



# Grid Operations and Planning Report

ERCOT Board of Directors  
November 17, 2009

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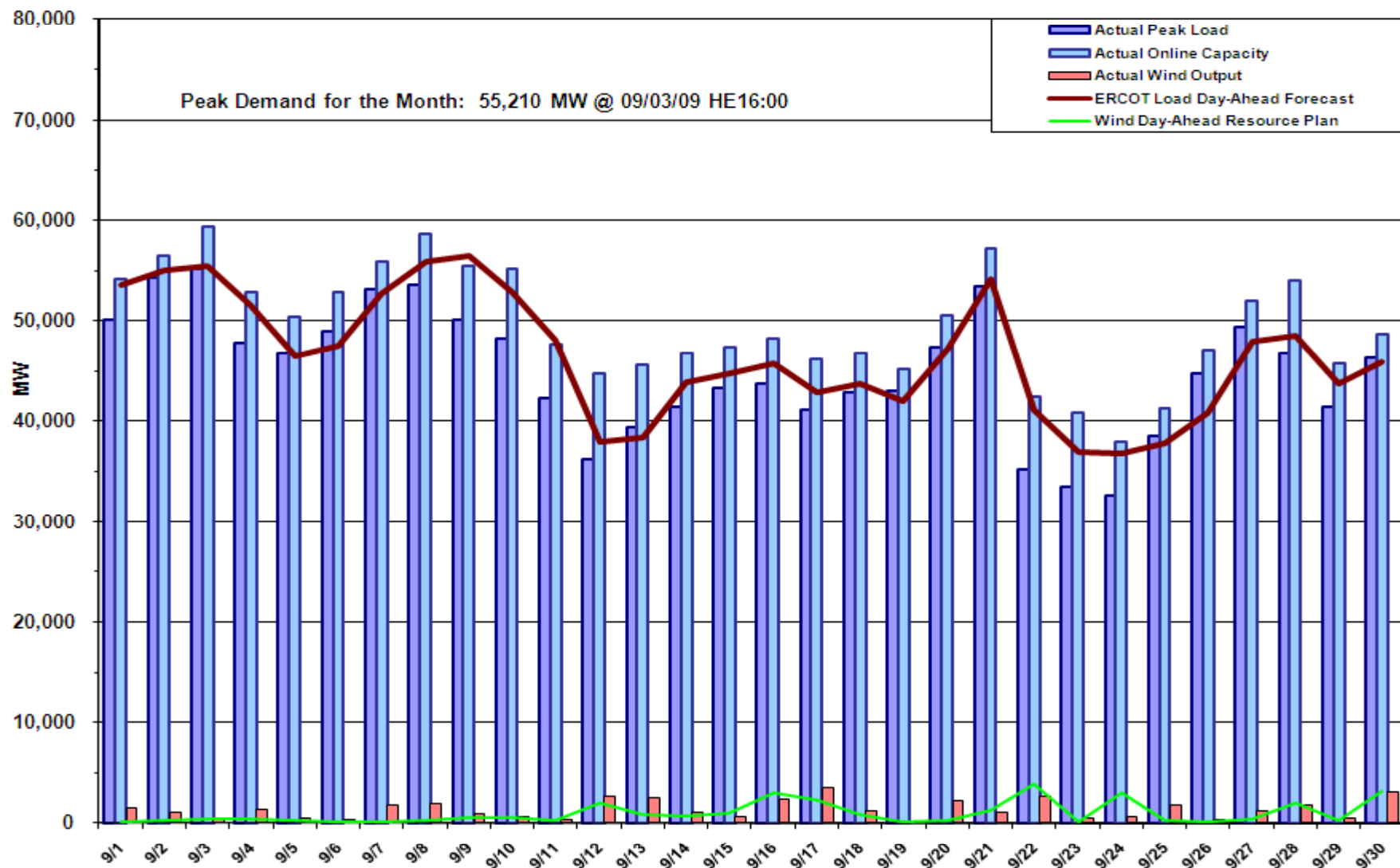
# Summary

- **September 2009 Operations**

- The peak demand of 55,210 MW on September 3<sup>rd</sup> was less than the forecasted peak of 56,442 MW.
- Day-ahead load forecast error for September was 3.68%.
- Ten Advisories for Adjusted Responsive Reserve (ARR) below 3000 MW. Two Watches for ARR under 2500 MW. No Energy Emergency Alert (EEA) events.
- No transmission watches

- **October 2009 peak demand on October 8<sup>th</sup> of 49,100 MW**
- **222 active generation interconnect requests totaling over 77,000 MW as of October 31, 2009. Two requests and 2,000 MW fewer than September 30.**
- **8,916 MW wind capacity on line October 31, 2009. 399 MW increase from September**

