



Grid Operations and Planning Report

Kent Saathoff

**ERCOT Board of Directors
January 18, 2011**

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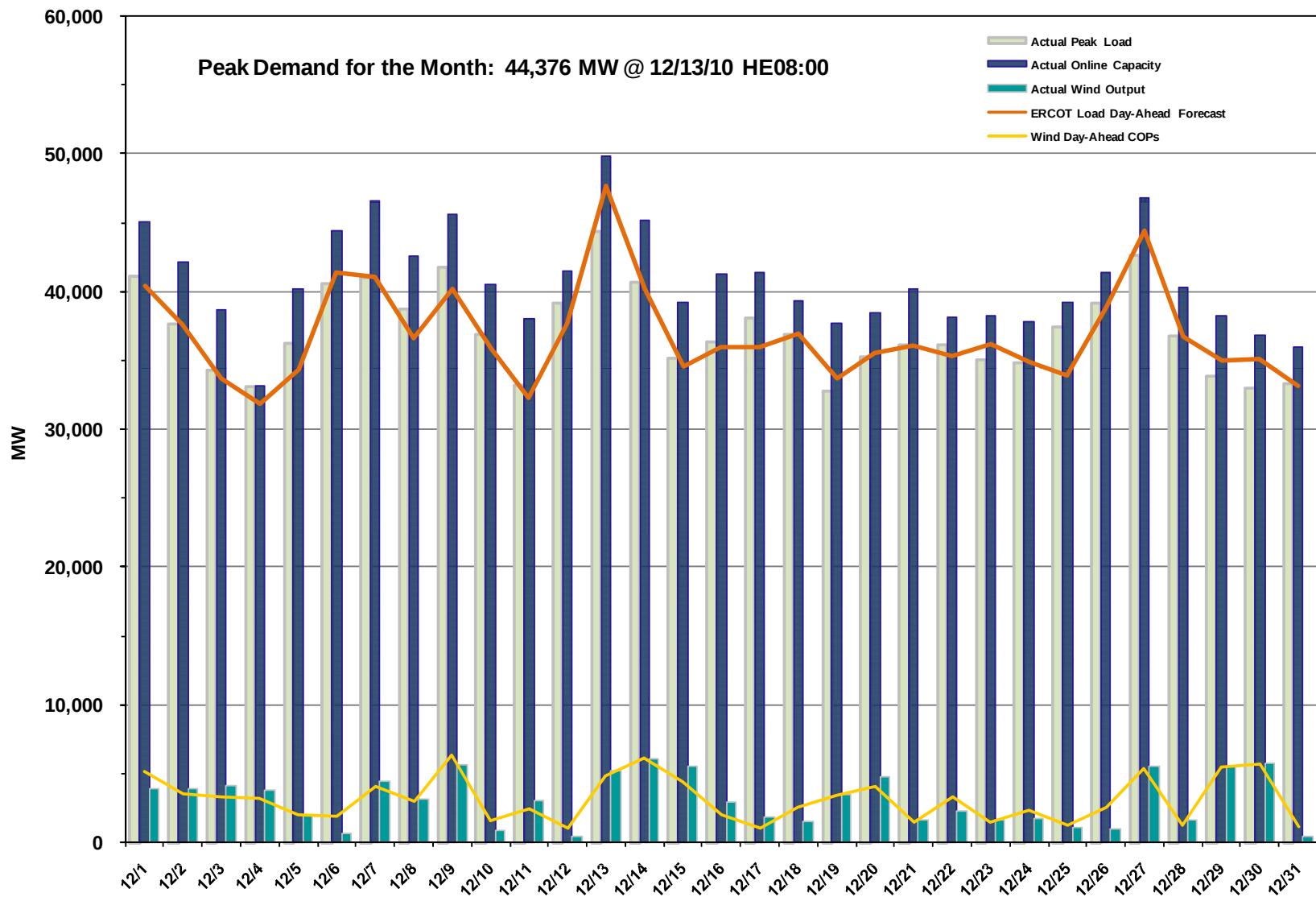
Summary

- **December 2010 Operations**

- The peak demand of 44,376 MW on December 13 was less than the long term forecast peak of 47,709 MW and less than the December 2009 actual peak demand of 46,911 MW.
- Day-ahead load forecast error for December was 2.60%.
- Advisory for Adjusted Responsive Reserve (ARR) below 3000 MW issued 14 days
- No Watches for ARR under 2500 MW
- No Energy Emergency Alert (EEA) event
- No Transmission Watches issued

- **193 active generation interconnect requests totaling over 65,000 MW as of December 31, 2010. One fewer request than November 30.**
- **9,467 MW wind capacity on line December 31, 2010. No change from November 30.**
- **December 2010 CDR update shows reserve margins slightly below the 13.75% target in 2013 and 2016**

December 2010 Daily Peak Demand: Hourly Average Actual vs. Forecast, Wind Day-Ahead COPs & On-line Capacity at Peak

