



Grid Operations and Planning Report

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**ERCOT Board of Directors
May 18, 2010**

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Summary

- **April 2010 Operations**

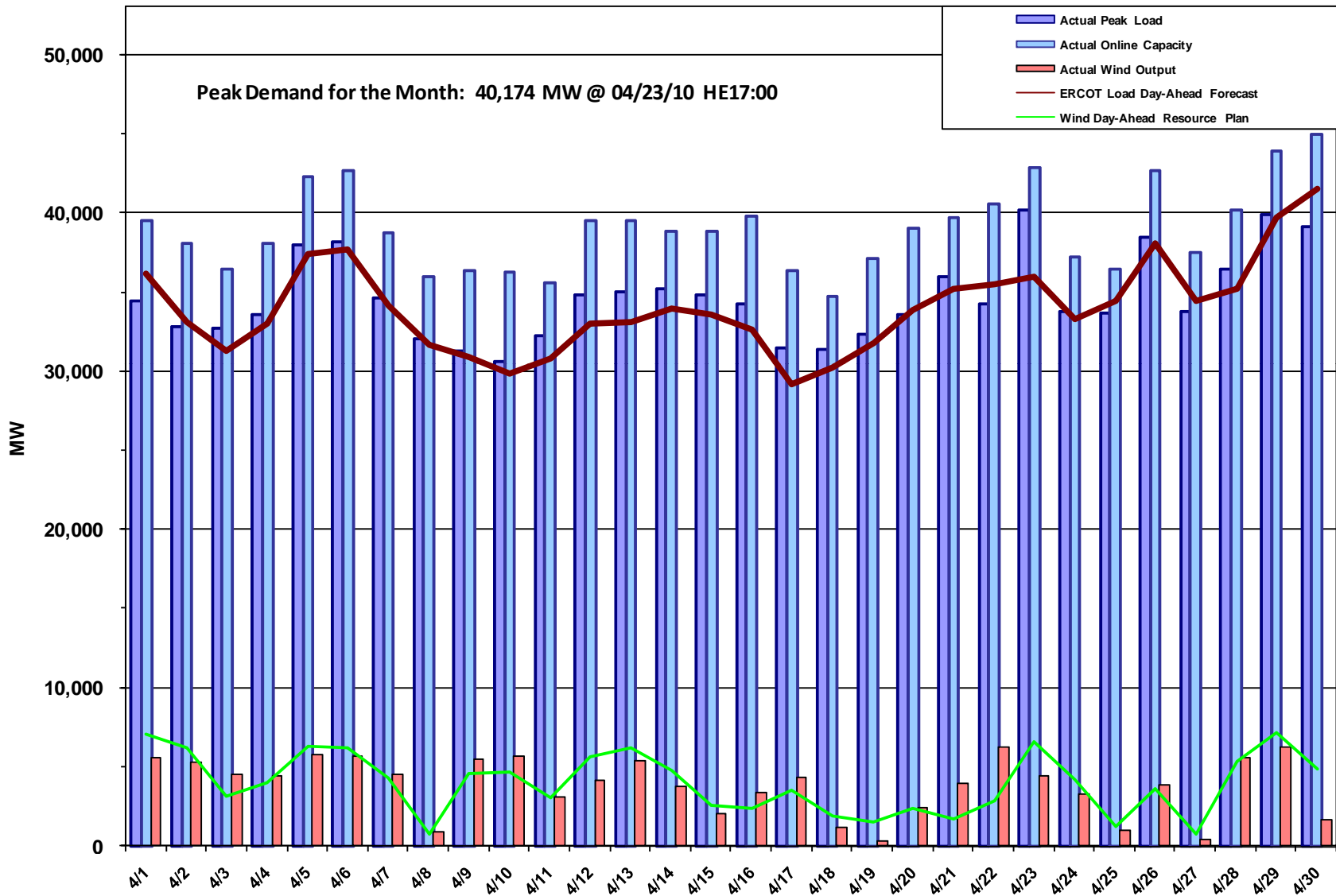
- The peak demand of 40,174 MW on April 23rd was less than the long term forecast peak of 41,532 MW and less than the April 2009 actual peak demand of 43,448 MW.
- Day-ahead load forecast error for April was 2.47%.
- Advisories for Adjusted Responsive Reserve (ARR) below 3000 MW issued 3 days
- No Watches for ARR under 2500 MW
- No Energy Emergency Alert (EEA) events
- Thirty Transmission Watches issued (Gails substation)

- **217 active generation interconnect requests totaling over 72,000 MW as of April 30, 2010. Three requests and 1,000 MW fewer than March 31, 2010**

- **9,117 MW wind capacity on line April 30, 2010. No increase from March.**

- **A number of transmission projects and Remedial Action Plans have been developed as alternatives to the Spencer 5 RMR contract**