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

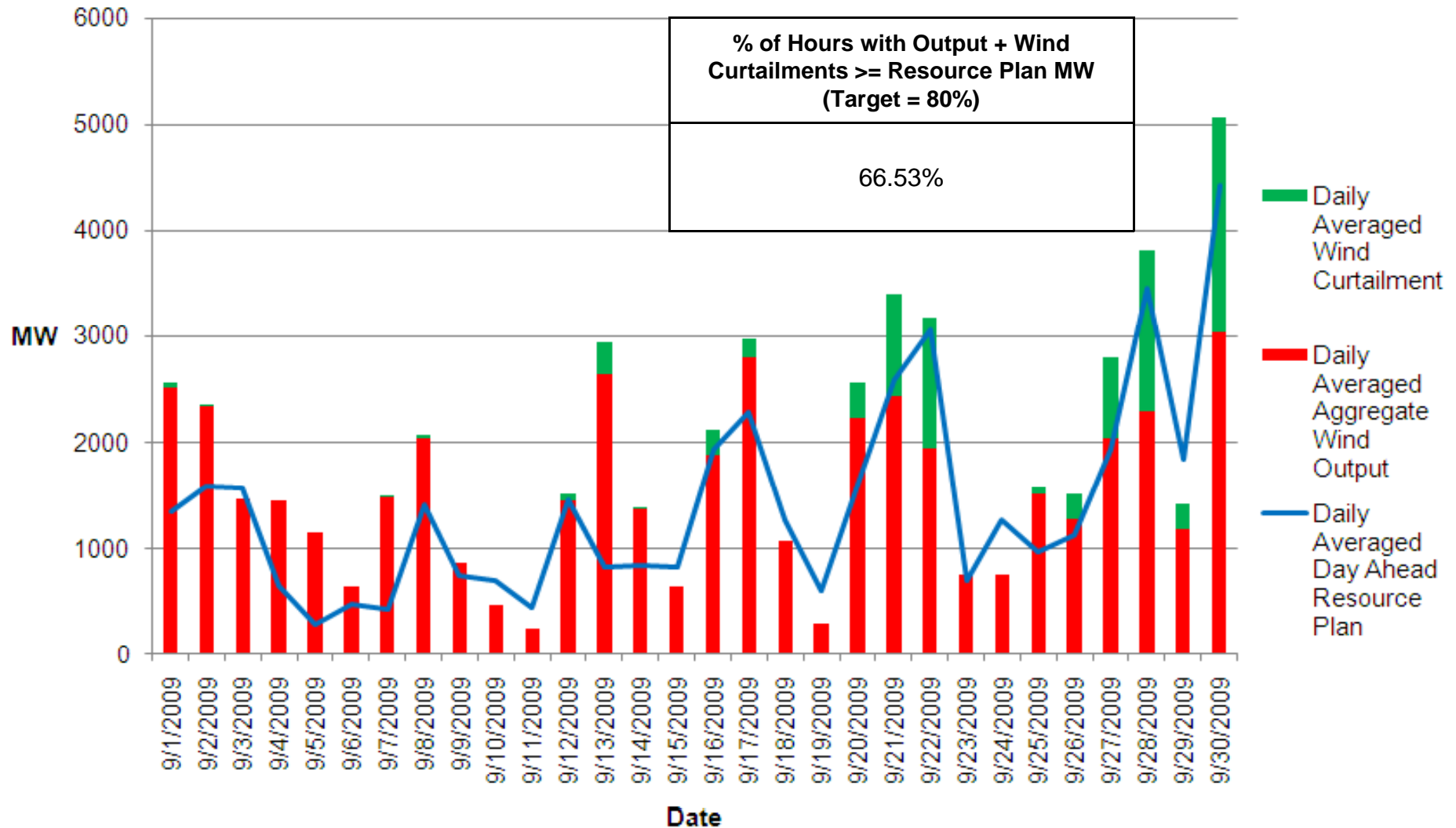


Note: All data are hourly averages during the peak load hour obtained from Resource Plans, and EMMS.