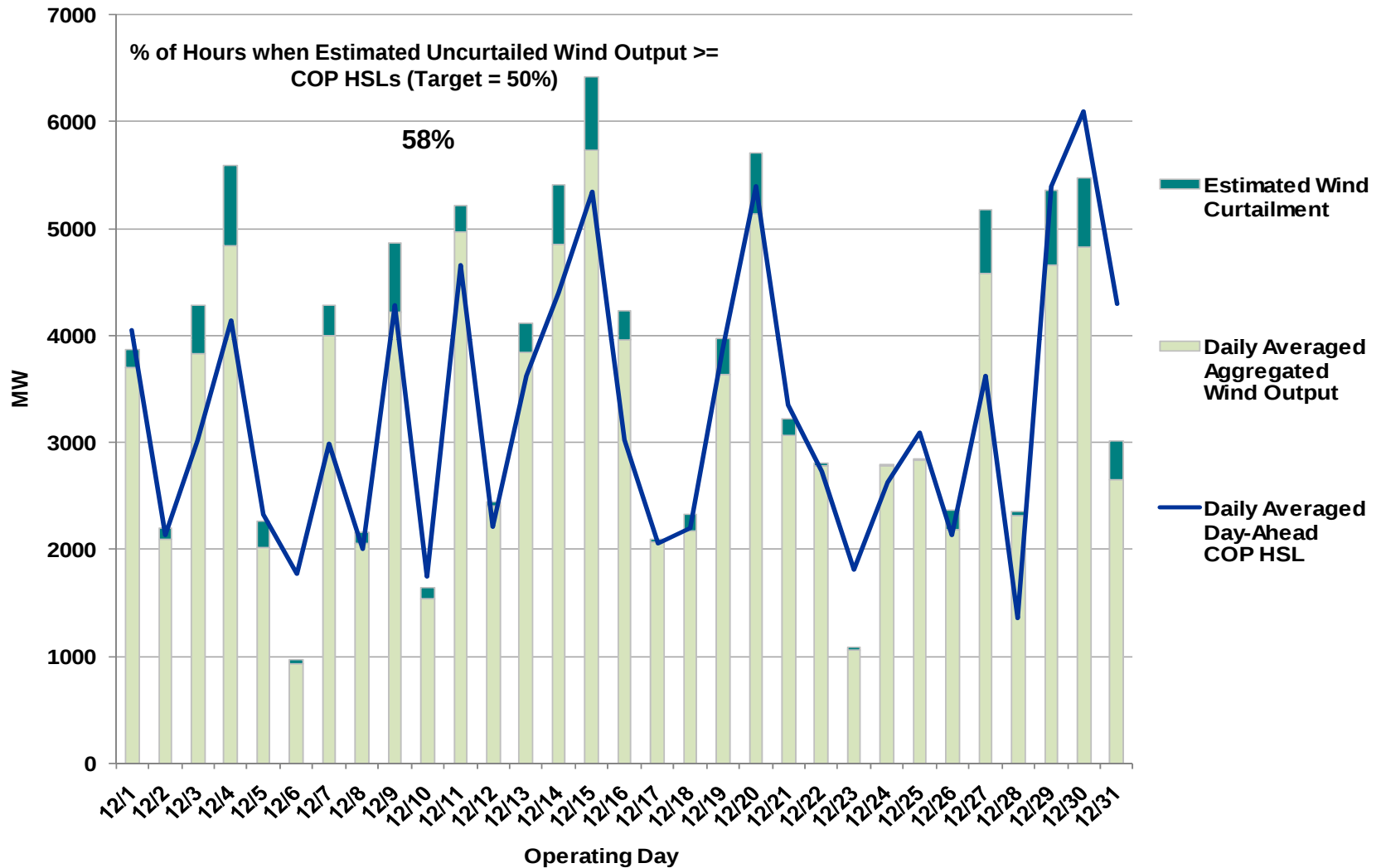


Note: All data are hourly averages during the peak load hour obtained from COPs, and EMMS.



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December 2010: Actual Wind Output plus Curtailments vs. Wind Day-Ahead COPs Average for All Hours



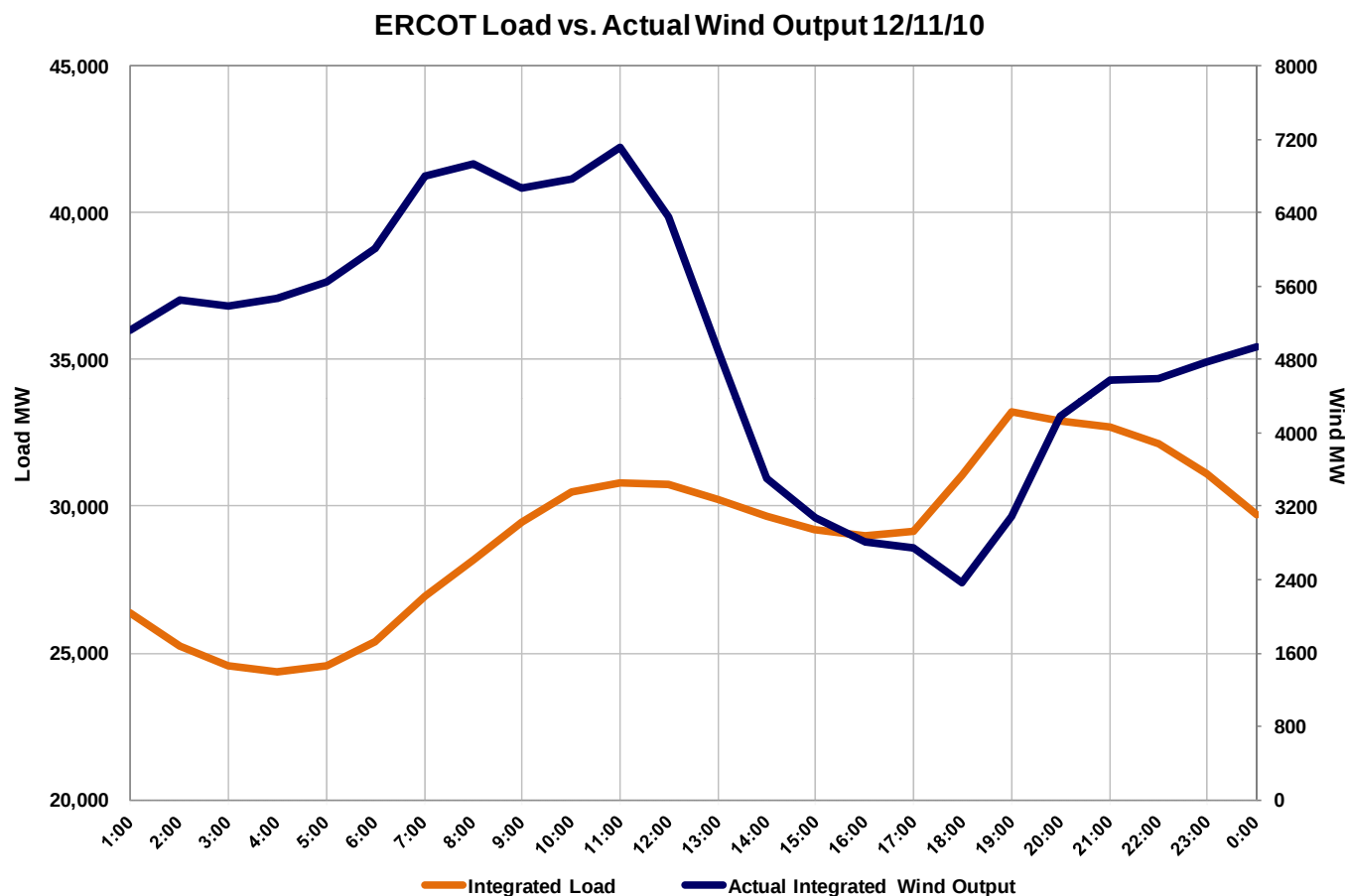
Note: QSEs must use the AWST 50% probability of exceedance forecast as the HSL in their COPs