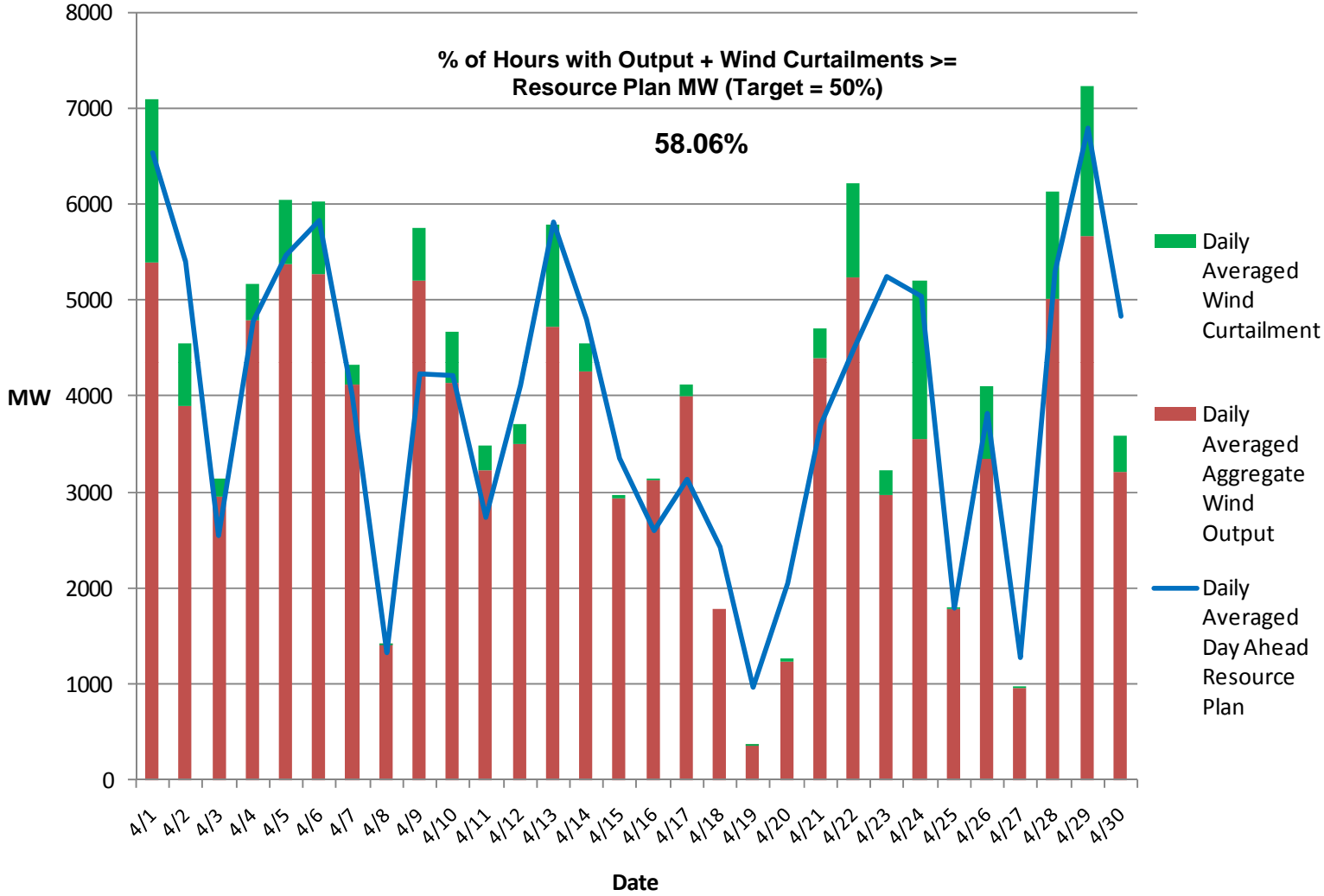
April 2010 Daily Peak Demand: Hourly Average Actual vs. Forecast, Resource Plan & On-line Capacity at Peak



