.

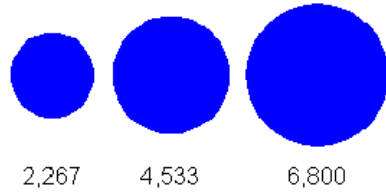
## Planning Summary

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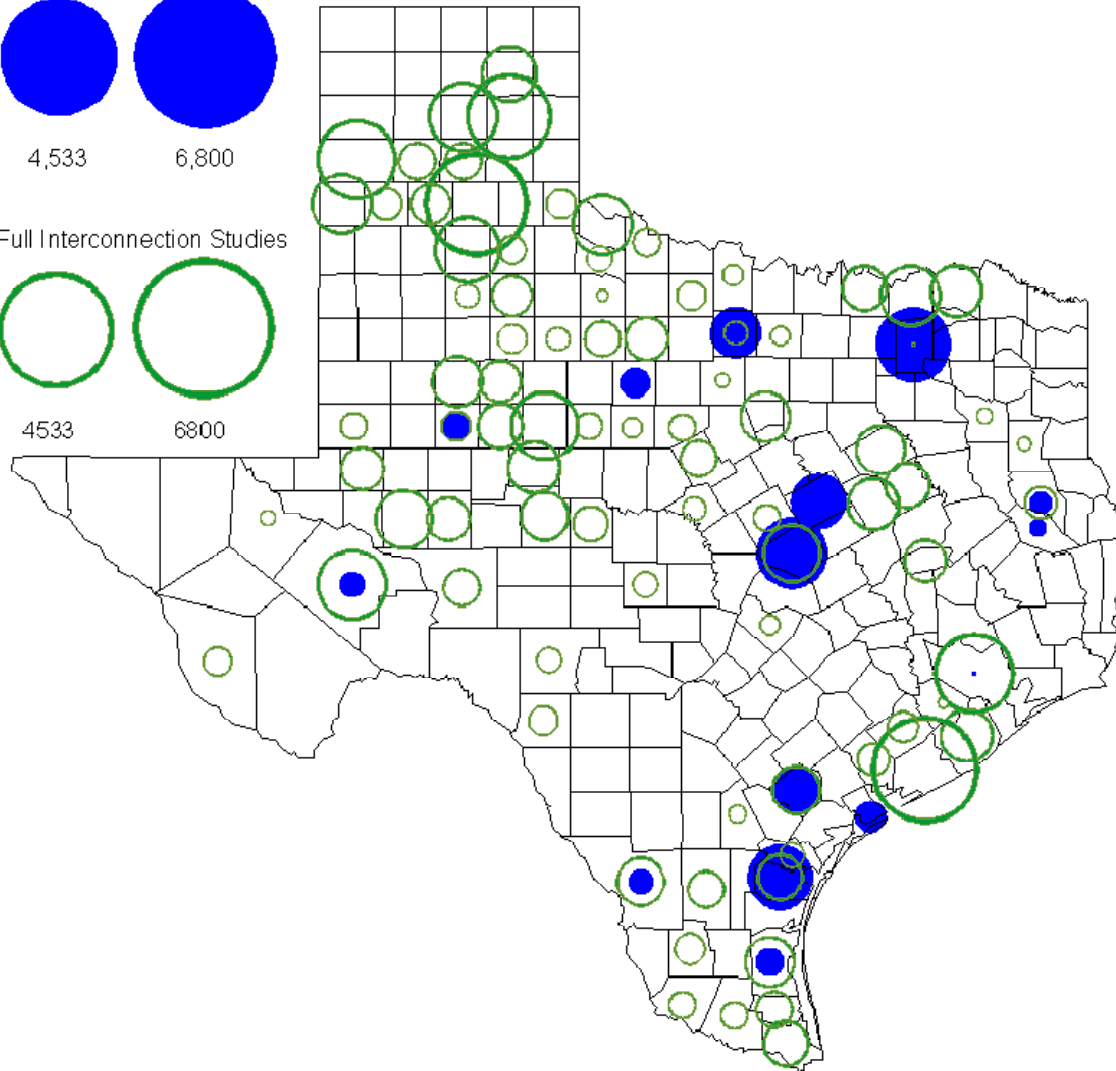
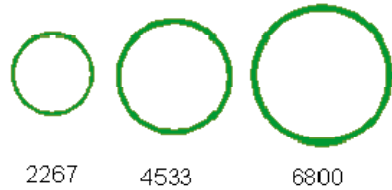
- **ERCOT is currently tracking 220 active generation interconnection requests totaling over 72,000 MW. This includes over 44,000 MW of wind generation.**
- **Regional Planning is currently reviewing proposed transmission improvements with a total of \$661.8 Million**
- **Transmission Projects approved in 2010 total \$55.4 Million**
- **All projects (in engineering, routing, licensing and construction) total approximately \$9.6 Billion**
- **Transmission Projects energized in 2010 total about \$435 million**