New wind peak generation record December 11, 2010

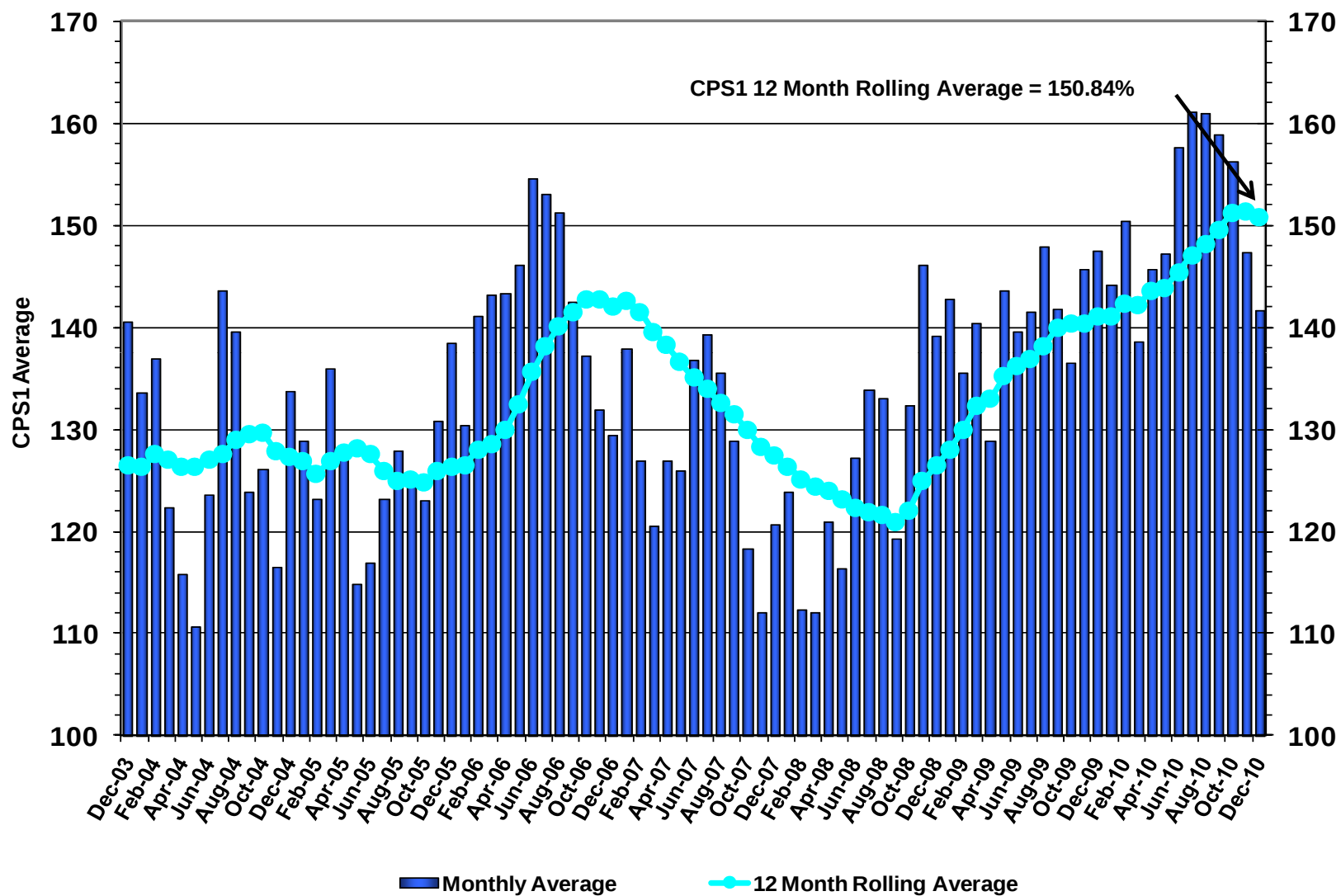
ERCOT reached another wind generation record on Saturday, December 11, 2010.

Wind generation hit **7,227 MW** at 07:16:32 am, representing 25.80 percent of the load at the time.

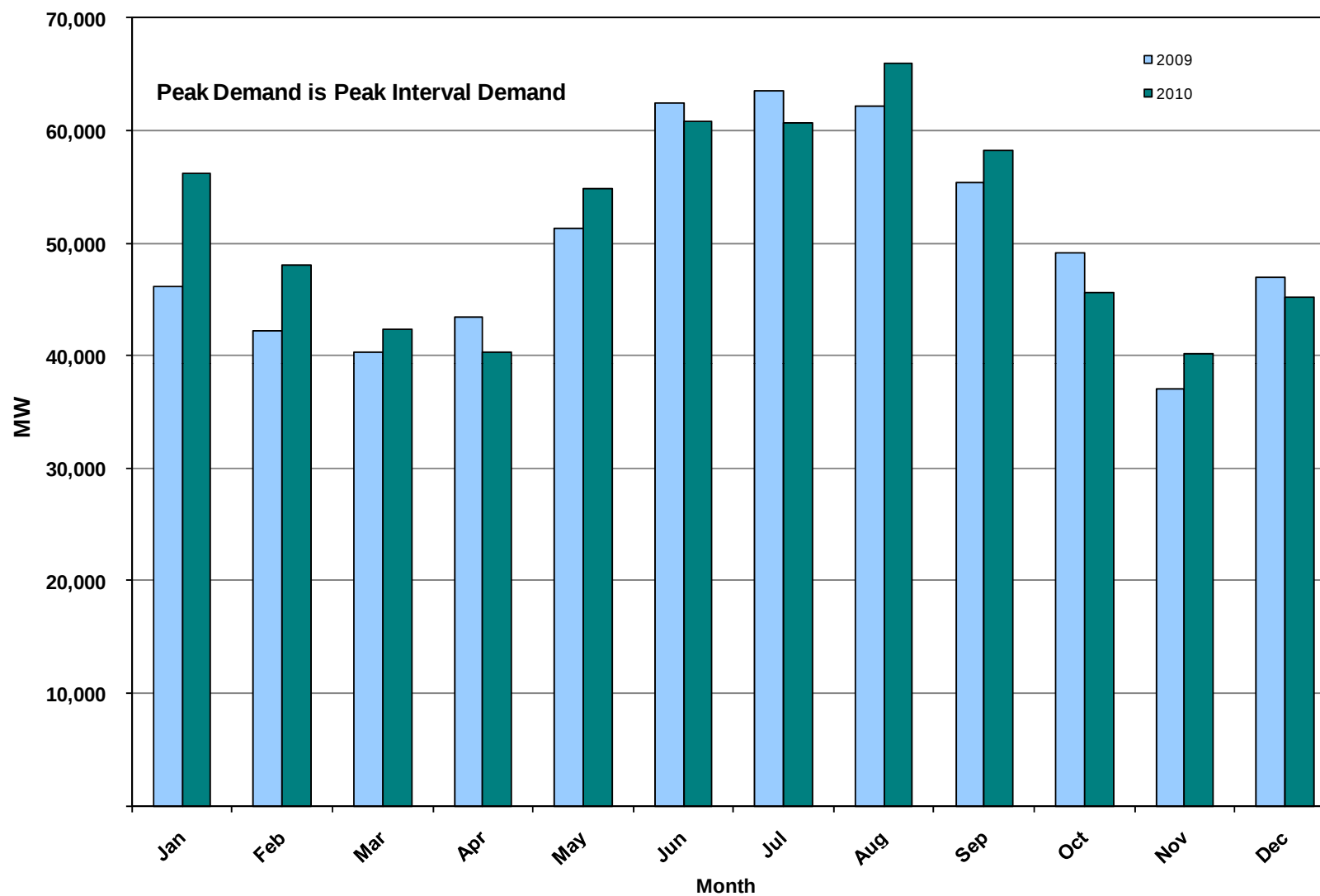
The new wind record exceeds last record of 7,016 MW (June 12, 2010) by 211 MW.