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

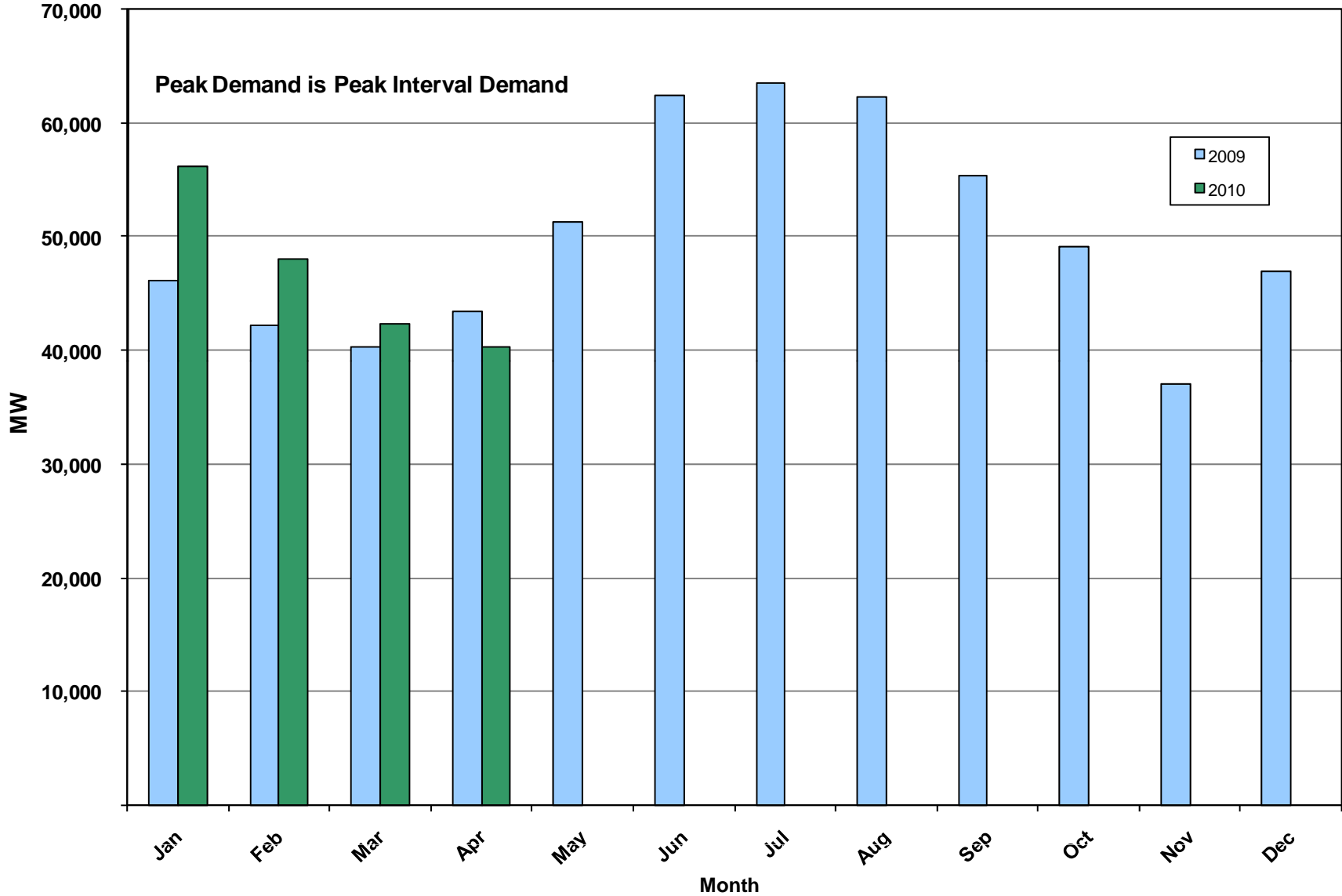


April 2010: Actual Wind Output w/ Curtailment Added Back Vs Wind Day-Ahead Resource Plan Based on AWS Forecast for All Hours

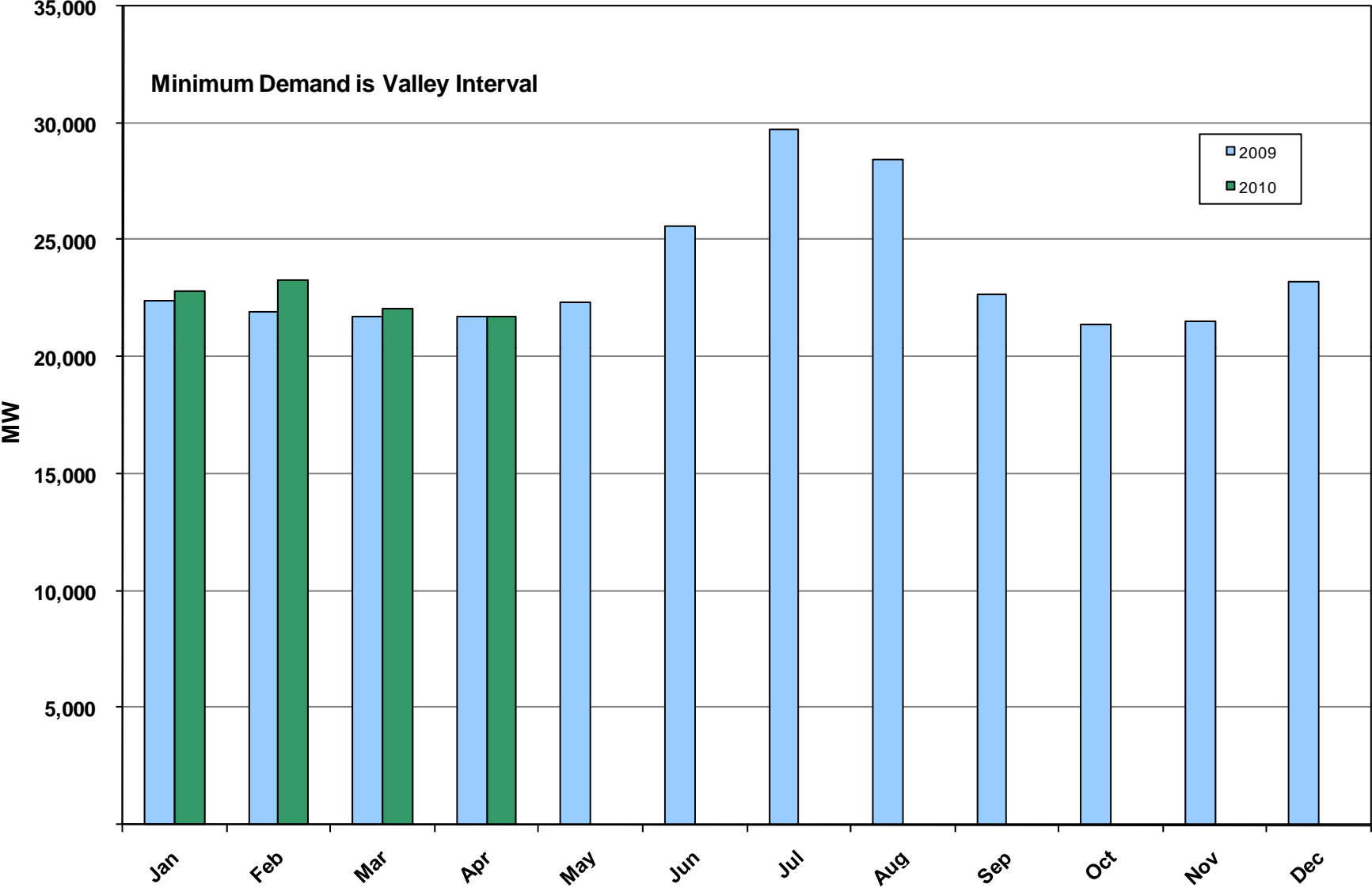


Note: QEs must use AWST 50% probability of exceedence forecast for Day-Ahead Resource Plans