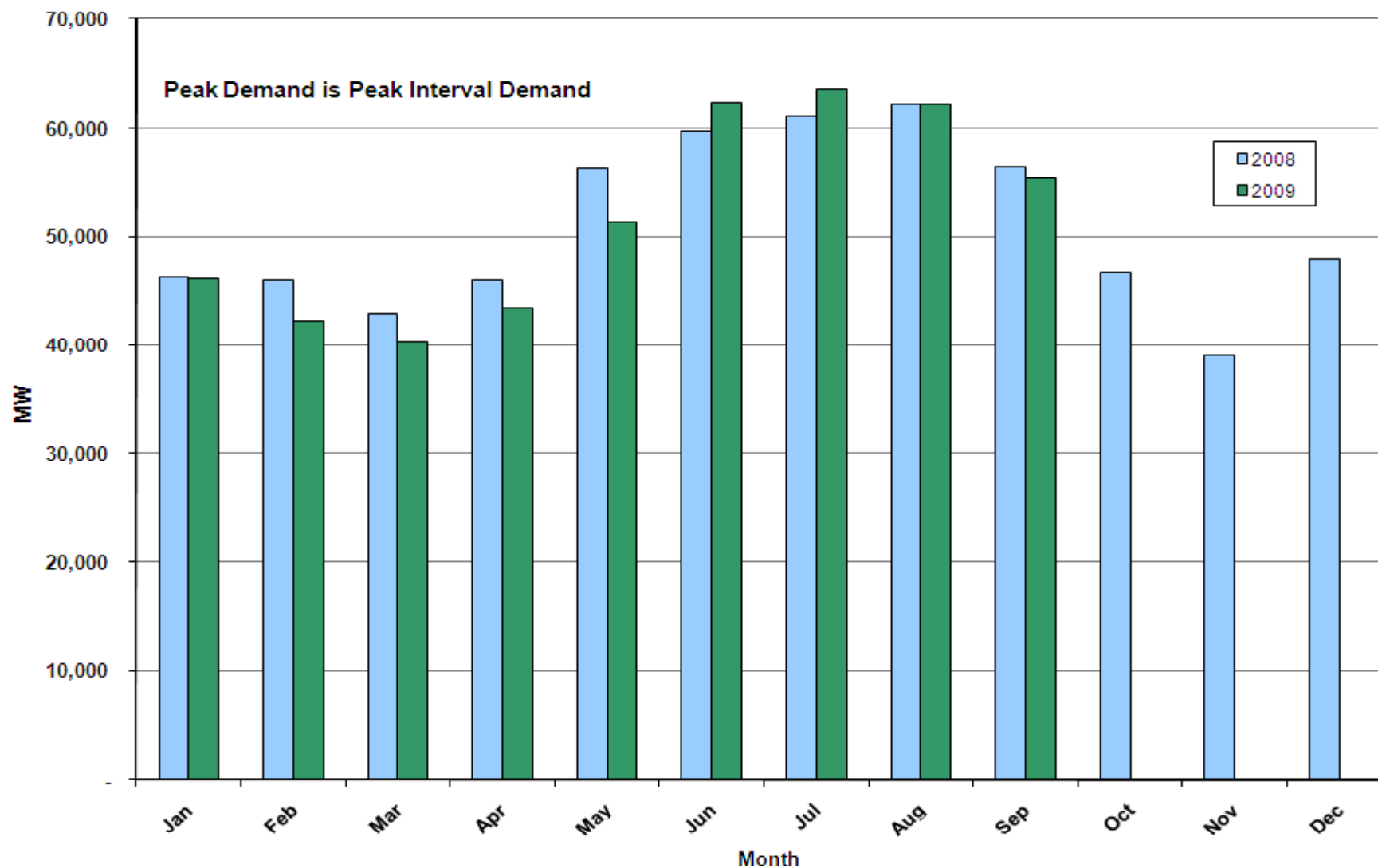


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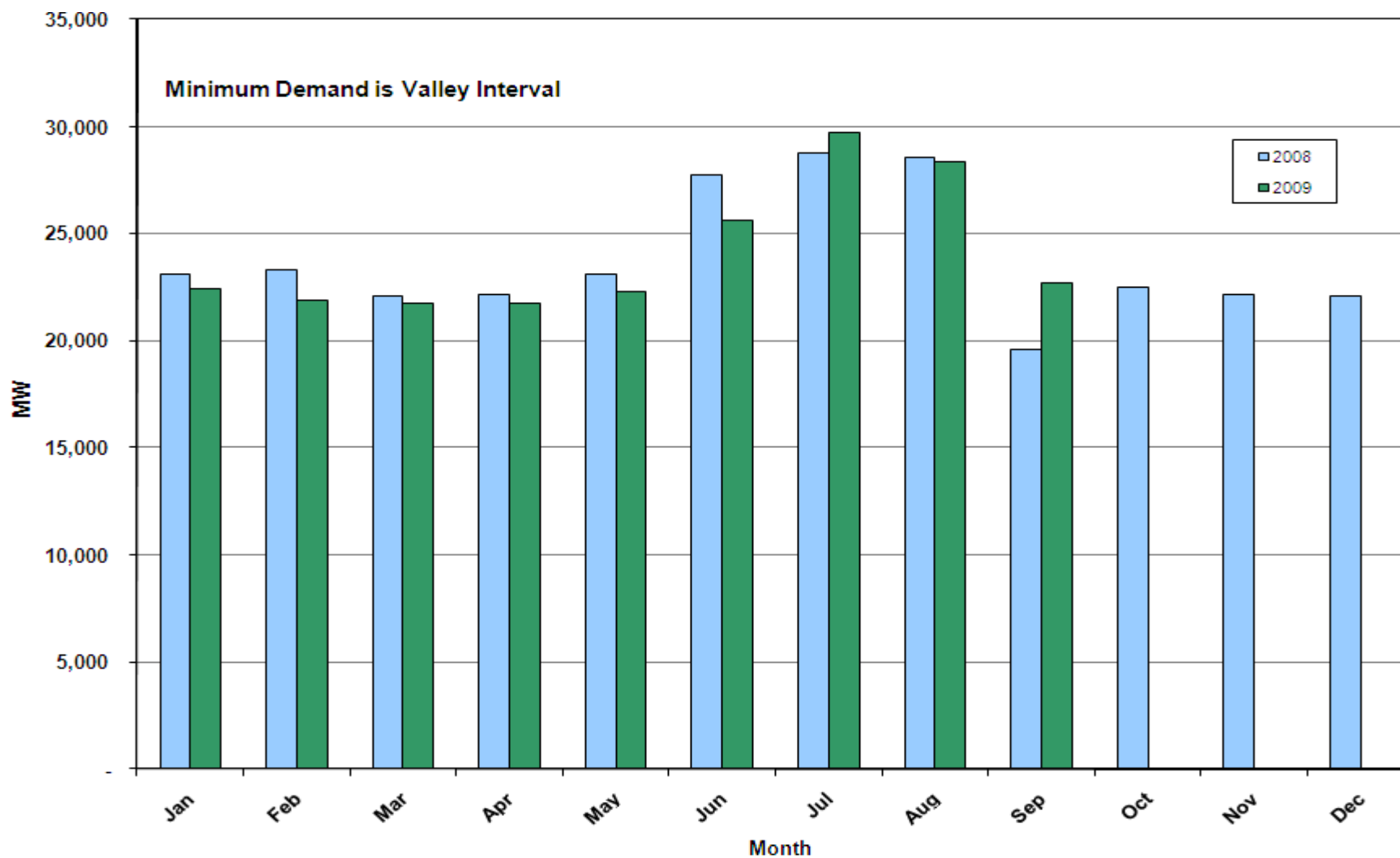
# Actual Wind Output w/ Curtailment Added Back Vs Wind Day-Ahead Resource Plan Based on AWS Forecast for All Hours



