

# Grid Operations and Planning Report

**Kent Saathoff** 

**ERCOT Board of Directors December 14, 2010** 

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#### Planning Activities

- Summary
- Generation Interconnection Requests
- Wind Capacity

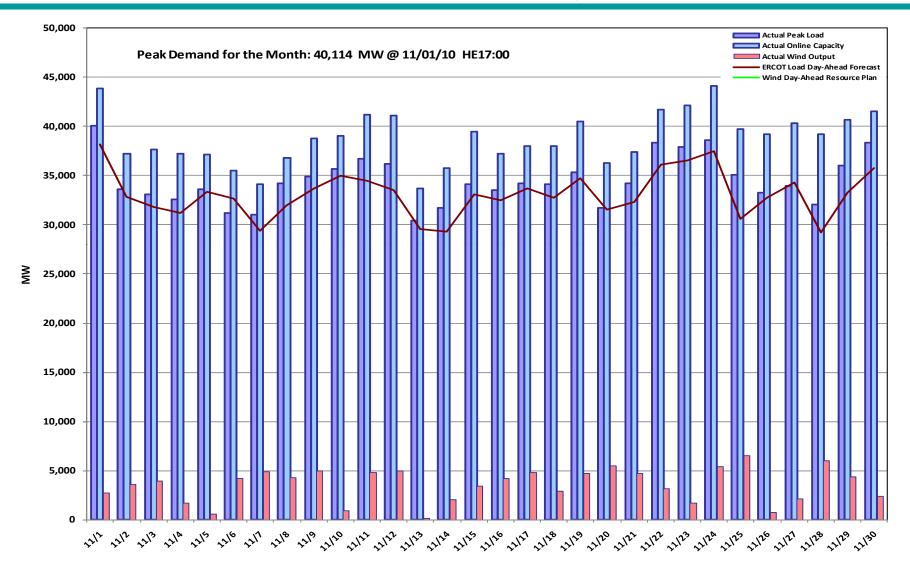
## **Summary**

### November 2010 Operations

- The peak demand of 40,114 MW on November 1<sup>st</sup> was more than the long term forecast peak of 38,208 MW and more than the November 2009 actual peak demand of 37,039 MW.
- Day-ahead load forecast error for November was 3.46%.
- Advisory for Adjusted Responsive Reserve (ARR) below 3000 MW issued two days
- Watch for ARR under 2500 MW issued one day
- No Energy Emergency Alert (EEA) event
- One Transmission Watch issued
- 194 active generation interconnect requests totaling over 65,000 MW as of November 30, 2010. No change from October 31.
- 9,467 MW wind capacity on line November 30, 2010. No change from October 31.