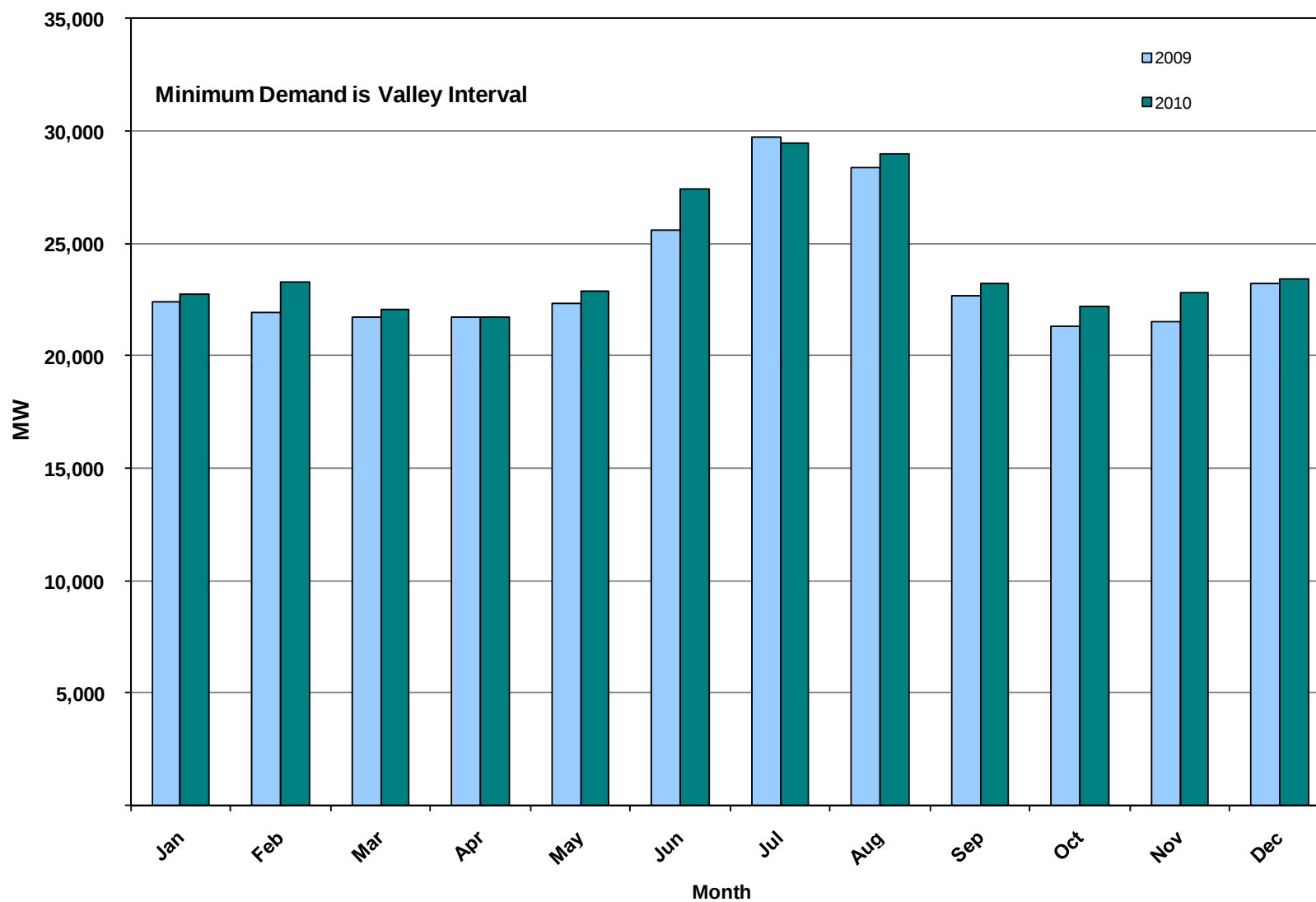
December 2010 ERCOT's CPS1 Monthly Performance



December 2010: Monthly Peak Demand: Actual



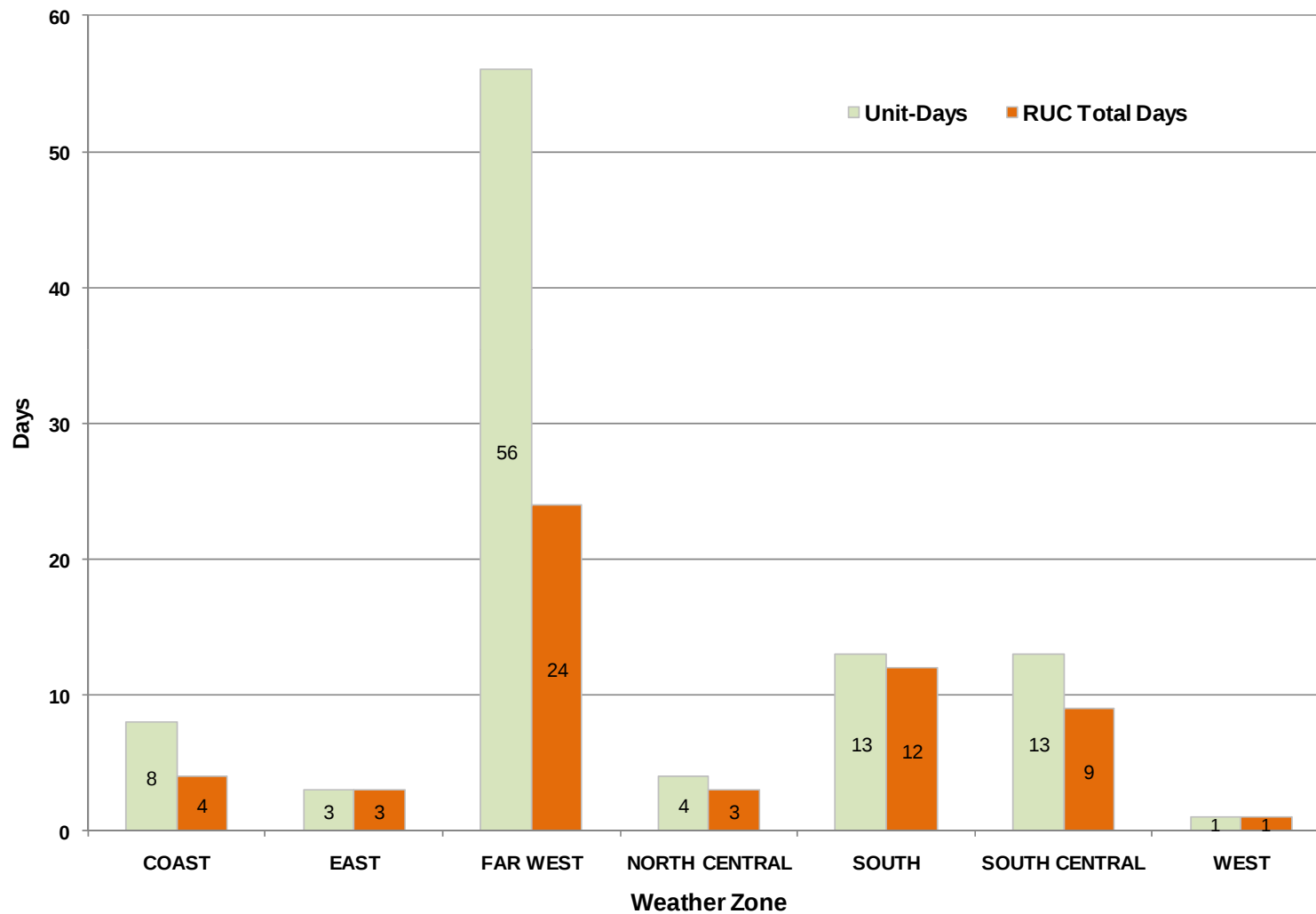
December 2010: Monthly Minimum Demand: Actual



