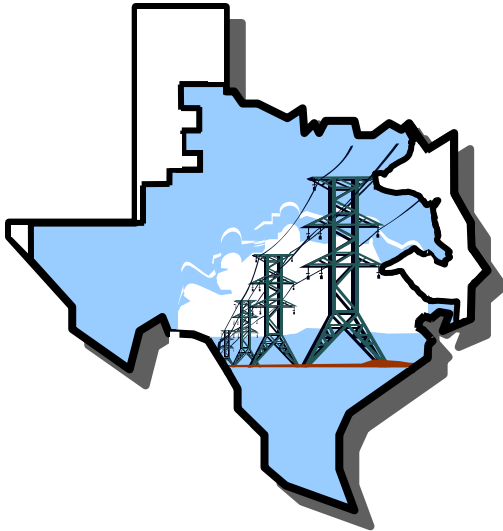




# System Planning Division



## Monthly Status Report to Reliability and Operations Subcommittee for April 2010

### Report Highlights

#### Item

1.
  - ERCOT is currently tracking 217 active generation interconnection requests totaling over 72,000 MW. This includes over 44,000 MW of wind generation.
  
2.
  - Regional Planning is currently reviewing proposed transmission improvements with 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 total about \$41.3 million

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# 1. Generation Interconnection

Additional information regarding detailed generation interconnection and impact studies is contained in the “Generation Project Interconnection Information” folder in the “Operations and System Planning” area on the ERCOT website: <http://planning.ercot.com/login/login>.

## 1.1 New Generation Registering for Commercial Operations - None

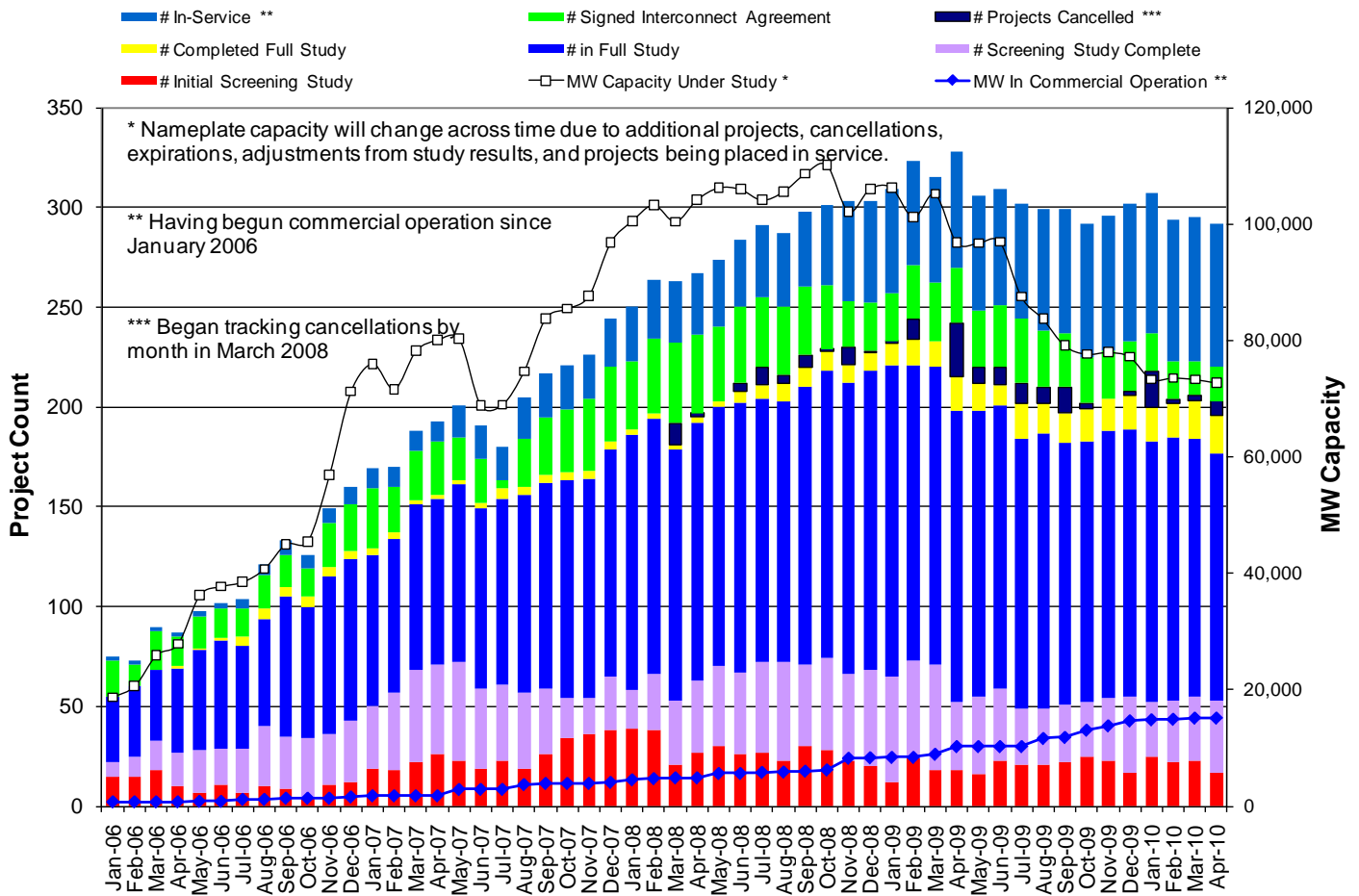
- The total installed wind capacity remains 9,117 MW, of which 7,958 MW (87%) is located within the Western Congestion Management Zone.