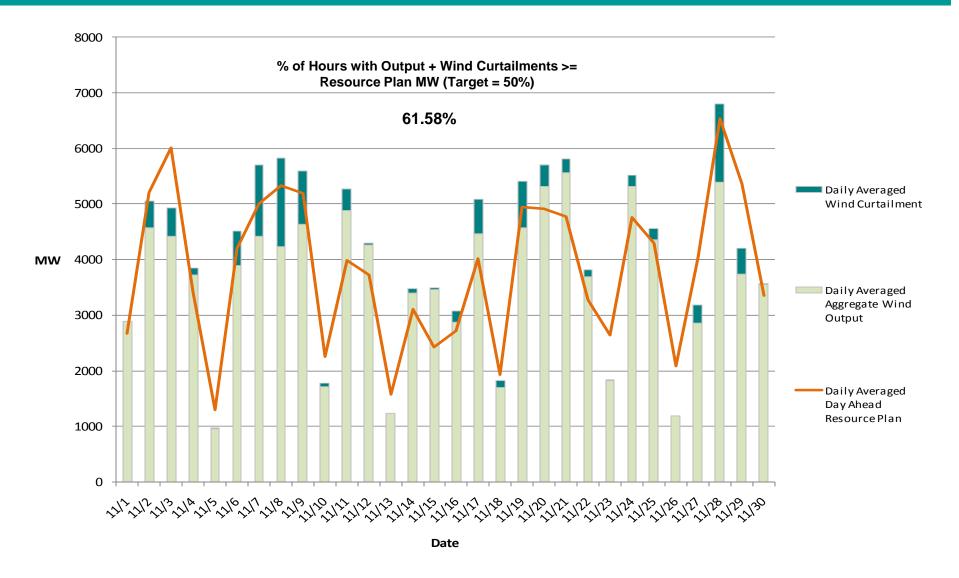


## November 2010 Daily Peak Demand: Hourly Average Actual vs. Forecast, Resource Plan & On-line Capacity at Peak



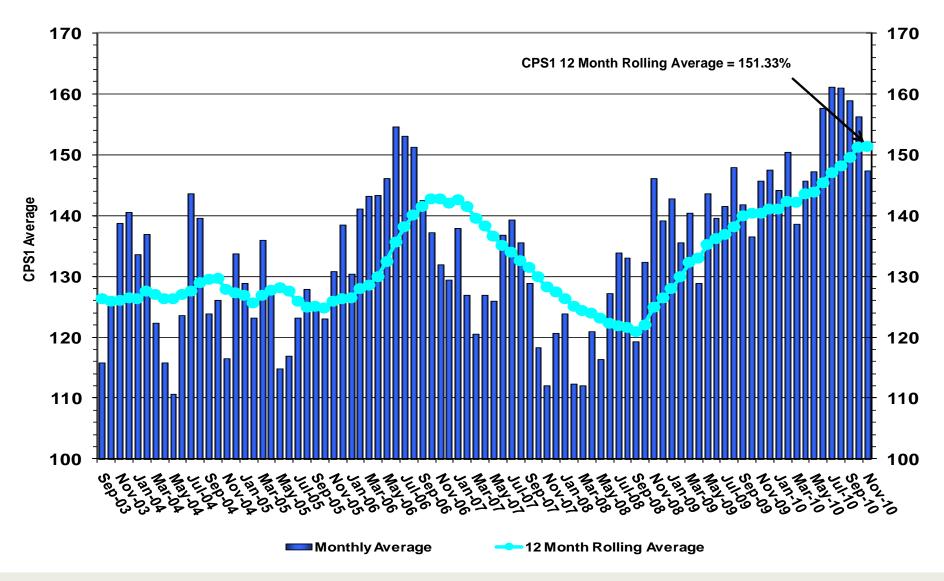


## November 2010: Actual Wind Output w/ Curtailment Added Back vs. Wind Day-Ahead Resource Plan Based on AWS Forecast for All Hours



