



# July 2008 Grid Operations

ERCOT Board of Directors  
16 September 2008

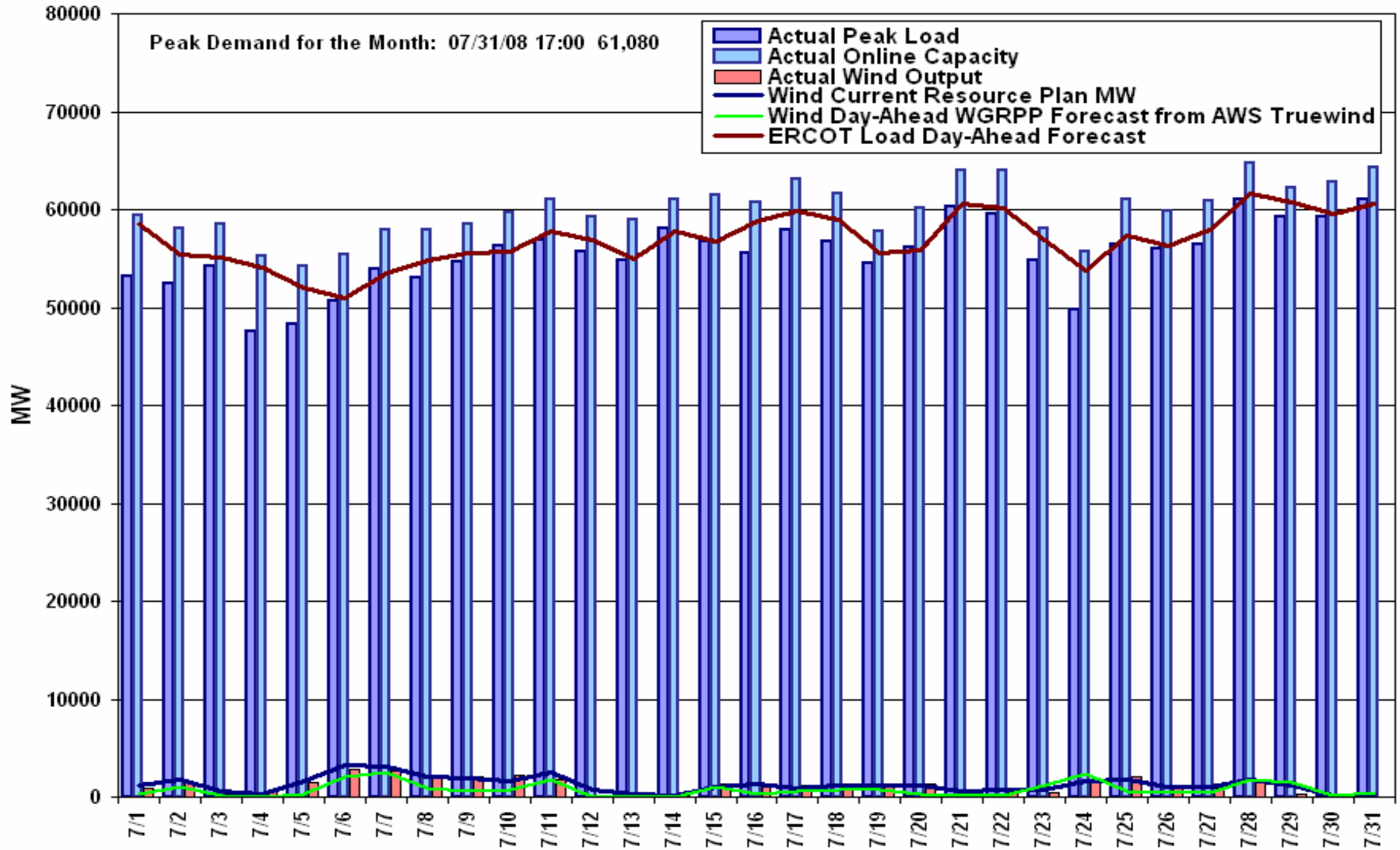
**Kent Saathoff**

- **Summary**
- **Peak Demand: Actual vs. Forecast**  
**On-line Resources: Total at Peak and Wind**
- **Day-Ahead Load Forecast Performance**
- **Out of Merit Capacity Order (OOMC) &  
Reliability Must Run (RMR) Purchases**
- **Zonal Congestion**
- **Significant System Incidents**
- **Advisories, Alerts and EECs**
- **Other Items**
- **Status of CPS1 Sensitivity Analysis**