Day-Ahead Load Forecast Performance in December 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	December 2010 MAPE	
Average Annual MAPE	3.55	3.30	3.11	2.83	2.60	
Lowest Monthly MAPE	2.7	2.45	1.93	2.24	Lowest Daily MAPE	0.71
Highest Monthly MAPE	4.55	4.99	4.11	3.79	Highest Daily MAPE	10.10

Reliability Unit Commitment (RUC) Capacity by weather zone in December 2010



December 2010: Generic Transmission Limits (GTLs) Active

GTLs	Dec 09 Days CSC	Oct 10 Days CSC	Nov 10 Days CSC	Dec 10 Days GTLs	Last 12 Months Total Days (Dec 09 – Dec 10)
North – Houston	0	13	6	0	61
West – North	9	19	27	25 Dec-(1-5, 7-11, 13-16, 18-21, 24, 26-31)	224
Valley Import				1	1

GTL: A transmission flow limit more constraining than a Transmission Element's normal limit established to constrain flow between geographic areas of the ERCOT Transmission System that is used to enforce stability and voltage constraints that cannot be modeled directly in ERCOT's transmission security analysis applications.

Advisories and Watches in December 2010

- **Advisories issued for Physical Responsive Capability (PRC) below 3000 MW.**
 - Issued 14 Days.
- **Watches issued for Physical Responsive Capability (PRC) below 2500 MW.**
 - None
- **Transmission Watches**
 - None
- **Energy Emergency Alerts**
 - None

Significant System Incidents in December 2010

- **December 11th**
 - Simultaneous loss of multiple units for a total of 1071 MW of generation caused a frequency deviation of 0.251 HZ (59.749 HZ) and the deployment of 203 MW of Hydro supplying Responsive Reserve. System frequency recovered to 60 HZ in approximately 6 minutes and 56 seconds.

Other Items

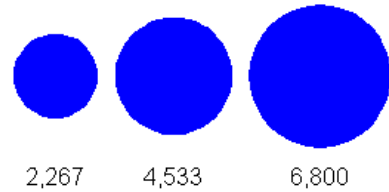
- **December 27th**
 - SCED failure for 10 minutes.

Planning Summary

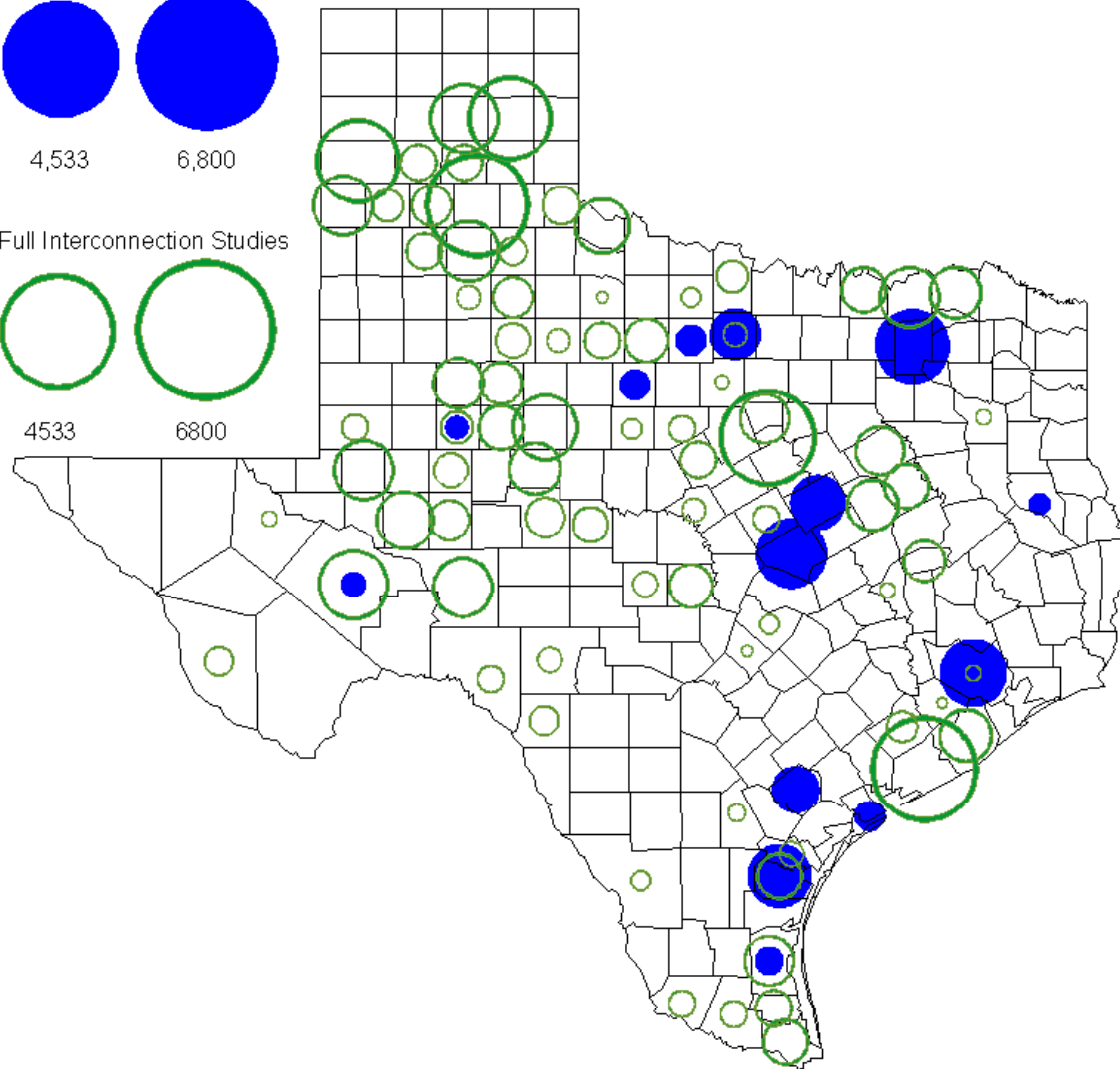
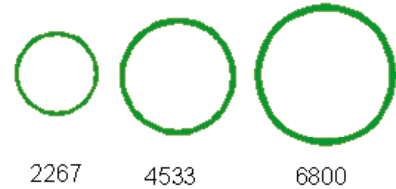
- **ERCOT is currently tracking 193 active generation interconnection requests totaling almost 65,000 MW. This includes almost 38,000 MW of wind generation.**
- **ERCOT is currently reviewing proposed transmission improvements with a total cost of \$51.1 Million**
- **Transmission Projects endorsed in 2010 total \$268.8 Million**
- **All projects (in engineering, routing, licensing and construction) total approximately \$9.3 Billion**
- **Transmission Projects energized in 2010 total about \$857.1 million**