April 2010: Monthly Peak Demand: Actual



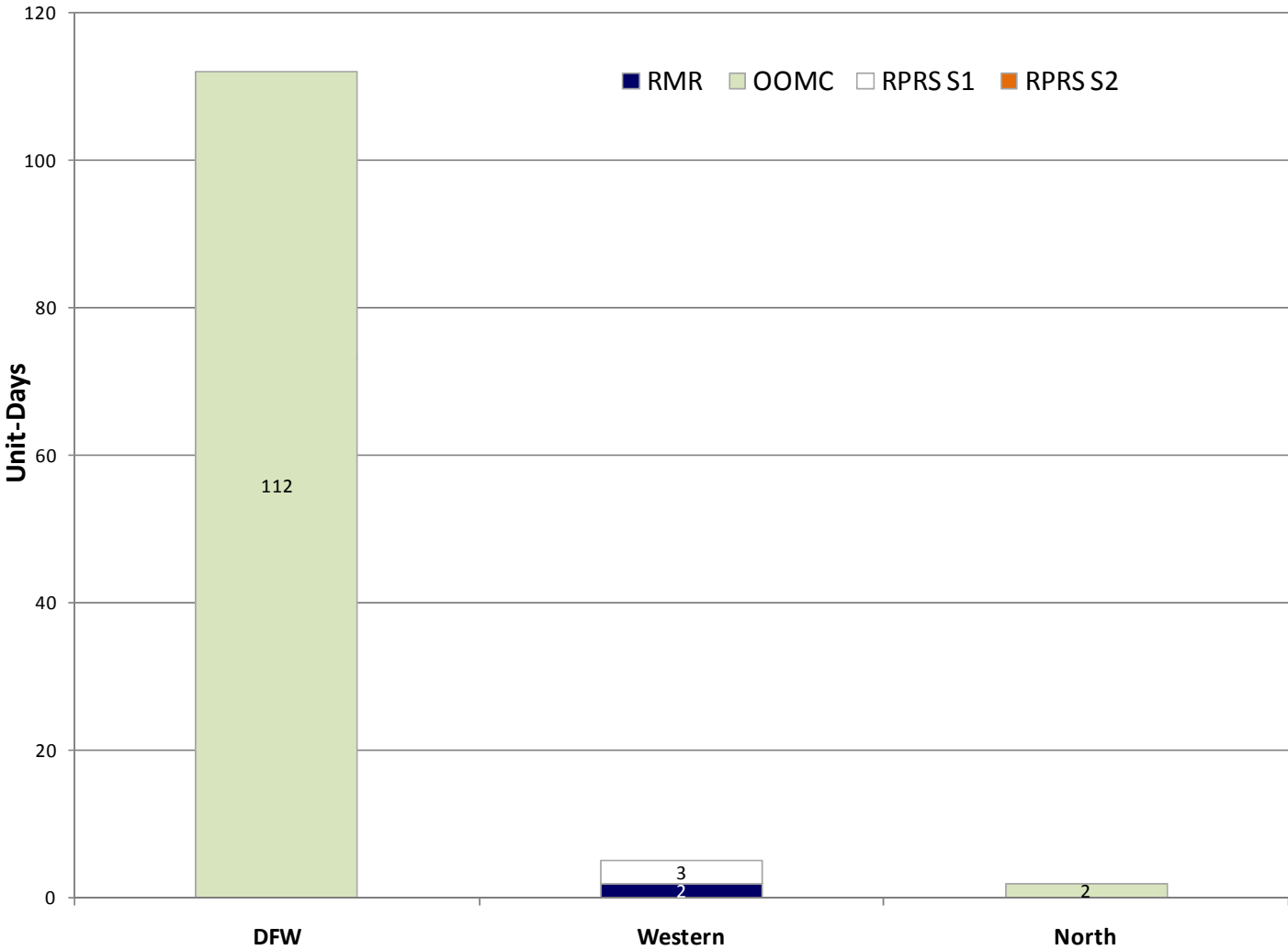
April 2010: Monthly Minimum Demand: Actual



Day-Ahead Load Forecast Performance in April 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)	April 2010 MAPE
Average Annual MAPE	3.55	3.30	3.11	3.07	2.47

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



Zonal Congestion

CSC	April 09 Days	Feb 10 Days	Mar 10 Days	April 10 Days	Last 12 Months Total Days (April 09 – April 10)
North – Houston	6	0	0	2 Apr-13, 15	45
North – West	0	0	0	0	0
West – North	20	12	24	17 Apr-1, 2, 4-7, 9-11,13, 14, 17, 20-23, 28)	159
South – North	2	0	0	0	6
North - South	4	0	0	1 Apr-2	32

Significant System Incidents in April 2010

- **April 7th**
 - Loss of two units at a plant for a total of 1041 MW of generation. Relay mis-operation report filed.
- **April 18th**
 - A QSE lost network connectivity for approximately 2 hours due to a hardware failure.

Advisories and Watches in April 2010

- **Advisories issued for Adjusted Responsive Reserve (ARR) below 3000 MW.**
 - Issued 3 Days.
- **Watches issued for Adjusted Responsive Reserve (ARR) below 2500 MW.**
 - None
- **Transmission Watches**
 - April 1st - 30th 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).
- **No EEA's in April 2010**

Other Items

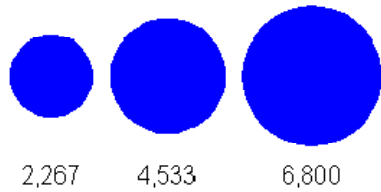
- **April 1st**
 - Held Real-Time Balancing Market for interval ending 11:00 due to a Market Management System problem. Resumed with interval ending 11:30 deployments.
- **April 22nd**
 - Held Real-Time Balancing Market for interval ending 23:30 due to a Market Management System problem. Resumed with interval ending 24:00 deployments.
- **April 27th**
 - Held Real-Time Balancing Market for interval ending 21:45 due to incorrect offset value entered. Resumed with interval ending 22:15 deployments.