## September 2009: Monthly Peak Demand: Actual



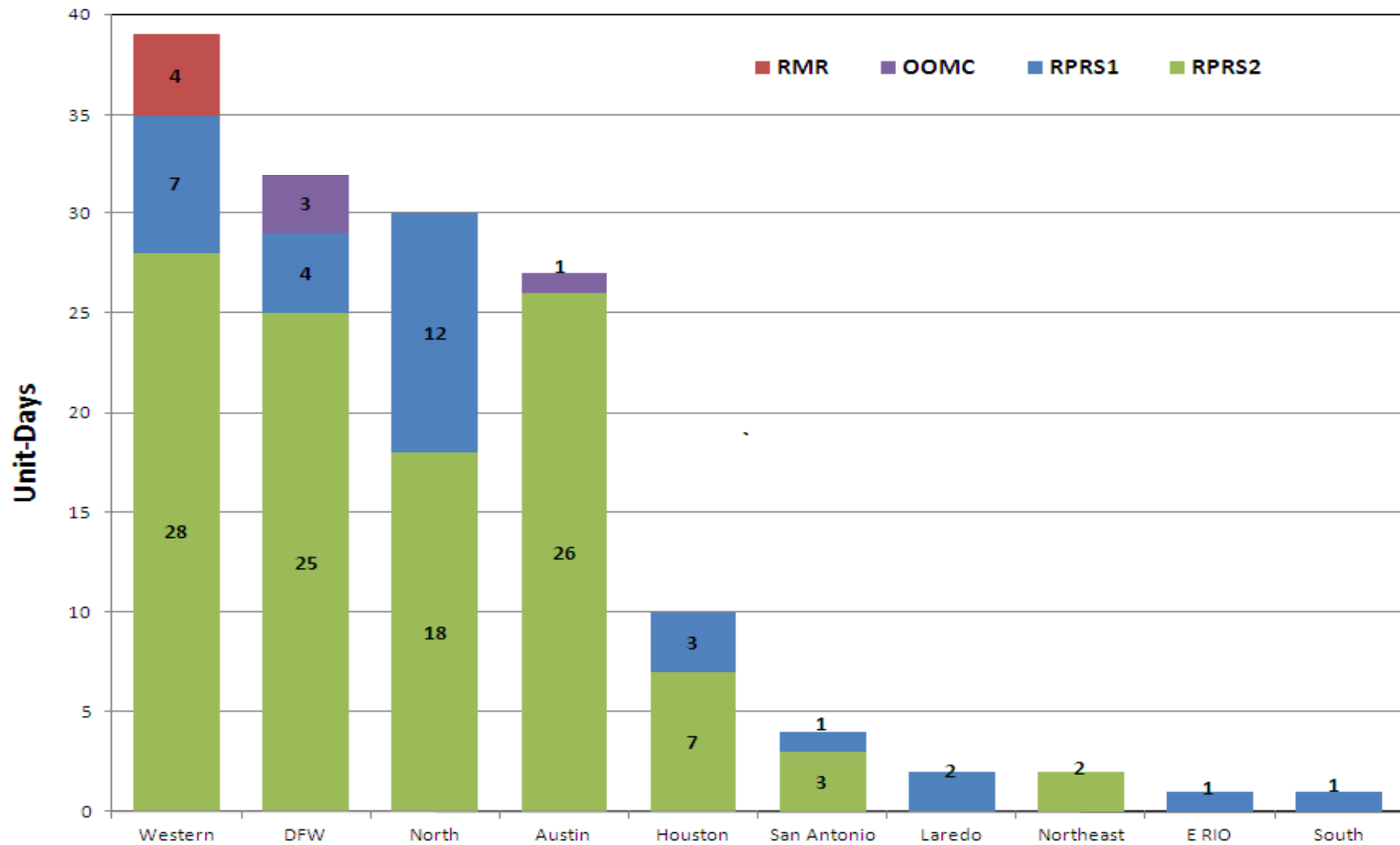
## September 2009: Monthly Minimum Demand: Actual



# Day-Ahead Load Forecast Performance in September 2009

	Mean Absolute Percent Error (MAPE) for ERCOT Mid-Term Load Forecast (MTLF) Run at 16:00 Day Ahead				
	2006 MAPE	2007 MAPE	2008 MAPE	2009 MAPE (YTD)	September 2009 MAPE
Average Annual MAPE	3.79	3.55	3.30	3.20	3.68

## Capacity Purchases of RMR, OOMC & RPRS to Manage Local Congestion in September 2009



# Zonal Congestion

<b>CSC</b>	<b>Sept 08 Days</b>	<b>July 09 Days</b>	<b>Aug 09 Days</b>	<b>Sept 09 Days</b>	<b>Last 12 Months Total Days (Sept 08 – Sept 09)</b>
<b>North – Houston</b>	6	7	4	<b>8</b> Sept – 13, 14, 16, 18, 20, 21, 27, 28	65
<b>North – West</b>	1	0	0	<b>0</b>	5
<b>West – North</b>	0	9	11	<b>5</b> Sept – 2, 8, 17, 20, 21	173
<b>South – North</b>	1	0	0	<b>1</b> Sept – 10	8
<b>North - South</b>	7	1	0	<b>2</b> Sept – 20, 21	43

# Significant System Incidents in September 2009

- **September 1<sup>st</sup>**
  - Day-ahead Ancillary Service Market delayed for 15 minutes due to overlapping data snapshots.
- **September 14<sup>th</sup>**
  - Simultaneous loss of one unit, one auto transformer and two 138 kV lines due to improper timer setting for breaker failure relaying scheme.