## 1.2 New Generation Interconnection Agreements

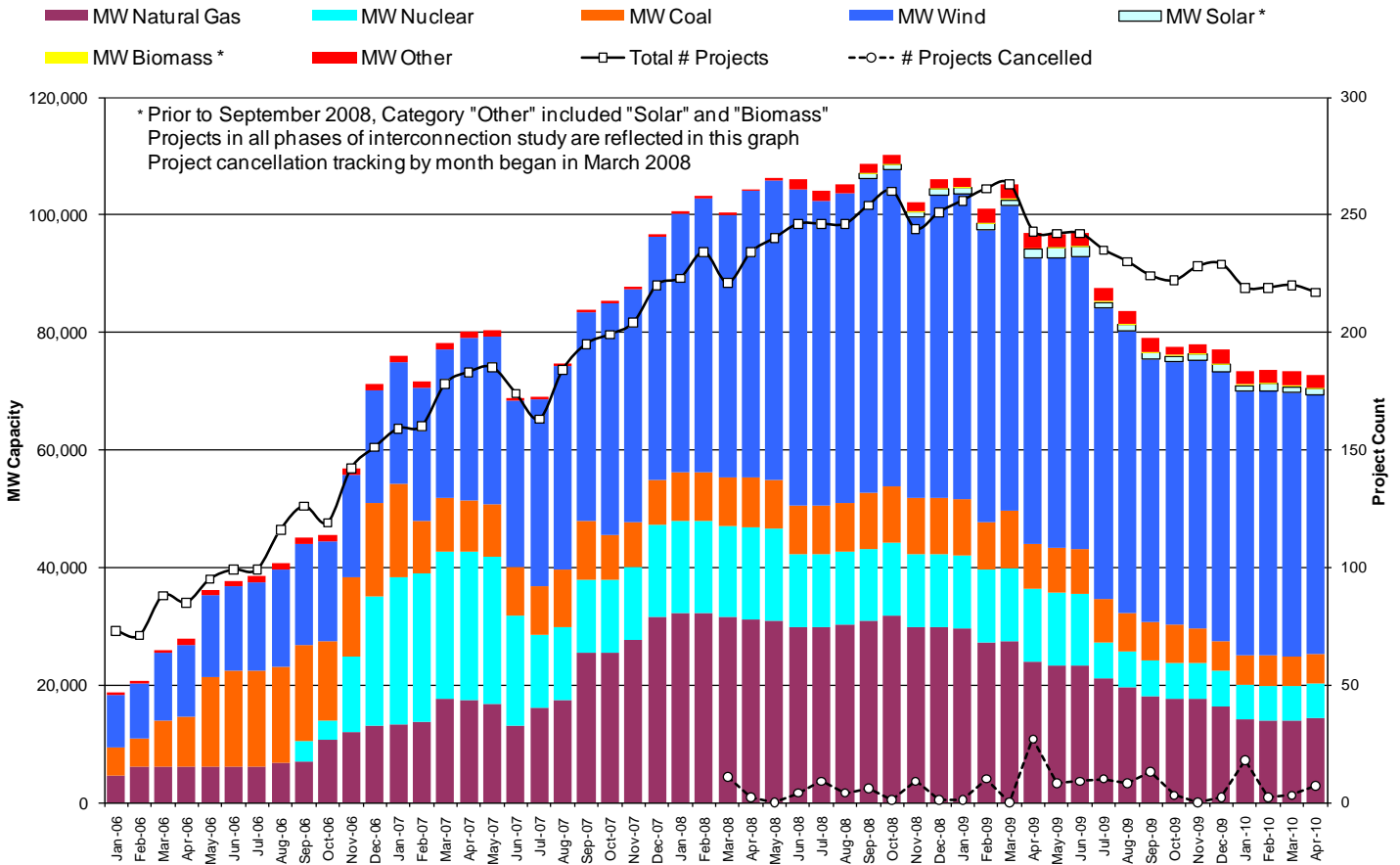
- Las Brisas Energy Center (12INR0016) in Nueces County for 1,300 MW (Petroleum Coke – Steam)