Planning Summary

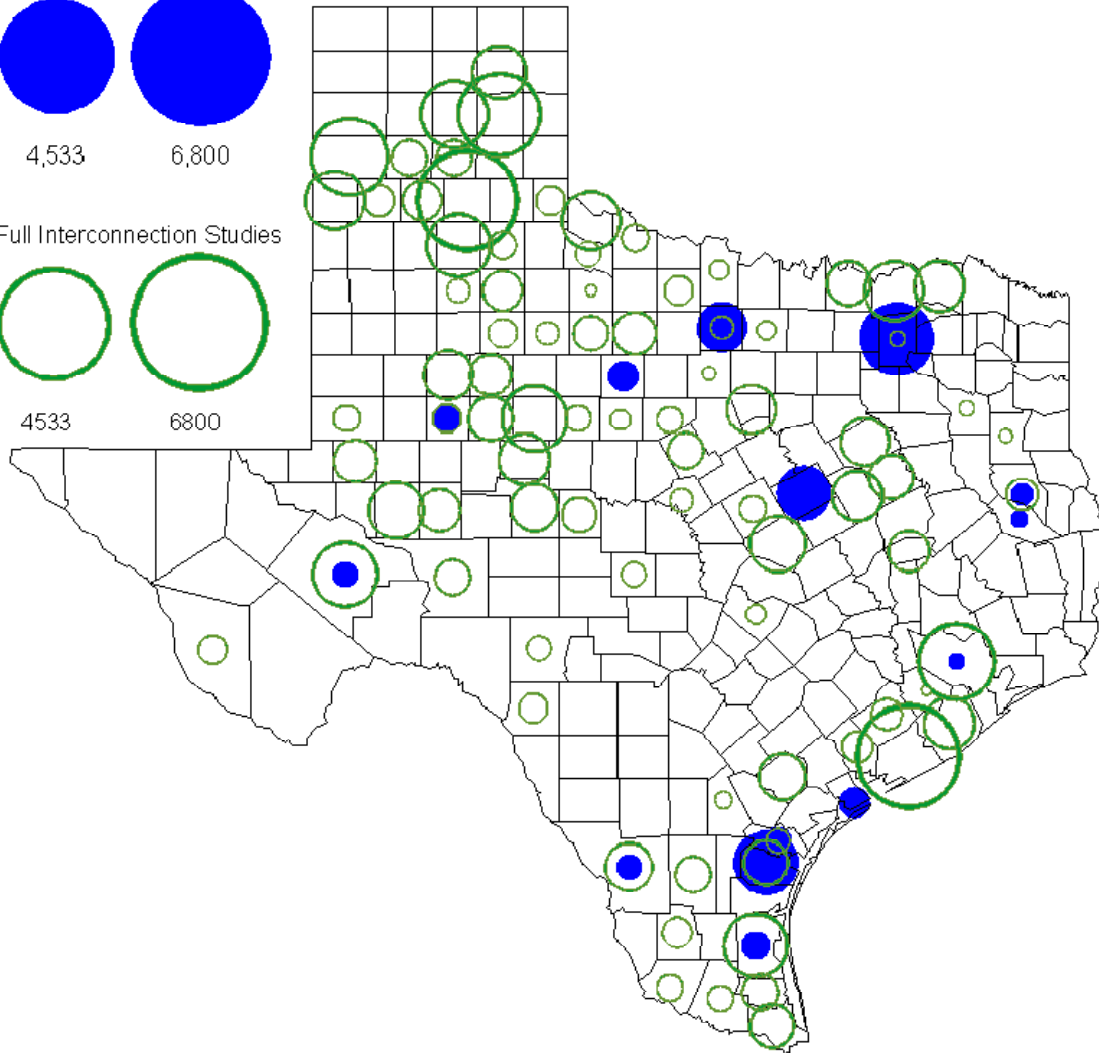
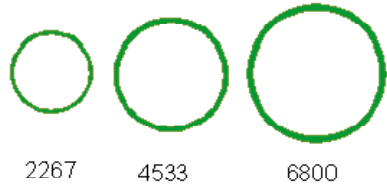
- **ERCOT is currently tracking 217 active generation interconnection requests totaling over 72,000 MW. This includes over 44,000 MW of wind generation.**
- **Regional Planning is currently reviewing proposed transmission improvements worth a total of \$678.5 Million.**
- **Transmission Projects approved in 2010 total \$2.9 Million**
- **All projects (in engineering, routing, licensing and construction) total approximately \$9.6 Billion**
- **Transmission Projects energized in 2010 cost about \$41.3 Million**