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

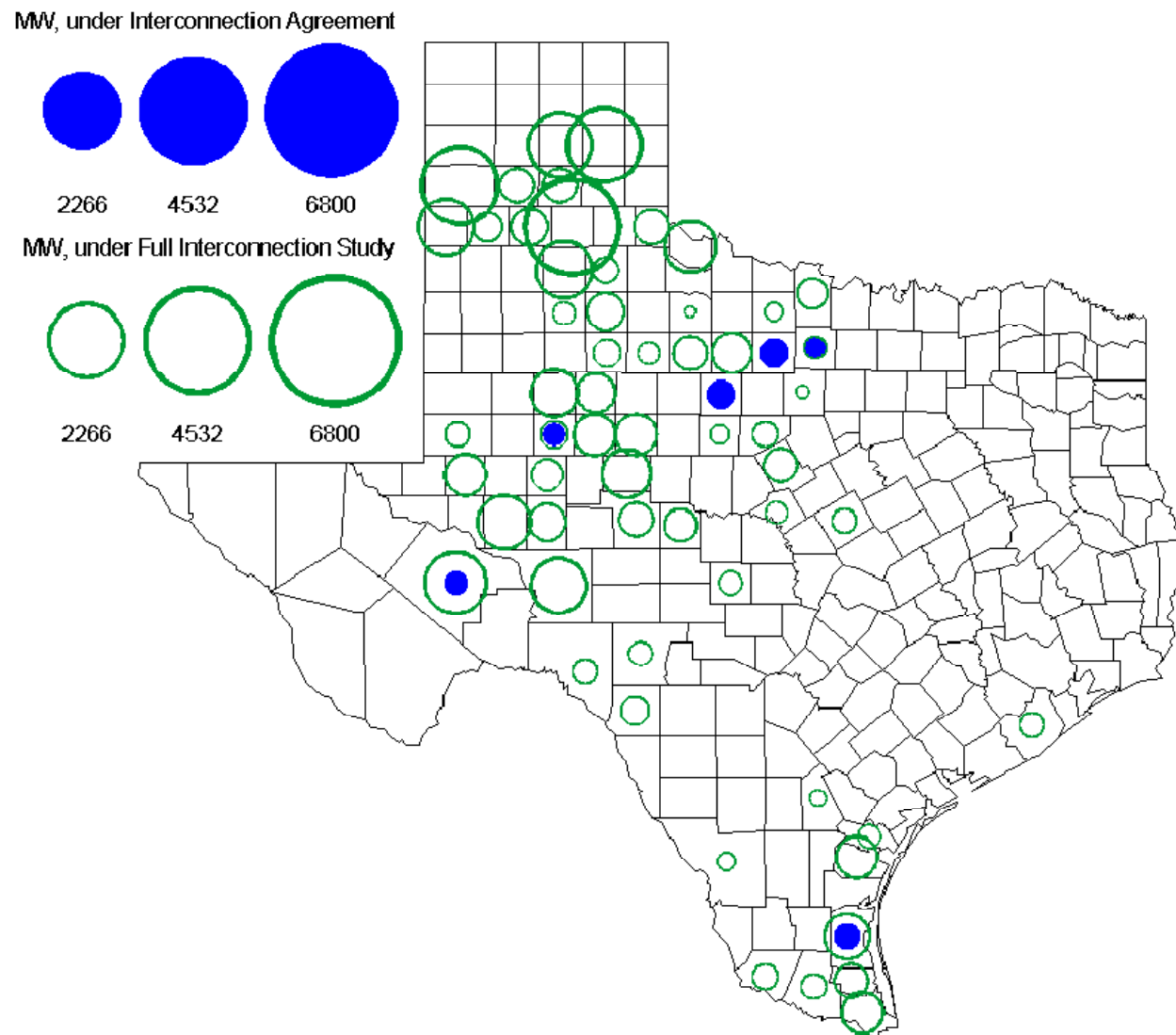
MW under Interconnection Agreements



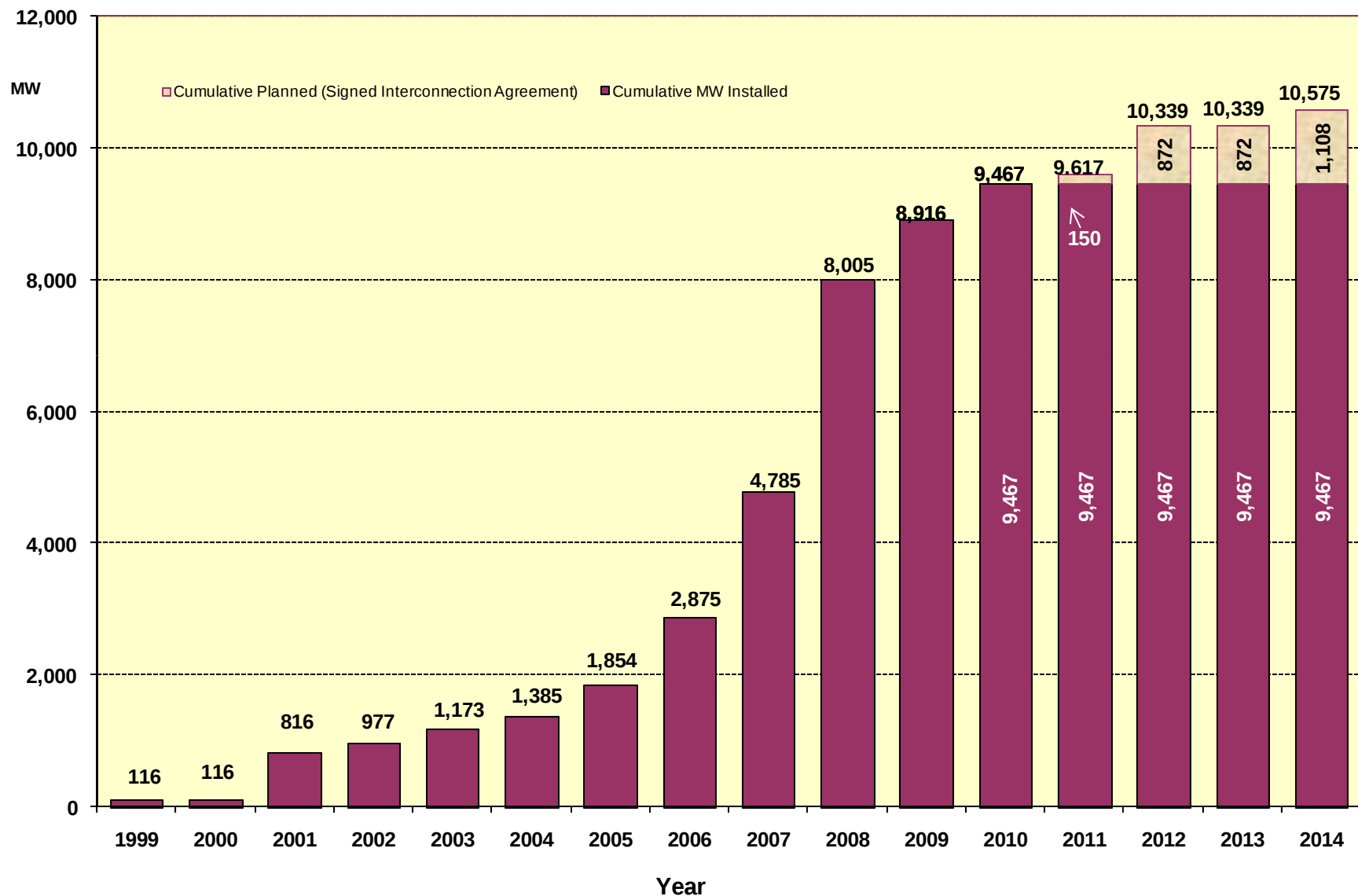