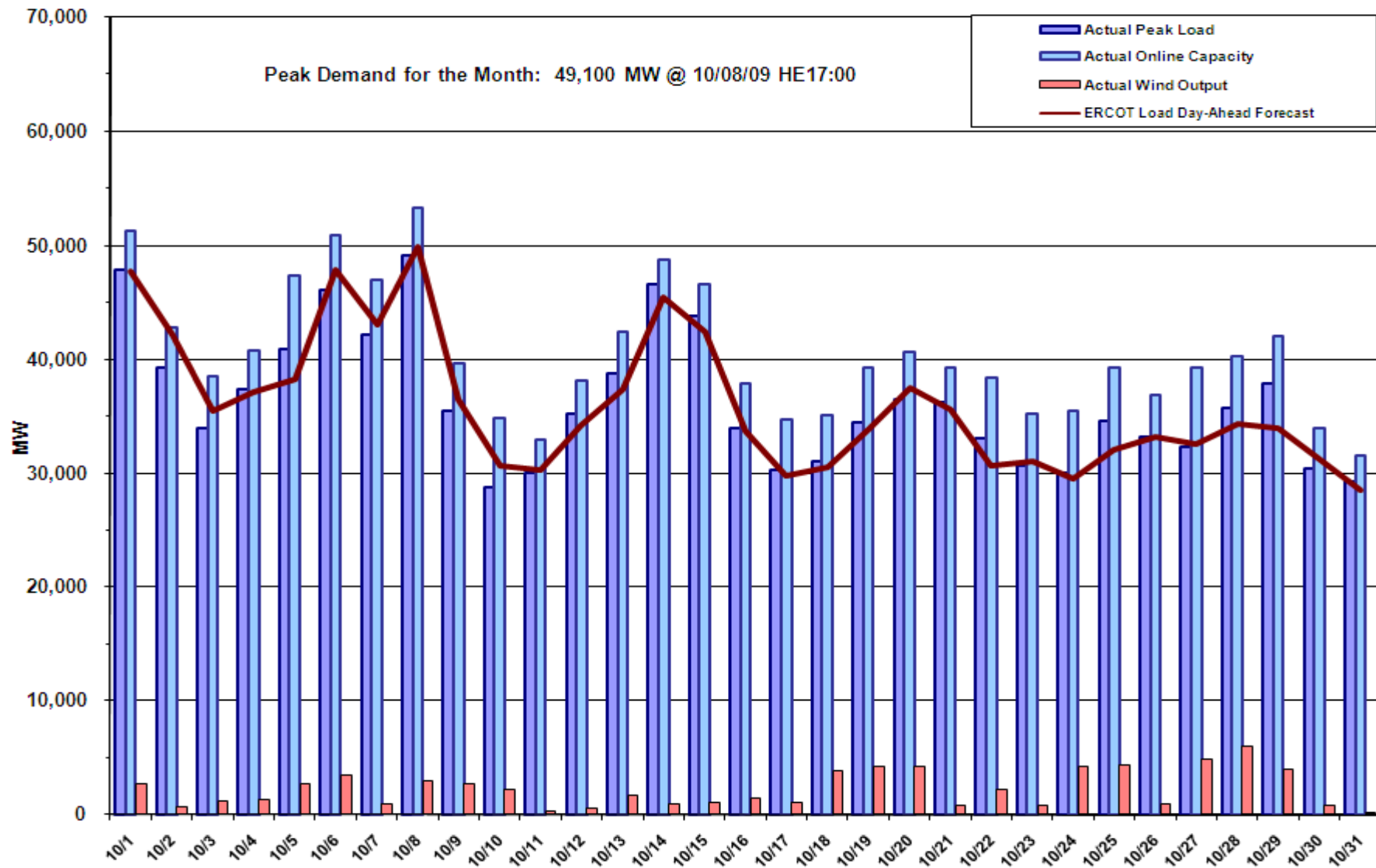
## Advisories and Watches in September 2009

- **Advisories issued for Adjusted Responsive Reserve (ARR) below 3000 MW.**
  - Issued 10 Days.
- **Watches issued for Adjusted Responsive Reserve (ARR) below 2500 MW.**
  - Issued 2 Days.
- **Transmission Watches**
  - None
- **No EEA's in September 2009**

## Other Items

- **September 5<sup>th</sup>**
  - Held Real-time Balancing deployments for interval ending 00:15 due to entry of bad offset. Resumed with interval ending 00:30 deployments.
- **September 28<sup>th</sup>**
  - Held Real-time Balancing deployments for interval ending 23:00 due to entry of bad offset. Resumed with interval ending 23:30 deployments.