- **The peak demand of 61,080 MW exceeded the July 2007 peak, but was below the all-time actual peak of 62,339 MW and forecast 2008 peak of 63,702 MW**
- **Day-ahead load forecast error for June was below 3%**
- **Reduction in July zonal congestion from May and June levels**
- **Hurricane Dolly on July 23<sup>rd</sup> caused substantial damage in Brownsville. On July 24<sup>th</sup> at 4 a.m. approximately 224,600 customers in the Rio Grande Valley area were without service.**

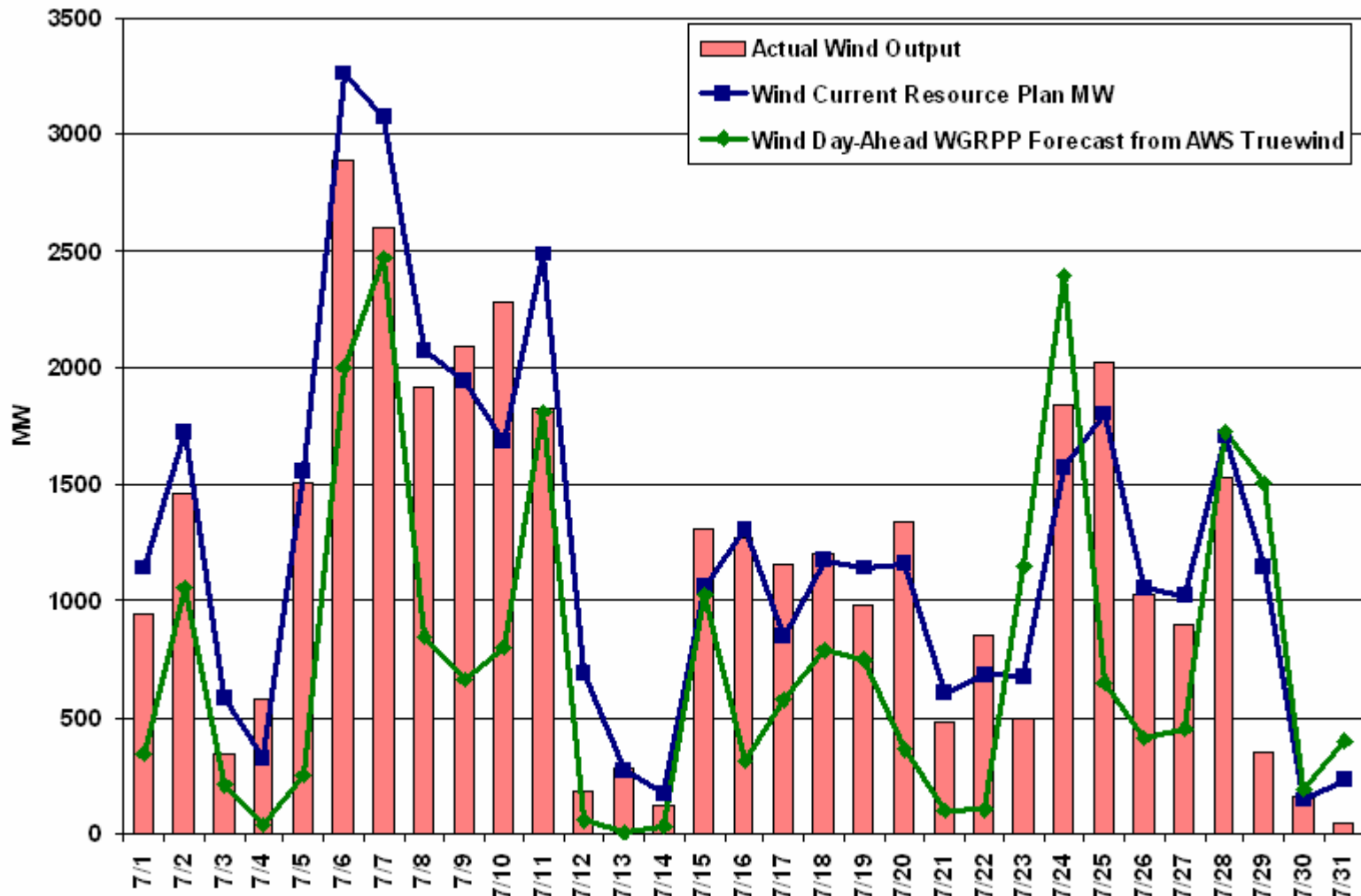
# Daily Peak Demand: Hourly Average Actual vs Forecast