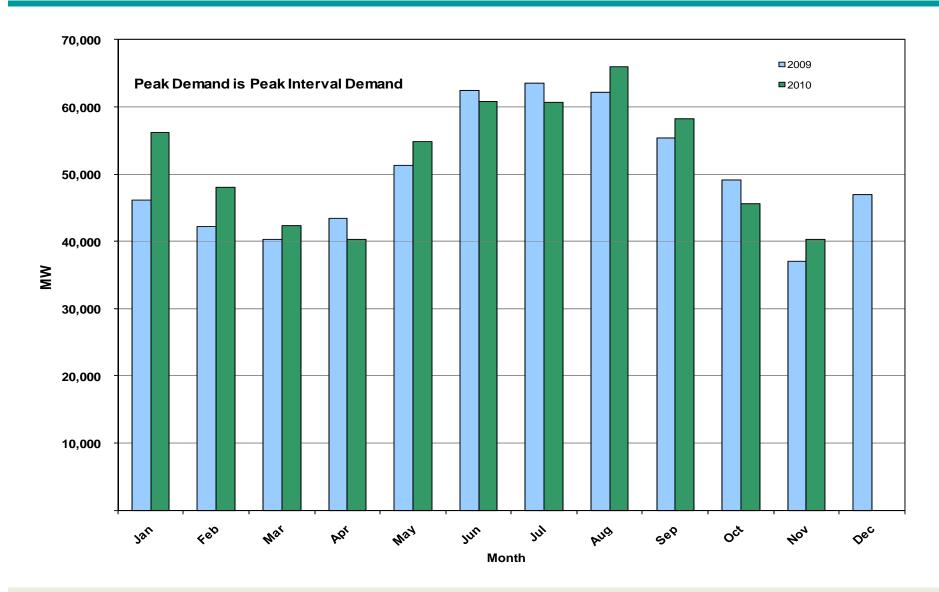


## **November 2010 ERCOT's CPS1 Monthly Performance**



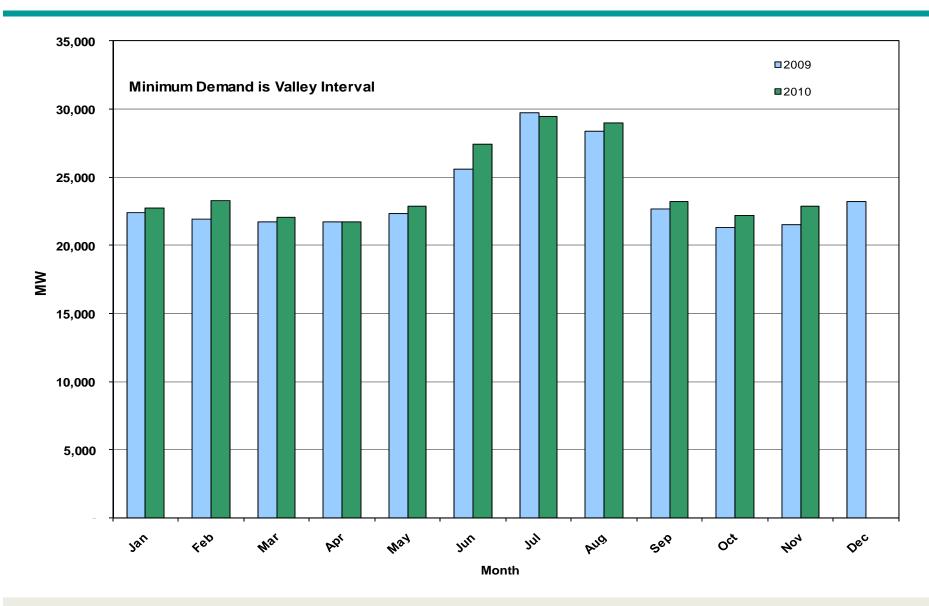


## November 2010: Monthly Peak Demand: Actual





## **November 2010: Monthly Minimum Demand: Actual**



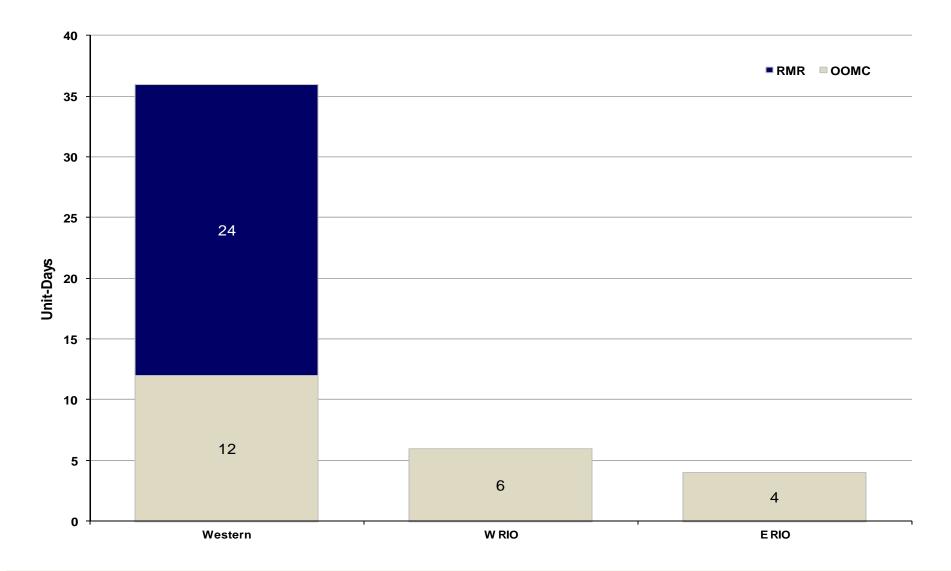


## **Day-Ahead Load Forecast Performance in November 2010**

	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)	November 2010 MAPE			
Average Annual MAPE	3.55	3.30	3.11	2.85	3.46			



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



## **Zonal Congestion**

CSC	Nov 09 Days	Sep 10 Days	Oct 10 Days	Nov 10 Days	Last 12 Months Total Days (Nov 09 – Nov 10)
North – Houston	1	8	13	<b>6</b> Nov–(1, 5, 11, 12, 15, 23)	62
North – West	0	0	0	0	0
West – North	2	15	19	<b>27</b> Nov-(2-12, 14-25, 27-30)	201
South – North	0	0	0	0	5
North - South	2	0	0	0	5