# October 2009 Daily Peak Demand: Hourly Average Actual vs Forecast, Resource Plan & On-line Capacity at Peak

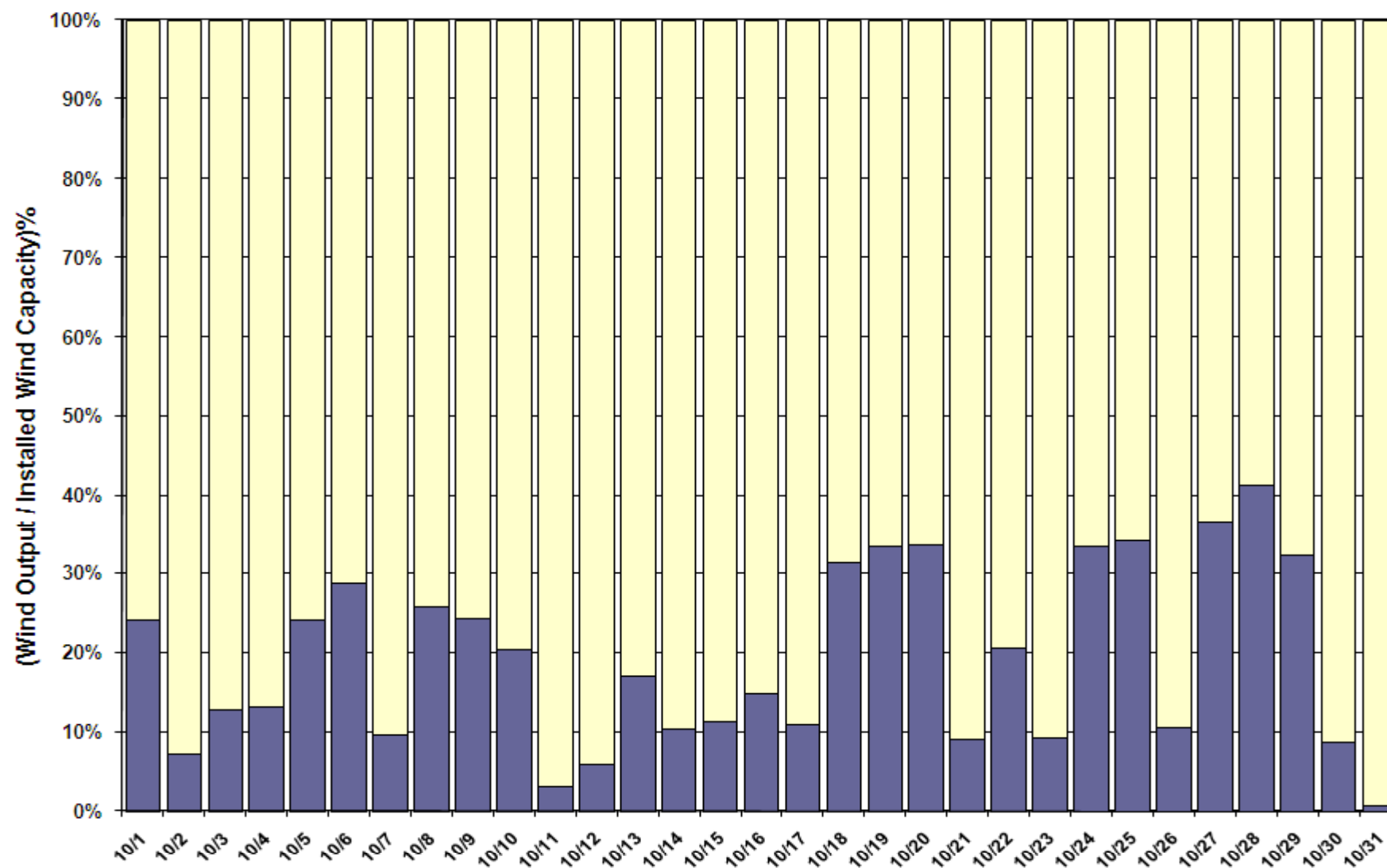


Note: All data are hourly averages during the peak load hour obtained from Resource Plans, and EMMS.



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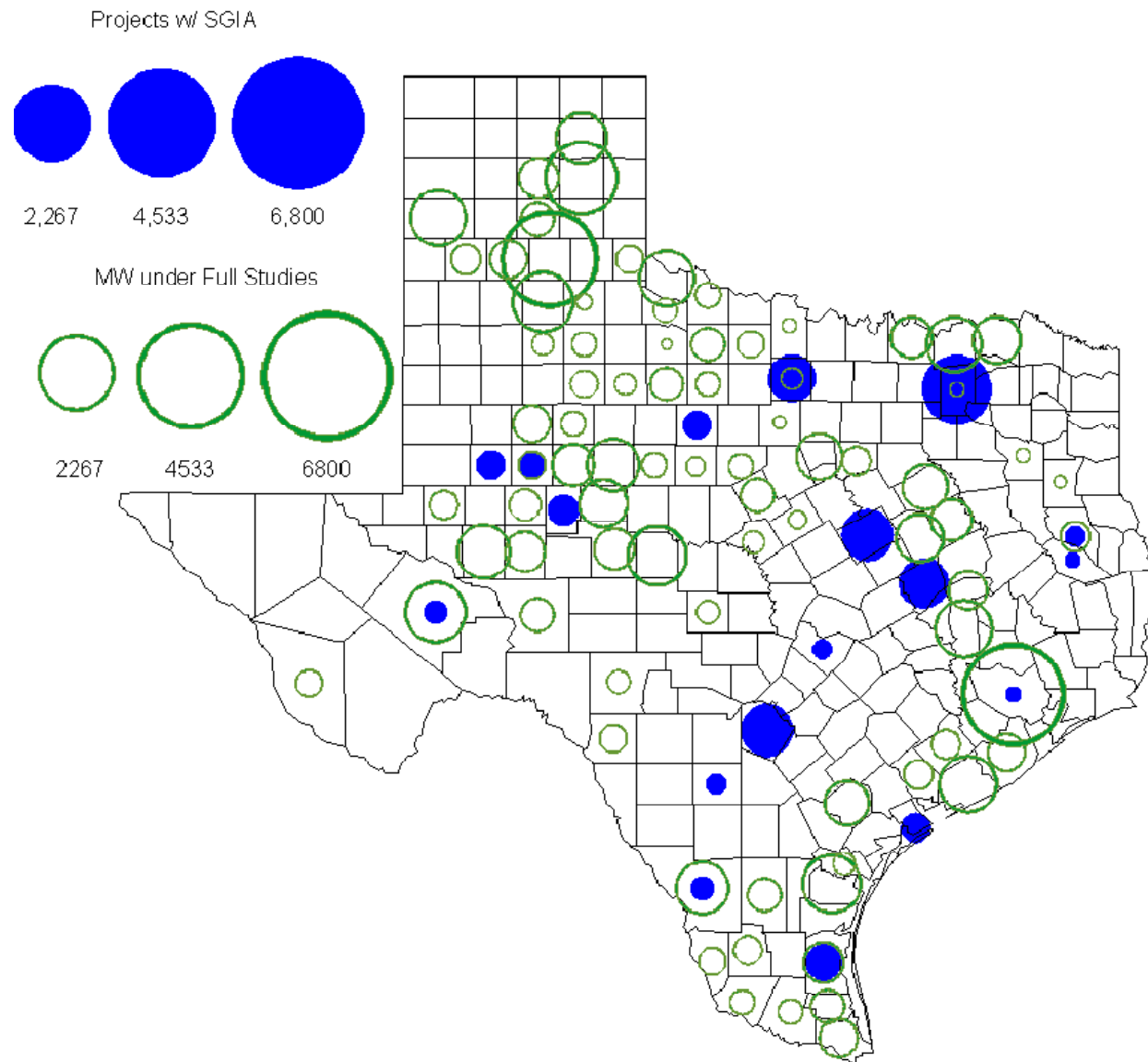
## October 2009 Actual Wind Output as a Percentage of the Total Installed Wind Capacity at Peak