## Resource Plan: On-line Capacity at Peak

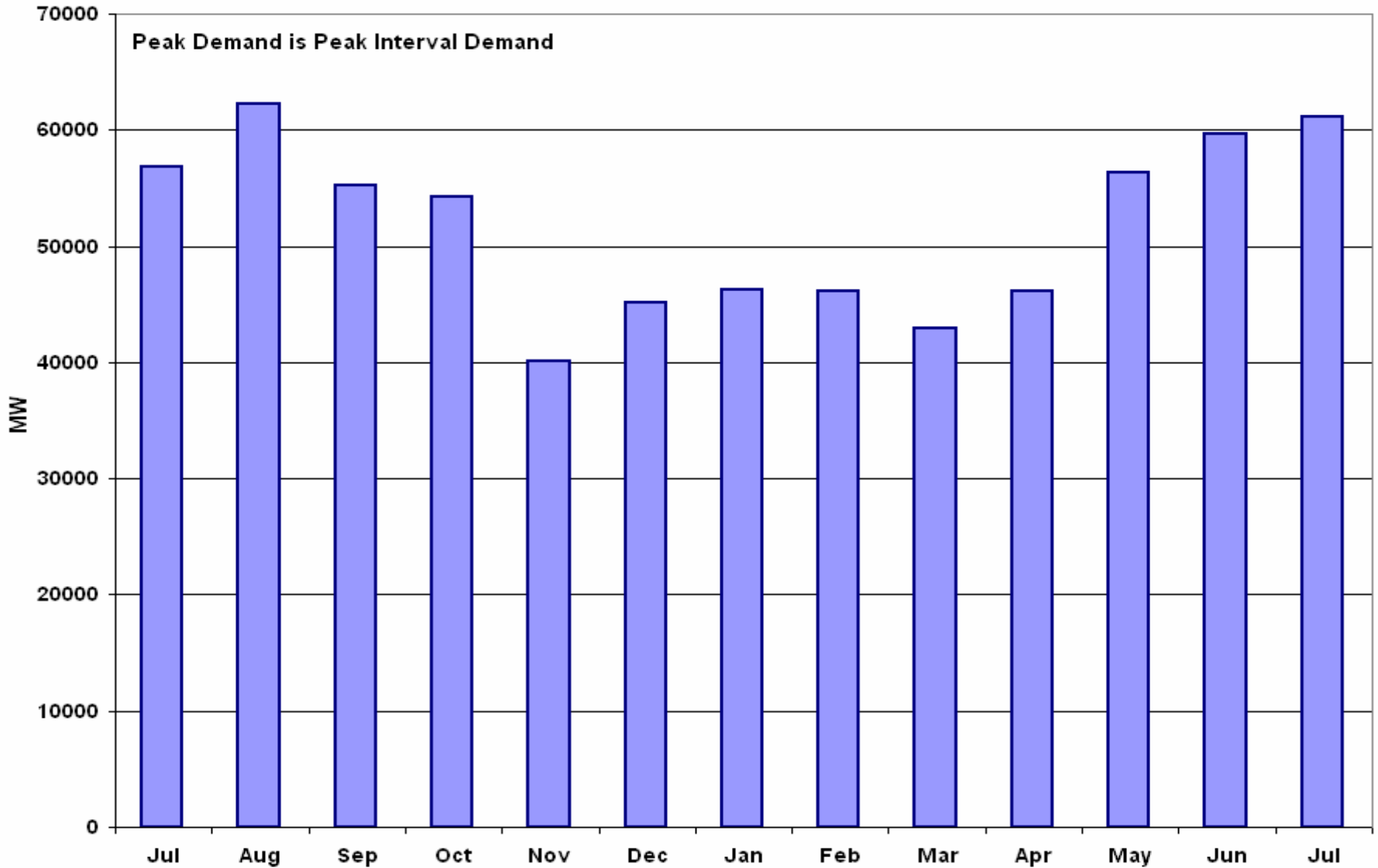


Note: All data are hourly averages during the peak load hour obtained from Resource Plans, EMMS, and AWS Truewind Wind Forecast.