#### **Advisories and Watches in November 2010**

- Advisories issued for Adjusted Responsive Reserve (ARR) below 3000 MW.
  - Issued 2 Days.
- Watches issued for Adjusted Responsive Reserve (ARR) below 2500 MW.
  - Issued 1 Day.
- Transmission Watches
  - Nov 10<sup>th</sup> ERCOT issued a Transmission Watch for the Valley due to forced outage of 345kV Ajo to Rio Hondo transmission line because of broken insulators. Emergency energy received from CFE across the Railroad DC tie.
- Energy Emergency Alerts
  - None

## Significant System Incidents in November 2010

#### November 03<sup>rd</sup>, at 10:21

Emergency Notice for a potential NERC Reportable Disturbance Control Standard (DCS)
 Event for loss of two units at different plants for a total of 1436 MW of generation. LaaRs
 were deployed and system frequency recovered to 60 Hz in approximately 5 minutes and 10
 seconds.

#### November 25<sup>th</sup>, at 04:21

Exceeded the Balancing Authority ACE Limit (BAAL) High trigger limit (60.09 HZ) for 15 consecutive minutes on 11/25/10. The event was the result of a strong storm system moving over the part of ERCOT where the majority of wind generation is concentrated. Wind generation increased approximately 1800 MW in 30 minutes. Issued fleet OOM-down instructions to restore frequency below 60.09 Hz.

## **Other Items**

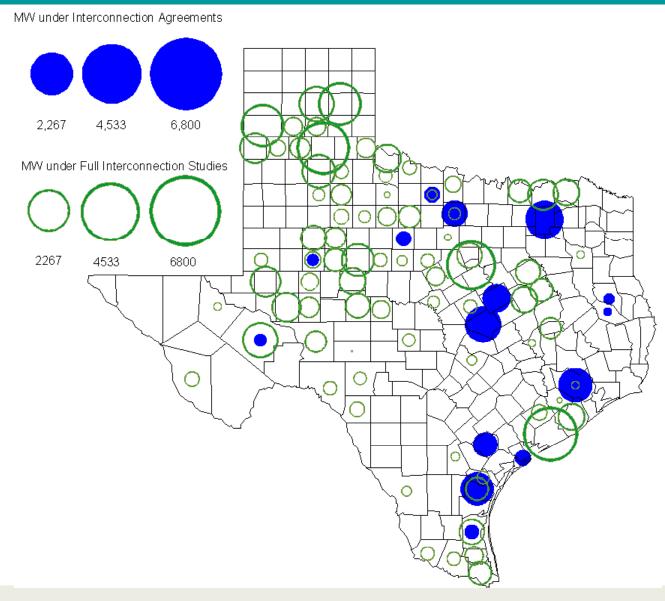
## Block Load Transfer(BLT)

Nov 12<sup>th</sup> ERCOT implemented a BLT of approximately 1 MW of ERCOT load to CFE at Presidio for a planned transmission outage.

## **Planning Summary**

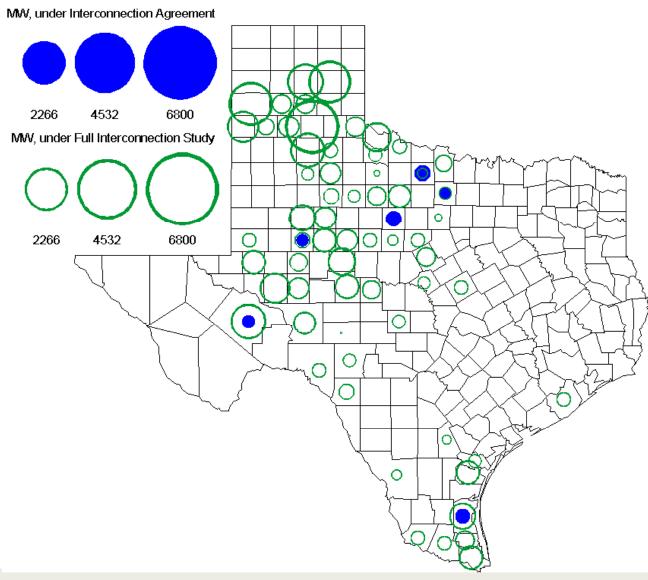
- ERCOT is currently tracking 194 active generation interconnection requests totaling over 65,000 MW. This includes almost 39,000 MW of wind generation.
- ERCOT is currently reviewing proposed transmission improvements with a total cost of \$131.9 Million
- Transmission Projects endorsed in 2010 total \$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) November 2010**