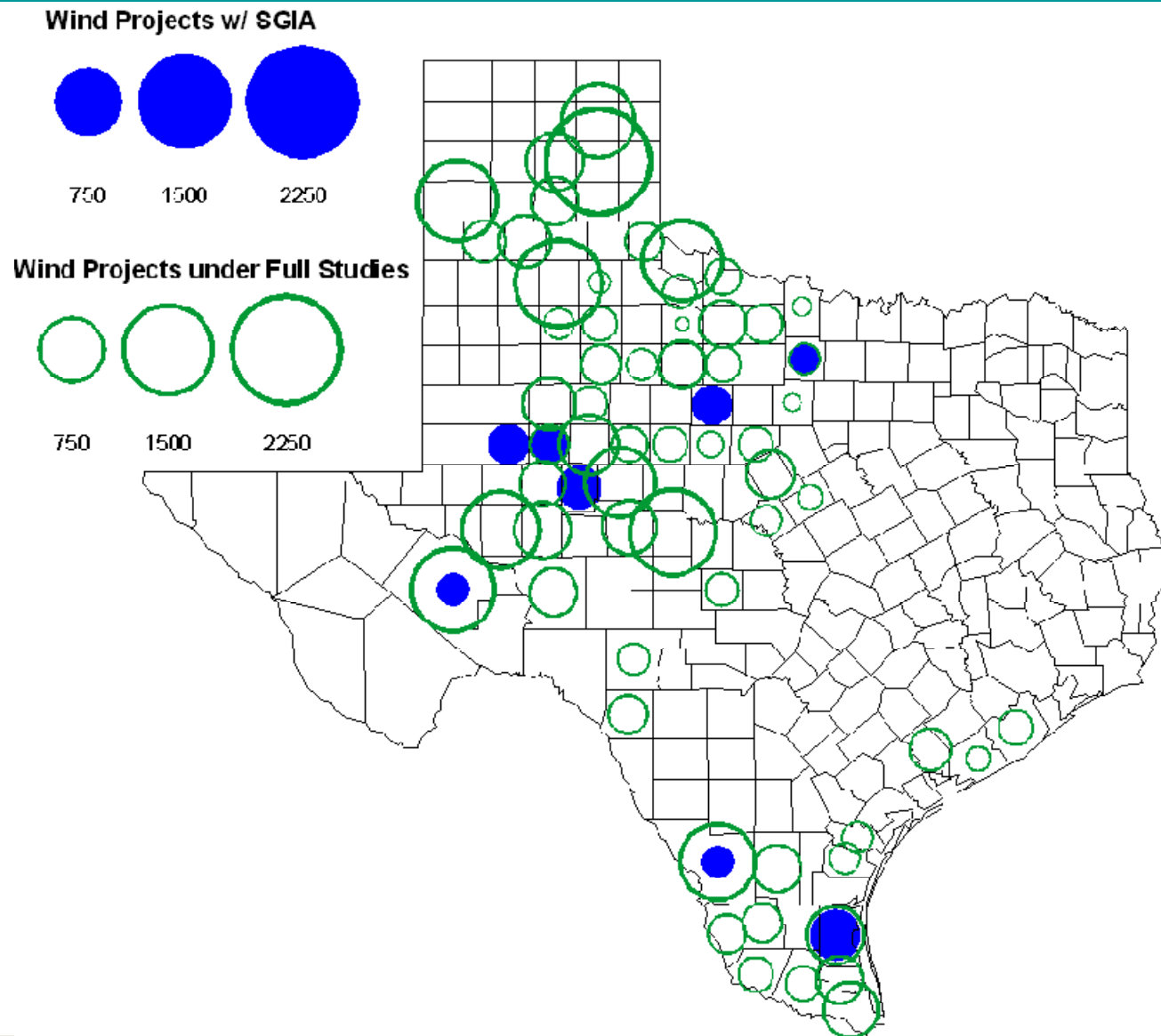
## Planning Summary

- **ERCOT is currently tracking 222 active generation interconnection requests totaling over 77,000 MW. This includes over 44,000 MW of wind generation.**
- **Regional Planning is currently reviewing proposed transmission improvements with a total of \$1,031.70 Million**
- **Transmission Projects approved in 2009 total \$284.4 Million**
- **All projects (in engineering, routing, licensing and construction) total approximately \$9.2 Billion**
- **Transmission Projects energized in 2009 total about \$416 million**

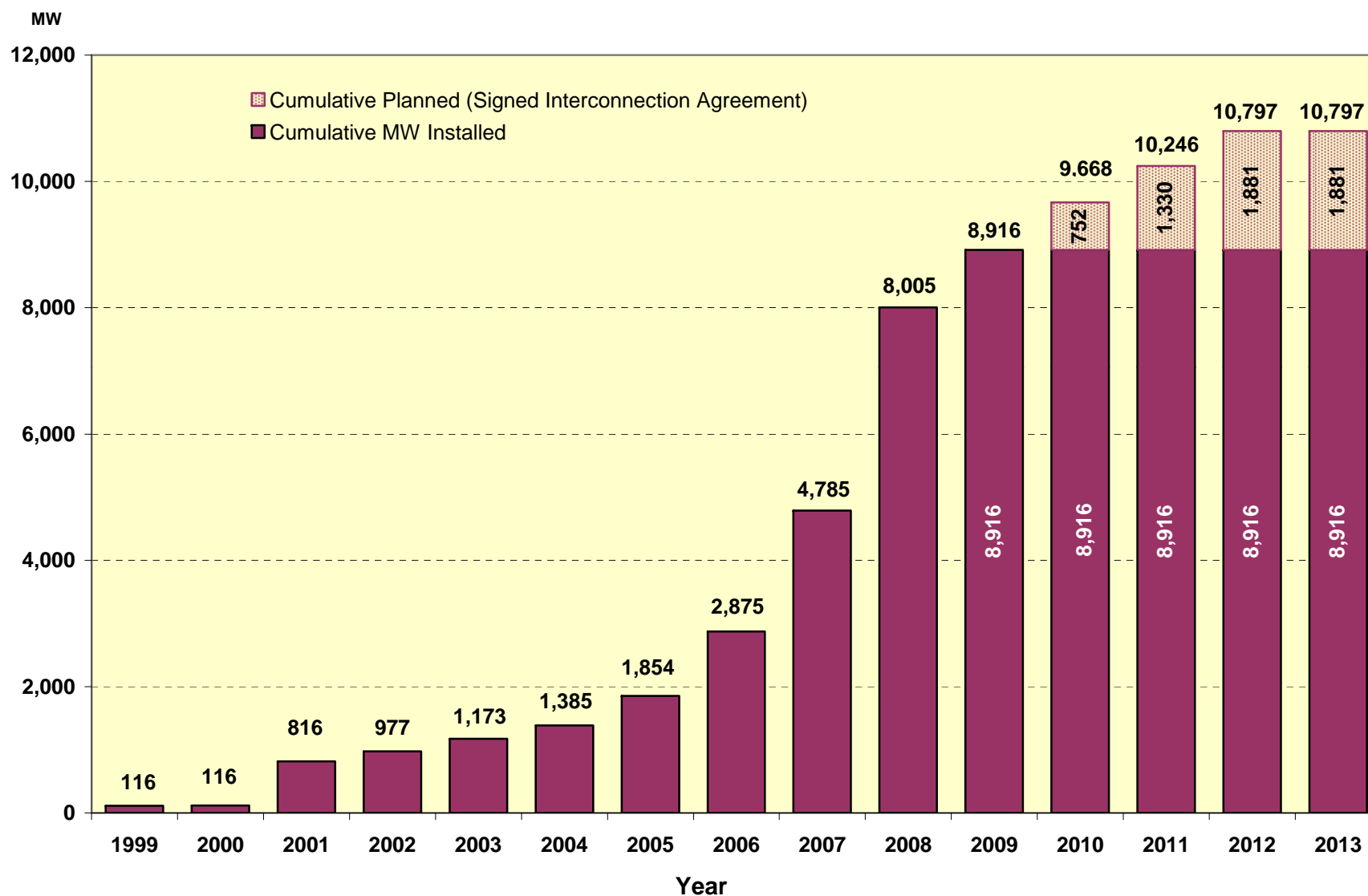
# County Location of Planned Generation with Interconnection Requests (all fuels) October 2009