# Actual Wind Output Vs Wind Current Resource Plan & Wind Day-Ahead AWS Forecast at Peak Load



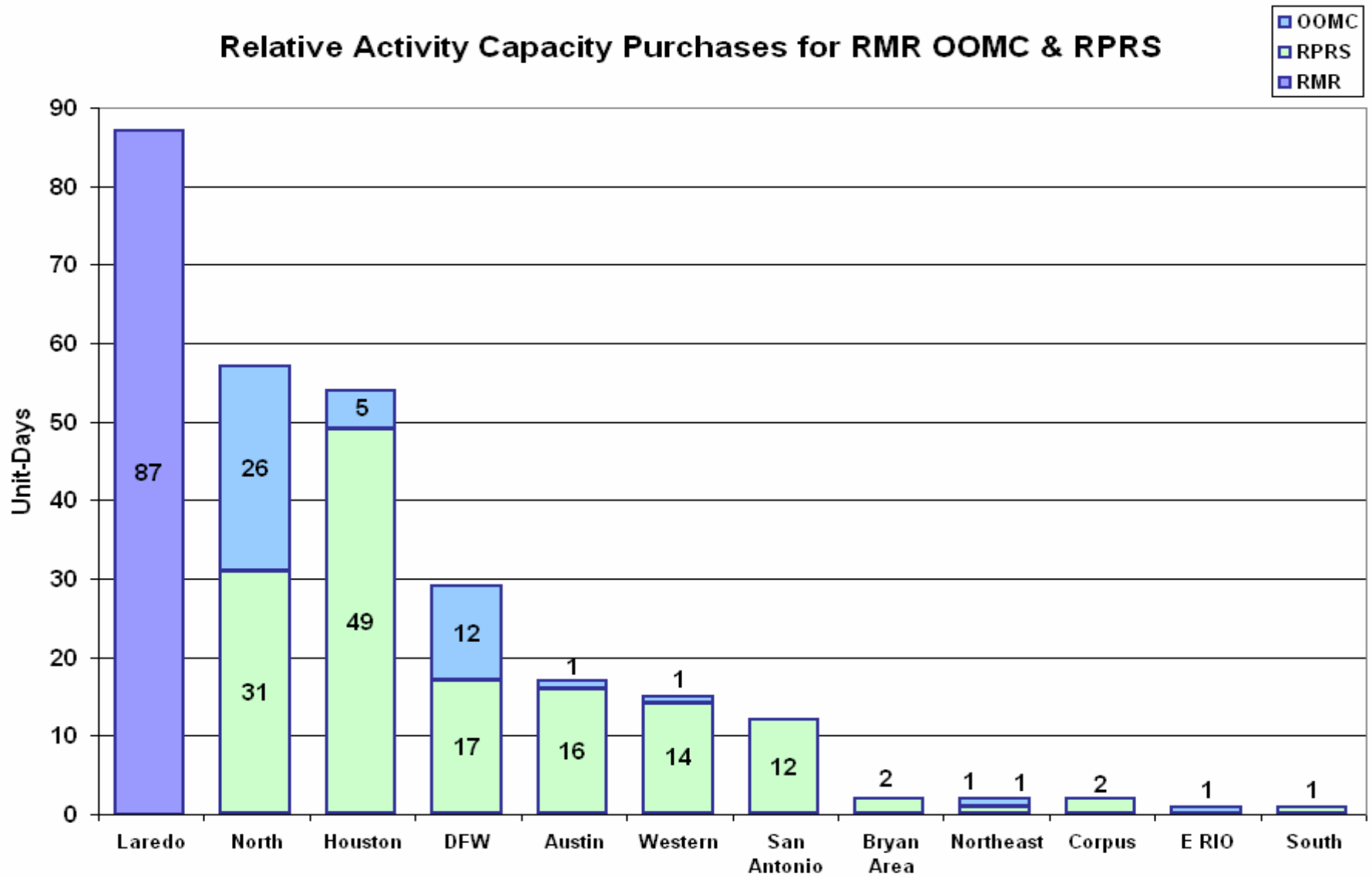
# Monthly Peak Demand: Actual



# Day-Ahead Load Forecast Performance in July 2008

	<b>Mean Absolute Percent Error (MAPE) for ERCOT Mid-Term Load Forecast (MTLF) Run at 16:00 Day Ahead</b>				
	<b>2005 MAPE</b>	<b>2006 MAPE</b>	<b>2007 MAPE</b>	<b>2008 MAPE (YTD)</b>	<b>July 2008 MAPE</b>
<b>Average Annual MAPE</b>	4.56	3.79	3.55	3.00	2.55

# Capacity Purchases of RMR, OOMC & RPRS to Manage Local Congestion in July 2008





# Zonal Congestion

<b>CSC</b>	<b>July 08, June 08, May 08 Days</b>	<b>July 07 Days</b>	<b>Last 12 Months Total Days</b>
<b>North – Houston</b>	<b>0, 1, 17</b>	10	88
<b>North – West</b>	<b>1, 0, 1</b> July – 13	4	55
<b>West – North</b>	<b>11, 12, 20</b> July – 1,2,6-12,28,29	0	154
<b>South – North</b>	<b>0, 0, 8</b>	2	40
<b>North - South</b>	<b>5, 26, 28</b> July – 11,15,19,28,30	N/A	100

# Significant System Incidents in July 2008

- **July 1<sup>st</sup>**
  - Unable to meet the Ancillary Service Market Timeline. Market was re-executed successfully.
- **July 23<sup>rd</sup> – 25<sup>th</sup>**
  - Hurricane Dolly caused severe damage in Rio Grande Valley. Alerts issued on the 22<sup>nd</sup> to the 24<sup>th</sup> and emergency notices for the 23<sup>rd</sup> to the 25<sup>th</sup>. During restoration, on July 24<sup>th</sup> ERCOT declared a Transmission Emergency and requested 34 MW of Load Shed for Public Utility of Brownsville (PUB) and 6 MW of Magic Valley Electric Co-operative (MVEC) due to forced transmission outages and rapid load growth. At 4 am on July 24<sup>th</sup>, approximately 224,600 customers in the Rio Grande Valley area were without service due to Hurricane Dolly.
- **July 30<sup>th</sup>**