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

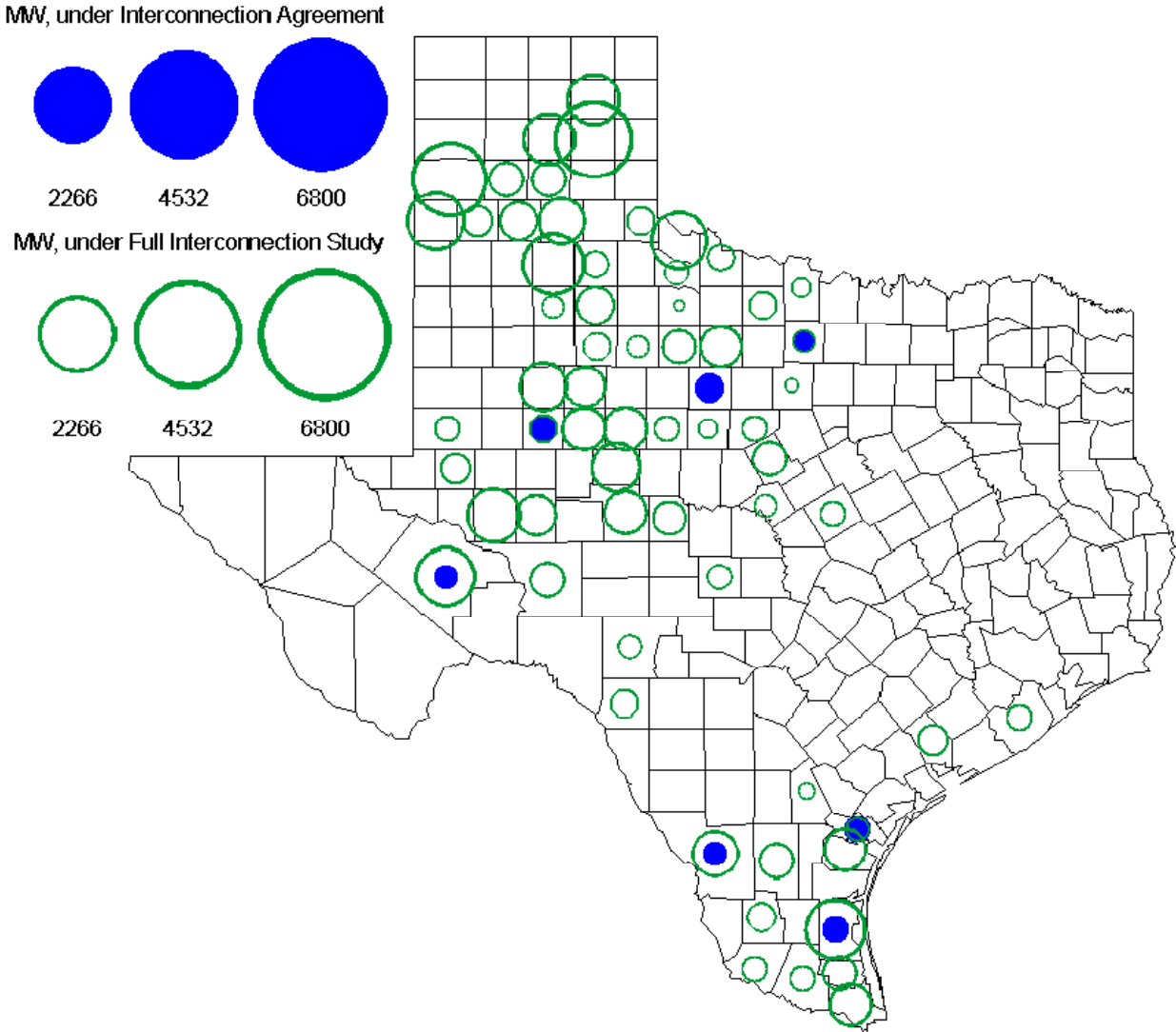
MW under Interconnection Agreements



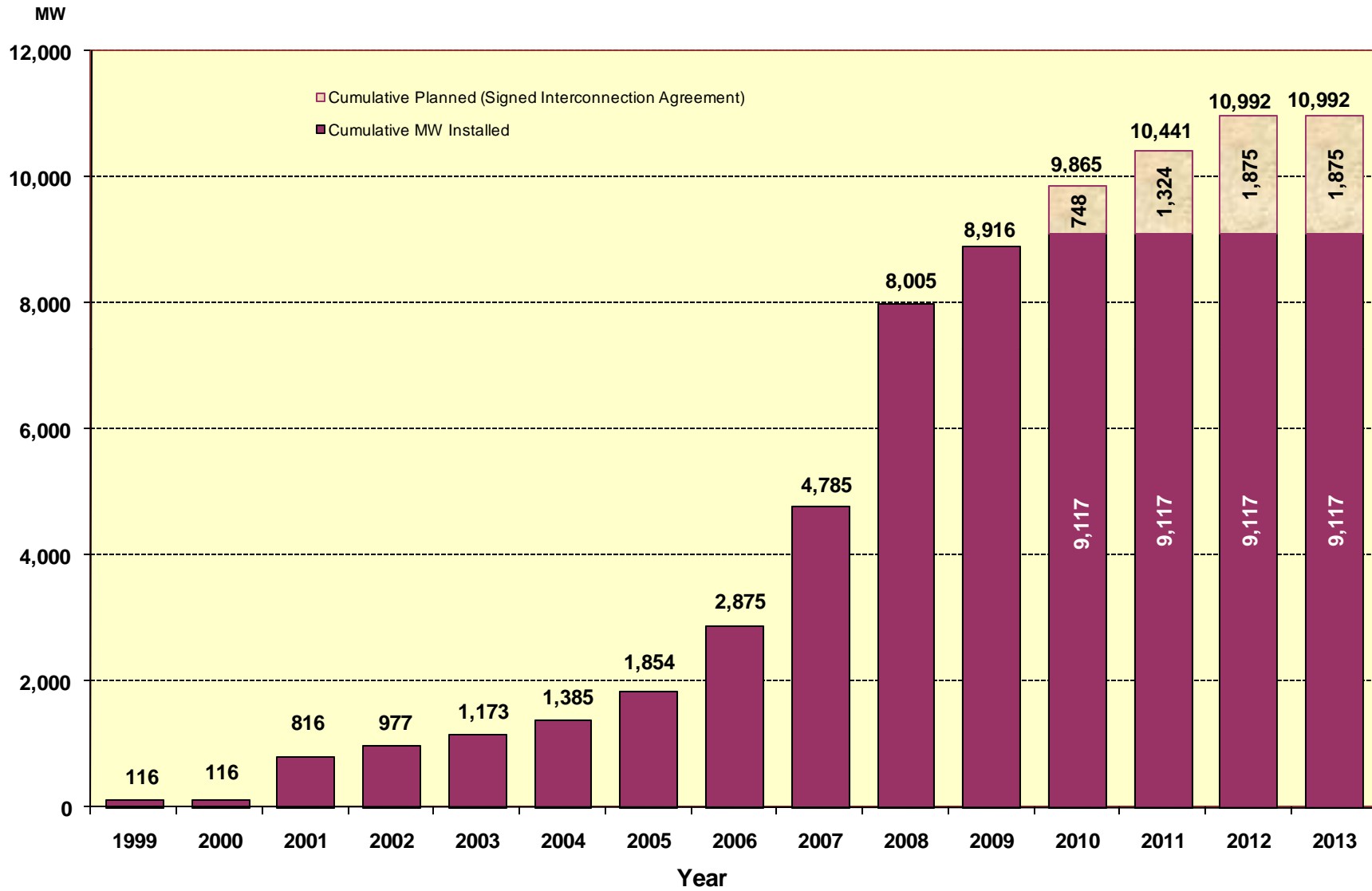