# County Location of Planned Generation with Interconnection Requests (Wind) October 2009

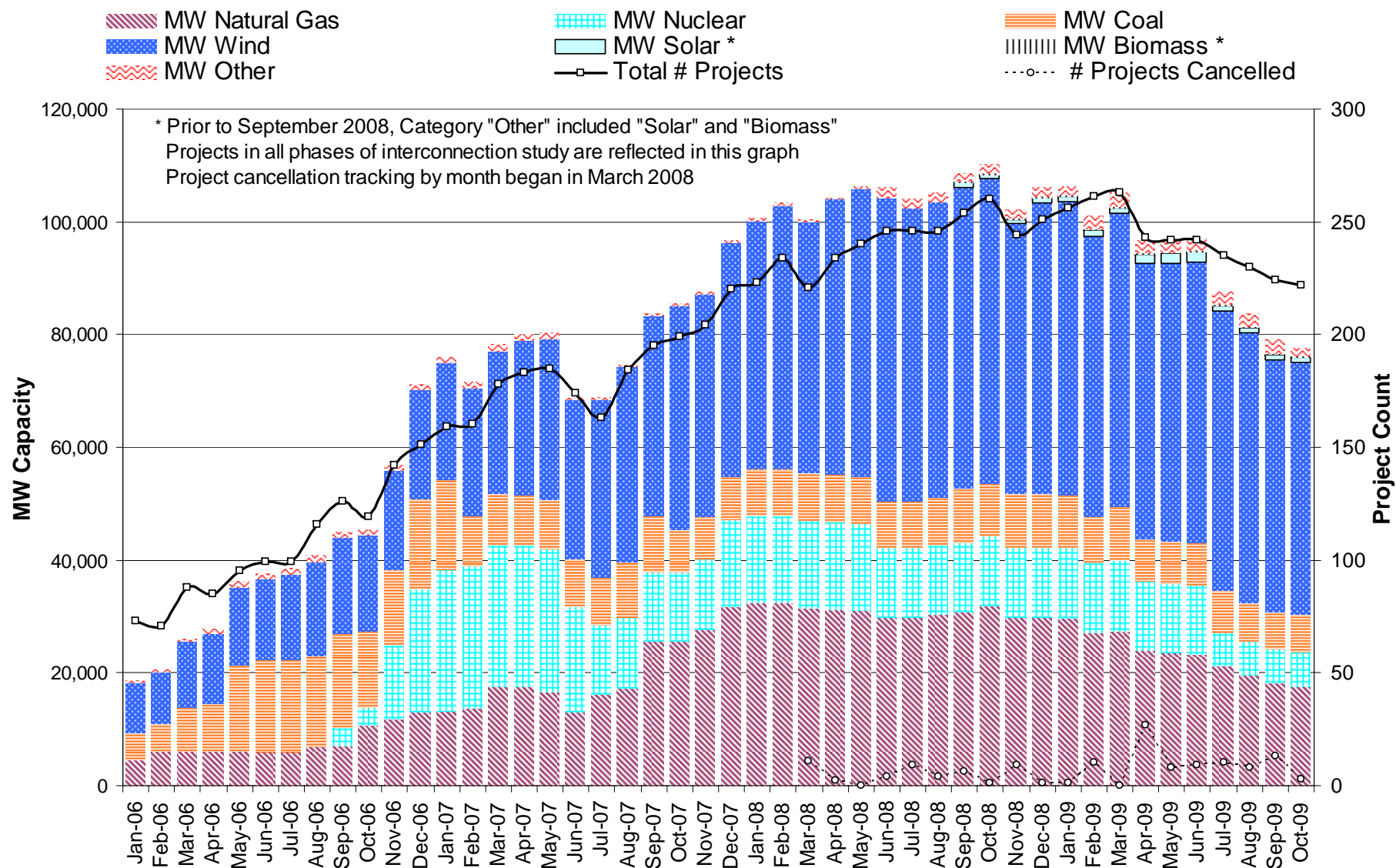


# Wind Generation



(as of October 31, 2009)

# Generation Interconnection Activity by Fuel



# Generation Interconnection Activity by Project Phase