  - Failed to meet the Day Ahead market close time because one market participant had issues with submitting energy schedule.

- **Advisories issued for Adjusted Responsive Reserve (ARR) below 3000 MW.**
  - Issued 11 Days.
- **No Alerts for ARR below 2500 MW issued in July 2008.**
- **Transmission Emergency (operation above single contingency limits):**
  - 7/15 & 28 Emergency Notice due to local management techniques being unsuccessful in controlling the North – South congestion, used zonal techniques.
  - 7/27 & 28 BLT of 2 MW at Turkey, TX due to a forced outage.
- **No EECPPs in July 2008**

- **July 6<sup>th</sup>**
  - Held IE 21:00 due to input error in offset calculation.
- **July 8<sup>th</sup>**
  - Held IE -1:30 – 02:30 due to market application issue related to energy schedules. Fix implemented by August 25<sup>th</sup>.
- **July 24<sup>th</sup>**
  - Held 13:15 interval due to questionable deployments caused by an active constraint. Because of the location of the Constraint (West Levee), the local congestion was handled like a zonal problem and re-dispatched several MW's of generation in the North and South. Due to the hot weather, the Operator was concerned that another large deployment might cause a Security Issue on the Grid, so he held the interval and went to unit specific deployments.

- **Board requested a sensitivity analysis of how CPS1 might be affected by varying amounts of wind generation**
- **Staff believes the CPS1 forecast presented at August Board meeting is too simplified to use and get good results for a sensitivity analysis**
- **We are setting up Operator Training Simulator to simulate varying amounts of wind generation under different scenarios and how it might affect frequency control and CPS1 scores**
- **Expect to include results in November 2008 Grid Operations Report to Board**

Questions ?