MW under Full Interconnection Studies



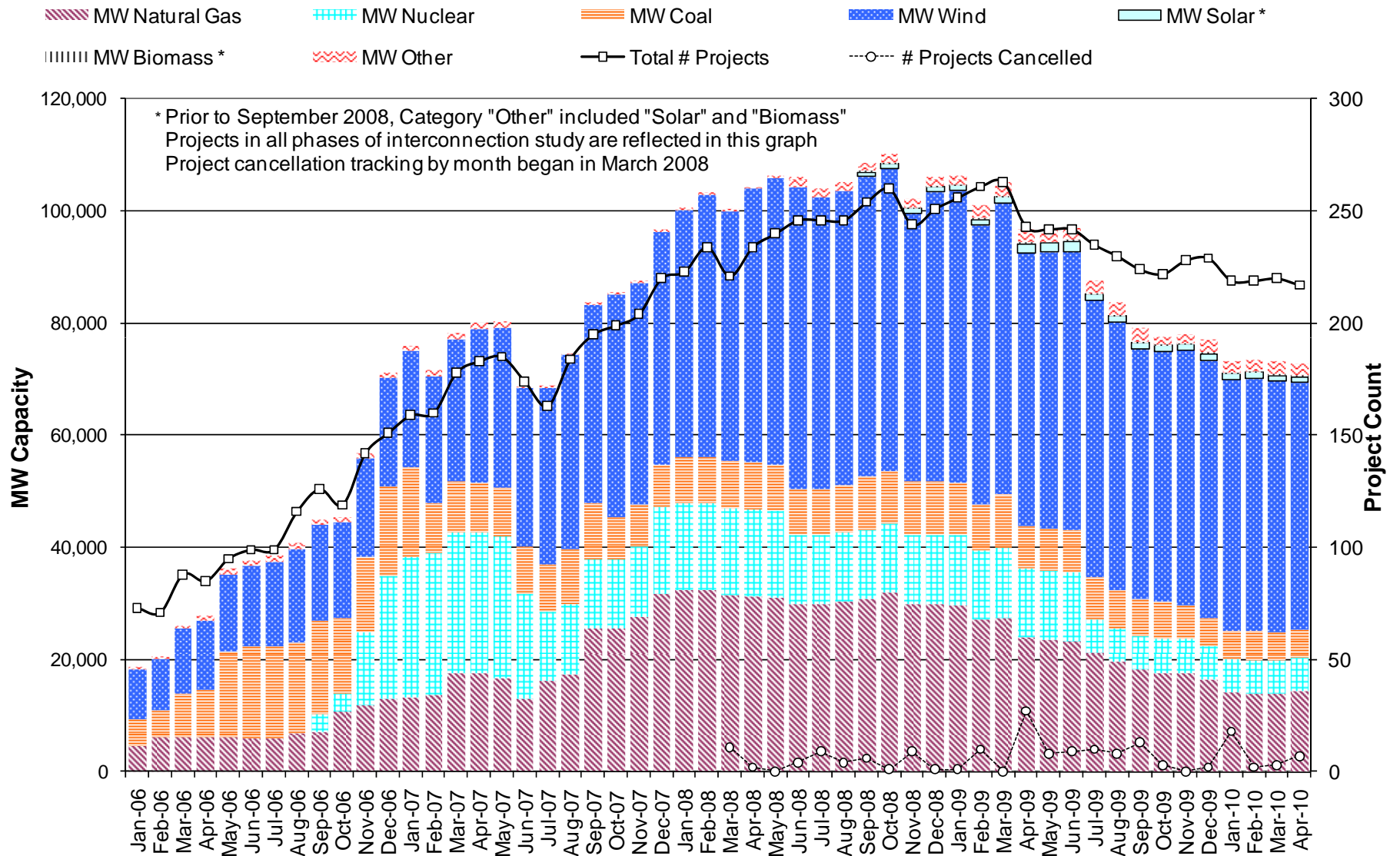
County Location of Planned Generation with Interconnection Requests (Wind) April 2010