MW under Full Interconnection Studies



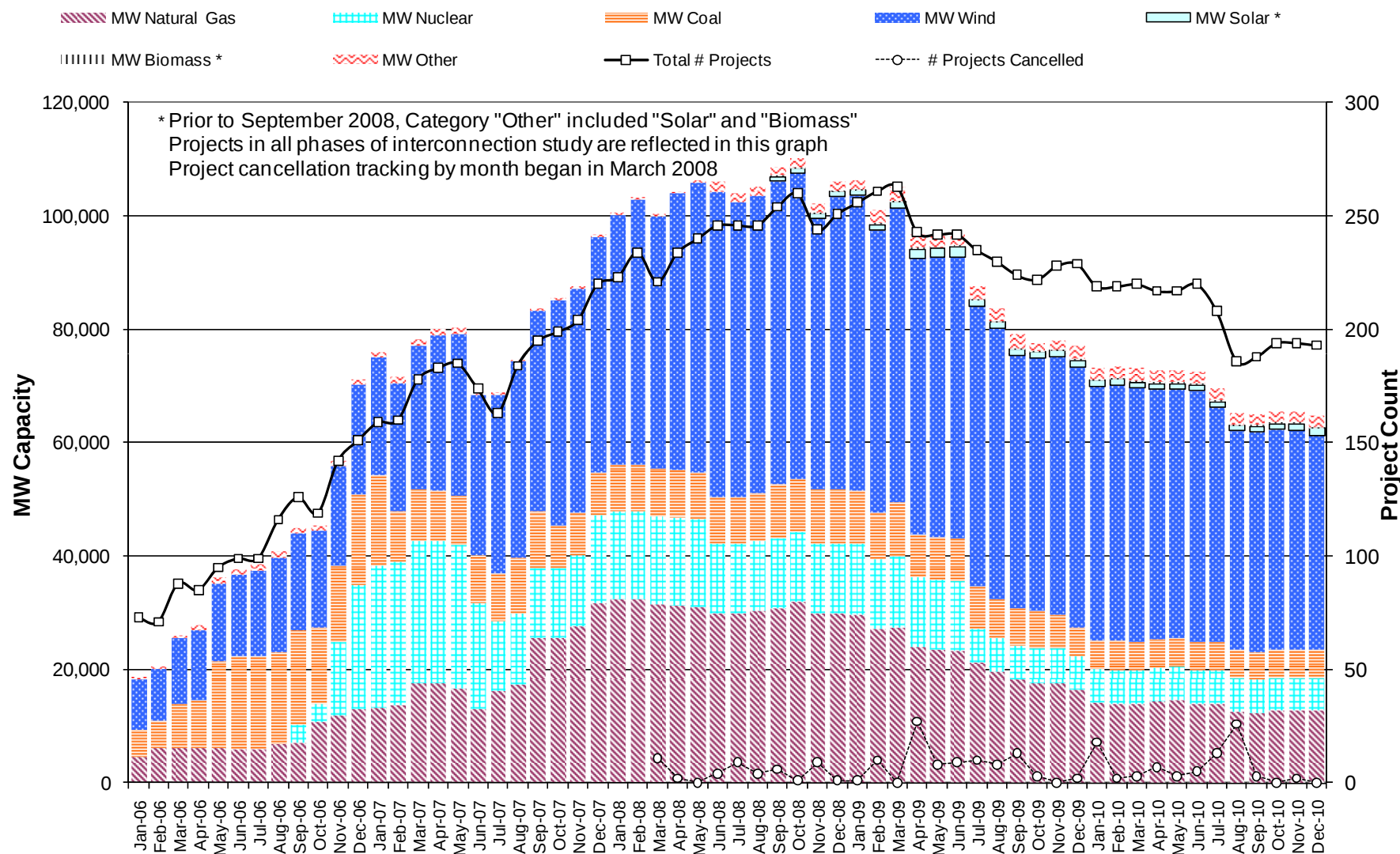
County Location of Planned Generation with Interconnection Requests (Wind) December 2010