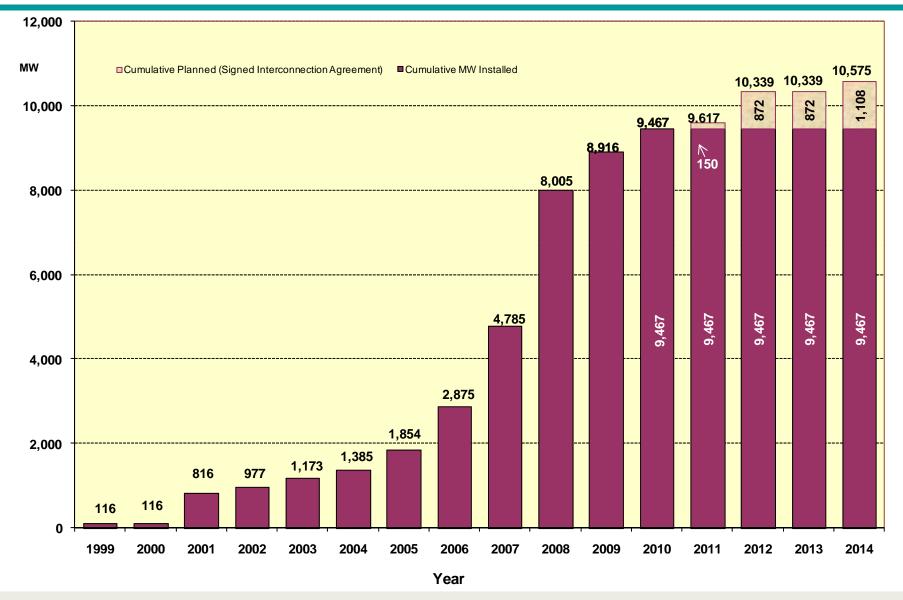


## **County Location of Planned Generation with Interconnection Requests (Wind) November 2010**





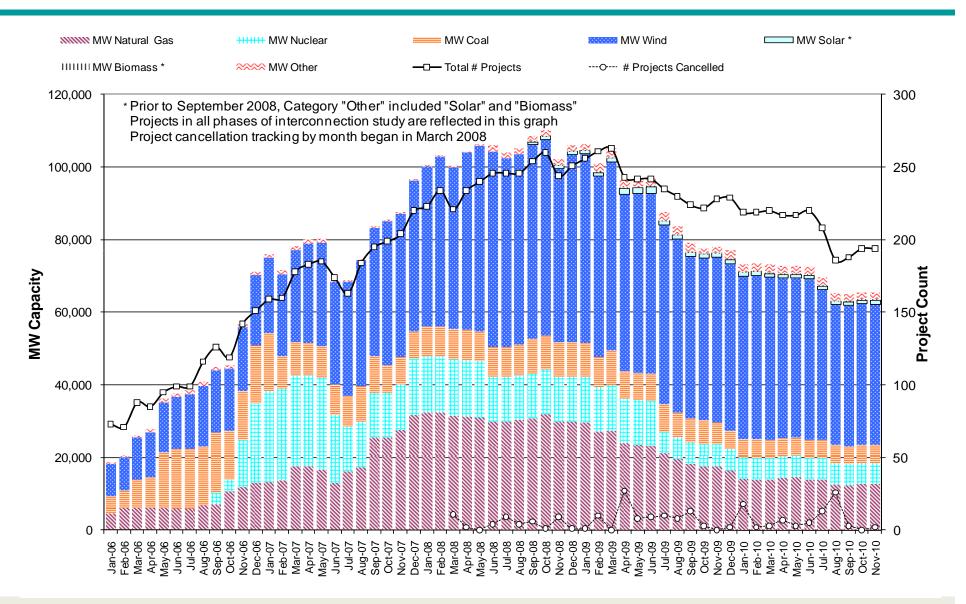
## **Wind Generation**





as of November 30,2010

## **Generation Interconnection Activity by Fuel**





## **Generation Interconnection Activity by Project Phase**