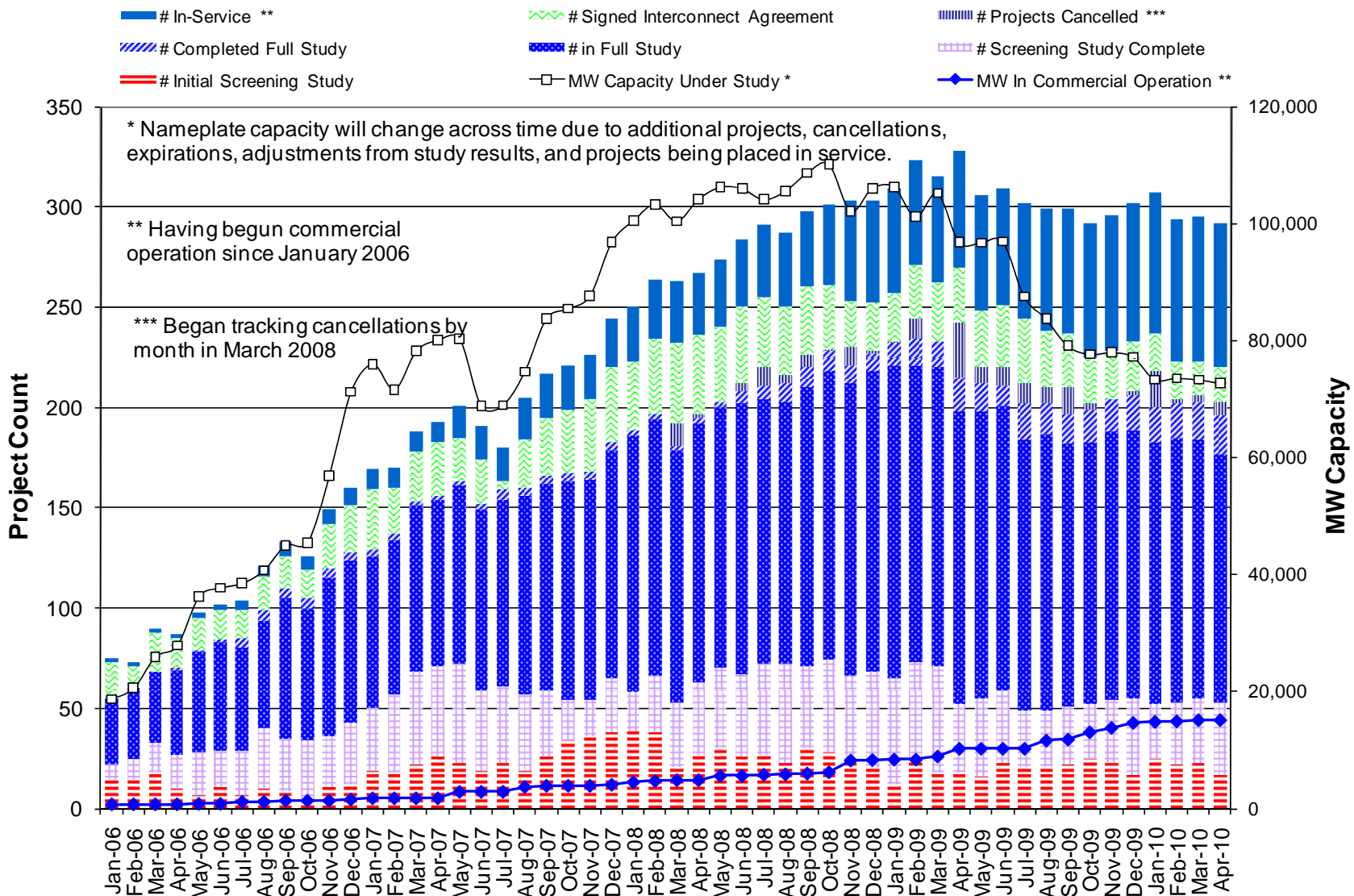
Wind Generation



Generation Interconnection Activity by Fuel



Generation Interconnection Activity by Project Phase



Feasible Alternatives to Spencer RMR

- Protocol Requirement 6.5.9.2 for ERCOT to develop a list of potential alternatives to the service provided by the RMR Unit.
 - ERCOT shall Consider:
 - New or expanded Transmission Facilities
 - Installation of Voltage Control Devices
 - Solicitation or Auction for interruptible load
 - ERCOT shall provide reasonable available information that would enable potential Must Run Alternative Resources to present alternative proposals
- **ERCOT has developed list of Transmission Facilities that need to be installed or expanded and Voltage Control Devices that need to be installed.**
- **ERCOT has developed temporary Remedial Action Plans (RAP) to manage thermal and voltage constraints in the interim**
- **Exit Strategy will be presented for approval next month**

Feasible Alternatives to Spencer RMR

	Project	Estimated Completion Date	RAP	TPIT
1	RD Wells to Hickory 69kV (Denton)	Jun-10	N/A	06TPIT0198 (tier 4)
2	Upgrade Lewisville Switch to Highland (TNMP) 138 kV line to 290MVA or above	May-15	Carrollton, Highland	07TPIT0018 (tier 4)
3	Add second 345/138kV autotransformer at Lewisville switching substation	Jun-12	Lake Pointe	07TPIT0042 (tier 3)
4	Upgrade Collin to Frisco 138kV line to 326MVA	Jun-13	Frisco, Arco	08TPIT0068 (tier 4)
5	Upgrade West Denton to Jim Christal to North Denton 138kV line to 250 MVA or above	Summer 2012	North Denton to Rector	Per TMPA email Mar 2010
6	Additional capacitor banks at Navo and Panther Creek Substations (interim for Mustang capacitor bank)	2011	Frisco Voltage	Per BEC email Feb 2010
7	New Mustang Substation and capacitor bank	Jun-13	Frisco Voltage	10TPIT0083 (tier 4)