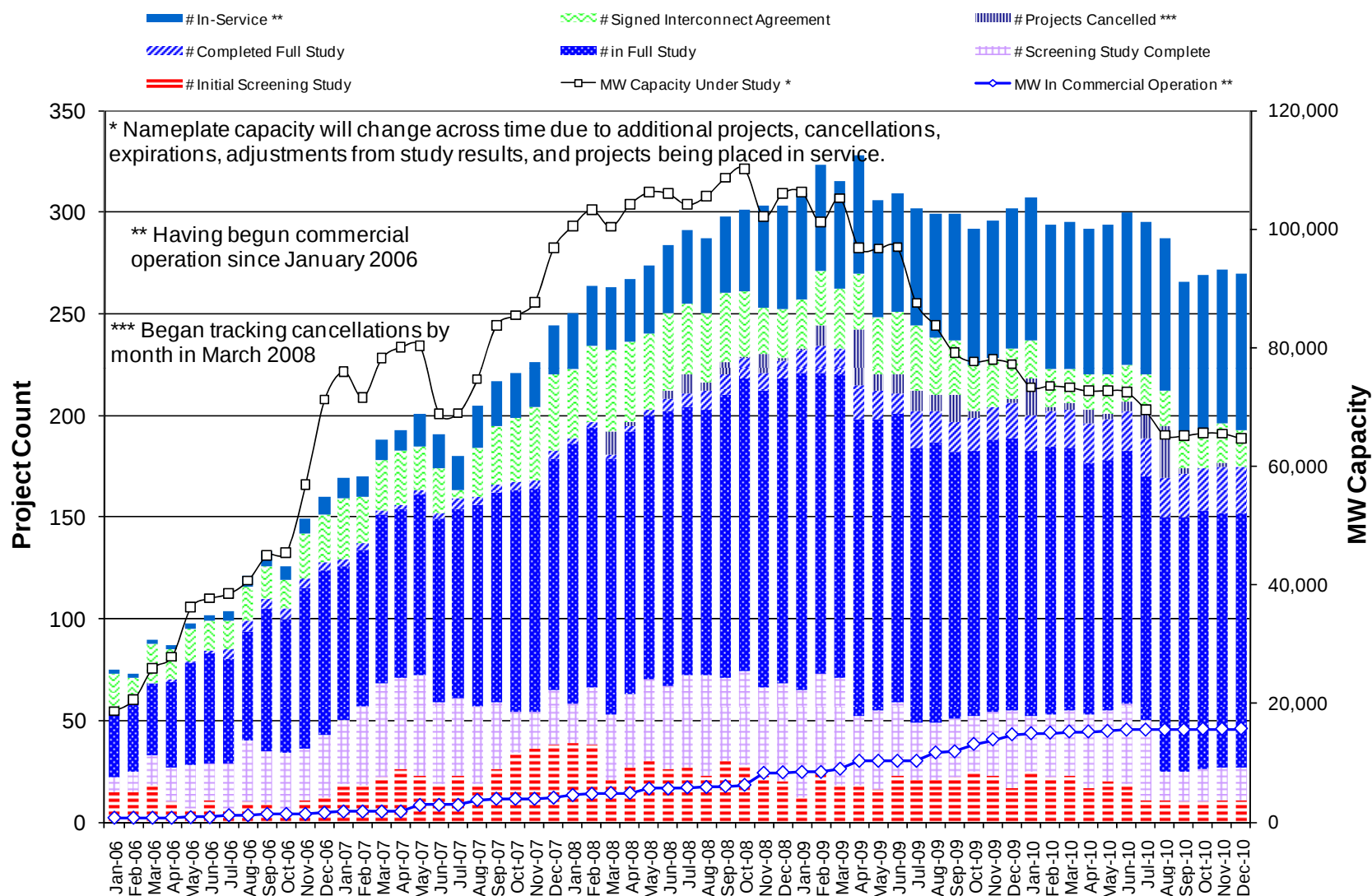
Wind Generation



Generation Interconnection Activity by Fuel



Generation Interconnection Activity by Project Phase



2010 Capacity, Demand, and Reserves Report (December Update)

Load Forecast:	2011	2012	2013	2014	2015	2016
Total Summer Peak Demand, MW	65,206	66,658	68,265	69,451	70,517	71,376
less LAARs Serving as Responsive Reserve, MW	1,062	1,062	1,062	1,062	1,062	1,062
less LAARs Serving as Non-Spinning Reserve, MW	0	0	0	0	0	0
less Emergency Interruptible Load Service	370	407	447	492	541	595
less BULs, MW	0	0	0	0	0	0
less Energy Efficiency Programs (per HB3693)	242	242	242	242	242	242
Firm Load Forecast, MW	63,532	64,947	66,514	67,655	68,672	69,477
Resources:	2011	2012	2013	2014	2015	2016
Installed Non-Wind Capacity, MW	63,896	63,896	63,896	63,896	63,896	63,896
Capacity from Private Networks, MW	4,803	4,803	4,803	4,803	4,803	4,803
Effective Load-Carrying Capability (ELCC) of Wind Generation, MW	829	829	829	829	829	829
RMR Units to be under Contract, MW	0	0	0	0	0	0
Operational Generation, MW	69,527	69,527	69,527	69,527	69,527	69,527
50% of Non-Synchronous Ties, MW	553	553	553	553	553	553
Switchable Units, MW	2,962	2,962	2,962	2,962	2,962	2,962
Available Mothballed Generation , MW	191	223	239	255	271	271
Planned Units (not wind) with Signed IA and Air Permit, MW	740	1,895	1,895	4,055	4,835	5,495
ELCC of Planned Wind Units with Signed IA, MW	0	35	76	96	96	96
Total Resources, MW	73,973	75,195	75,252	77,449	78,245	78,905
less Switchable Units Unavailable to ERCOT, MW	317	0	0	0	0	0
less Retiring Units, MW	0	0	0	0	0	0
Resources, MW	73,656	75,195	75,252	77,449	78,245	78,905
Reserve Margin (Resources - Firm Load Forecast)/Firm Load Forecast	15.94%	15.78%	13.14%	14.48%	13.94%	13.57%

Revision 1: The 2011 "Resources" and "Reserve Margin" were changed to appropriately reflect exclusion of switchable units dedicated outside of ERCOT.

Other Potential Resources:	7,656	12,527	13,539	16,714	17,979	21,330
Mothballed Capacity , MW	5,585	5,553	5,537	5,521	5,505	5,505
Less Retiring Mothballed Units, MW	2,790	2,790	2,790	2,790	2,790	2,790
50% of Non-Synchronous Ties, MW	553	553	553	553	553	553
Planned Units in Full Interconnection Study Phase, MW	4,307	9,211	10,239	13,430	14,711	18,062