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

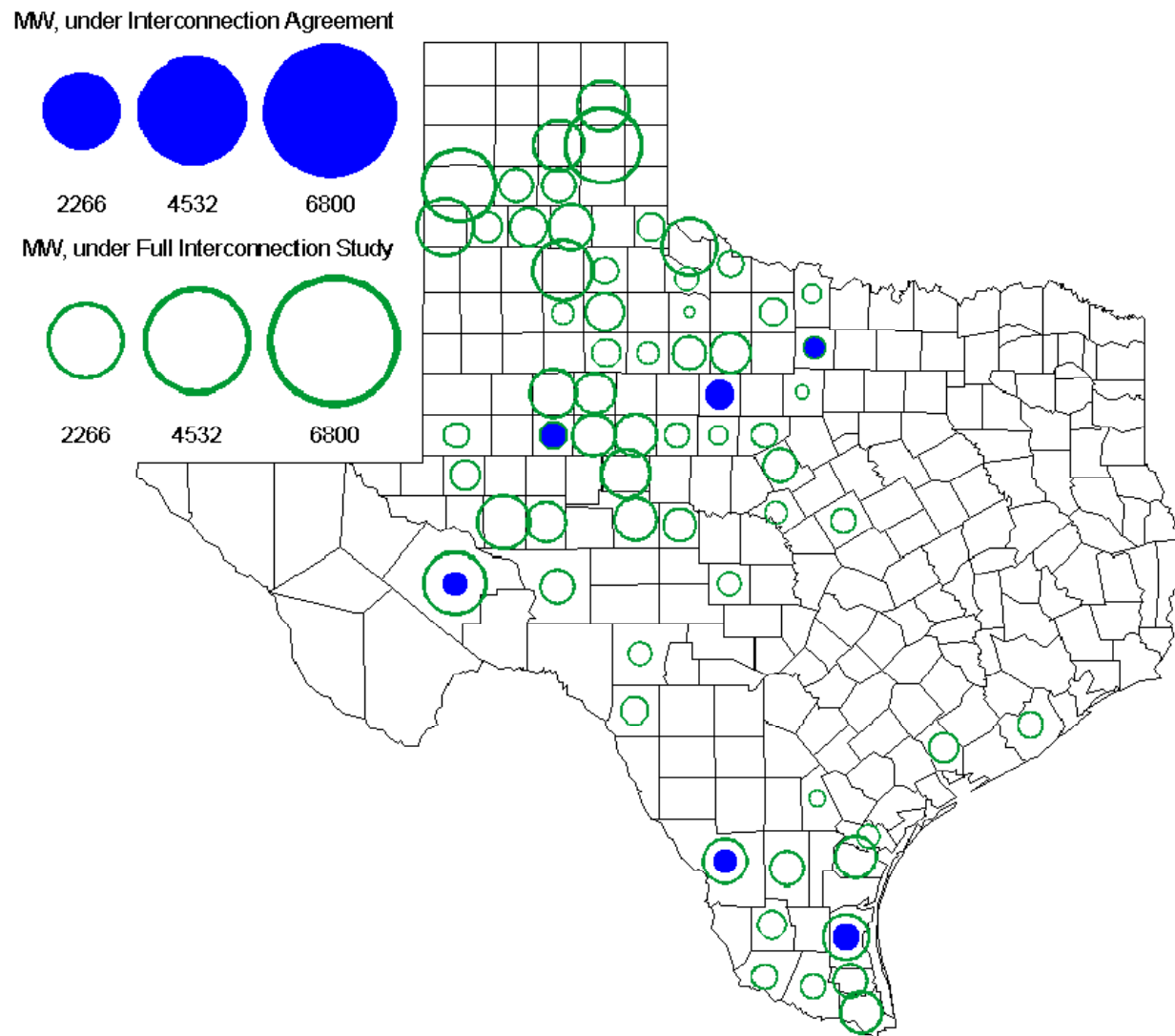
MW under Interconnection Agreements



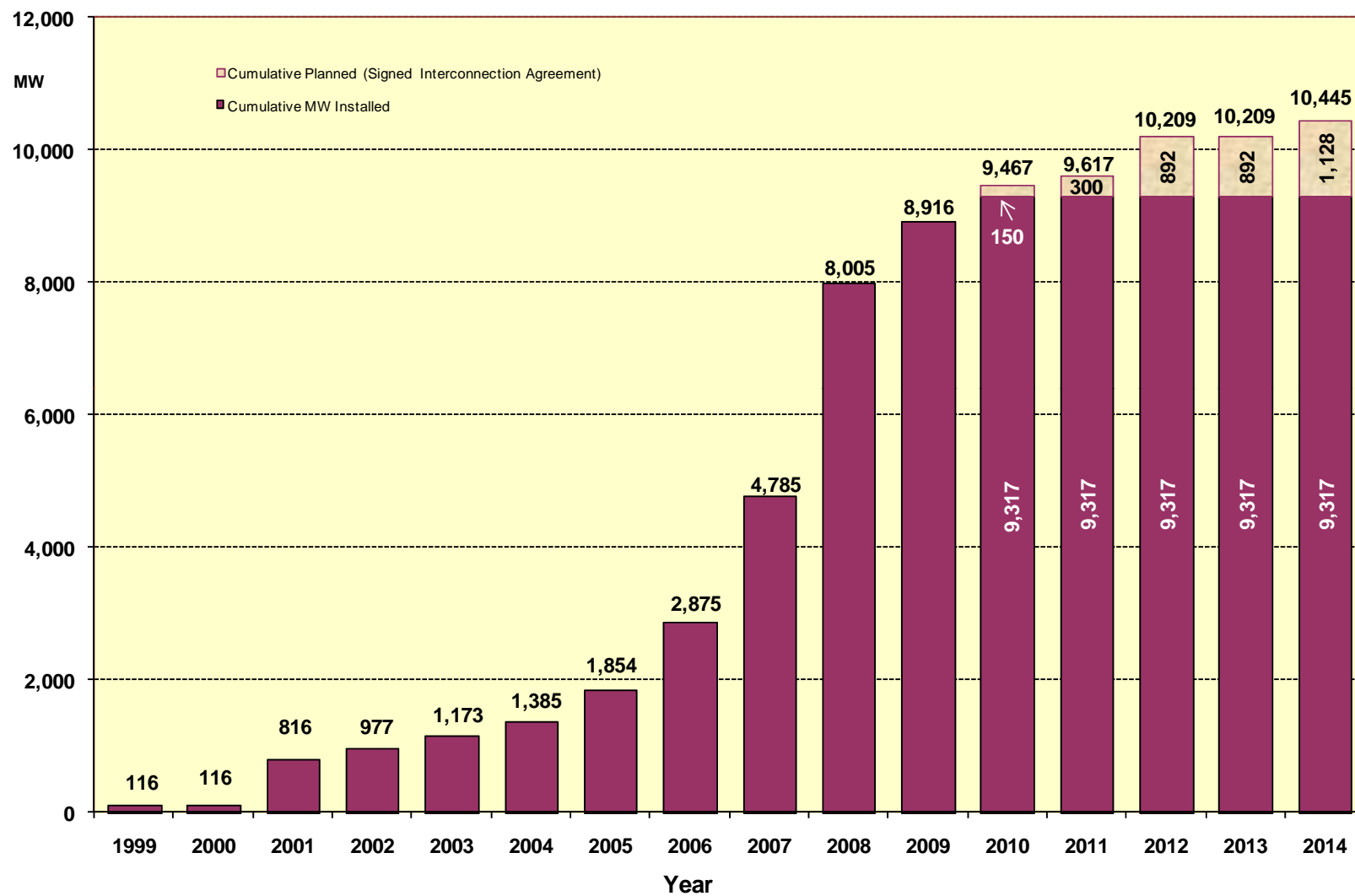
MW under Full Interconnection Studies



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

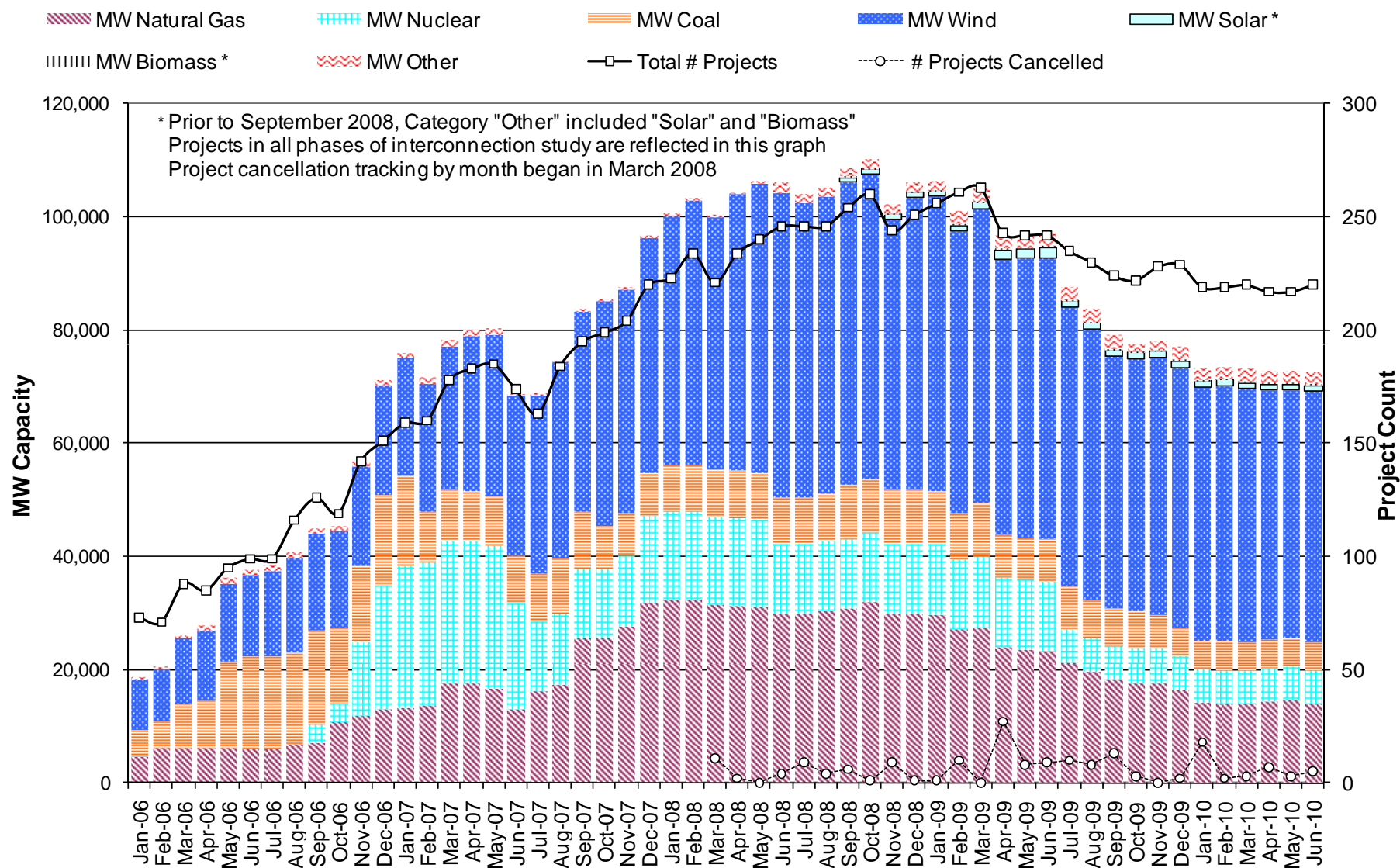


# Wind Generation



as of June 30, 2010

# Generation Interconnection Activity by Fuel



# Generation Interconnection Activity by Project Phase