## 1.3 Summary of Active Generation Interconnection Requests

<b>GENERATION INTERCONNECTION REQUESTS CURRENTLY BEING PROCESSED</b>				
<b>Currently tracking 217 active generation interconnection or change requests</b>				
<b>As of April 30, 2010</b>	<b>North</b>	<b>South</b>	<b>West</b>	<b>Total</b>
Security Screening Study	3	7	7	17
SSS Completed	11	6	19	36
Full Interconnect Study	21	20	83	124
FIS Completed	5	13	2	19
Interconnect Agreement Completed	6	6	5	17
Capacity under Interconnection Agreements	3,632	2163	626	6,421
Capacity for Grid, MW	<b>20,545</b>	<b>18,913</b>	<b>33,241</b>	<b>72,699</b>
Wind Capacity, MW	5,191	8,069	30,886	44,146



Fuel Type	Confidential Projects (MW)	Projects Under Full Study (MW)	Projects w/ Interconnect Agreement/Public Letter (MW)	Grand Total (MW)
Gas-CC			3,554	13,715
Gas-CT			50	597
Total Gas	2,169	8,539	3,604	14,312
Nuclear			5,900	5,900
Coal		3,727	1,353	5,080
Wind	6,994	31,216	5,936	44,146
Solar	419	549		968
Biomass	58	50	145	253
Other		740	1,300	2,040
Grand Total	9,640	44,821	18,238	72,699



## 1.4 Publicly Disclosed Generation Interconnection Projects

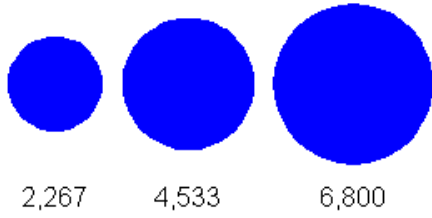
The table below summarizes the publicly disclosed generation projects for the ERCOT region.

(Status: IA=Interconnect Agreement, PL=Public Letter, XX= cancelled)

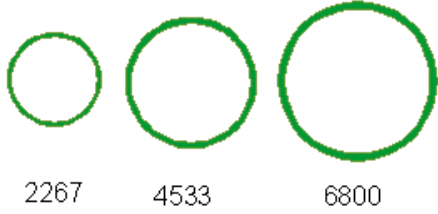
Generation Interconnections as of April 30, 2010								
INR	SiteName	Stat us	County	Region	COD	Fuel Type	MW For Grid	Change from Last Report
11INR0014	TECO Central Plant	IA	Harris	South	Jul-10	Gas-CC	50	
10INR0070	Greenville Engine Plant	PL	Hunt	North	Jul-10	Gas-CT	50	
05INR0015c	Gulf Wind 3	PL	Kenedy	South	Sep-10	Wind	400	
09INR0082	Cedro Hill Wind	IA	Webb	South	Sep-10	Wind	150	
05INR0015b	Gulf Wind 2	PL	Kenedy	South	Oct-10	Wind	400	
08INR0033	Lufkin	IA	Angelina	North	Dec-10	Biomass	45	
08INR0012b	Papalote Creek Phase 2	IA	San Patricio	South	Dec-10	Wind	198	
12INR0003	Throckmorton Wind Farm	PL	Throckmorton	West	Dec-10	Wind	400	
08INR0065	Buffalo Gap 4 and 5	PL	Nolan	West	Mar-11	Wind	465	
09INR0029	CFB Power Plant Units 11&12	IA	Calhoun	South	Mar-11	Coal	263	
10INR0020	Panda Temple Power	PL	Bell	North	May-11	Gas-CC	1,092	
10INR0010	Jack County 2	IA	Jack	North	Jun-11	Gas-CC	620	
08INR0011	Senate Wind Project	IA	Jack	North	Nov-11	Wind	150	
08INR0038	M Bar Wind	PL	Andrews	West	Dec-11	Wind	194	Date
09INR0034	Gatesville Wind Farm	PL	Coryell	North	Dec-11	Wind	200	
08INR0025	Pistol Hill Energy Center	PL	Ector	West	Dec-11	Wind	300	
09INR0001	Sandy Creek 1	IA	McLennan	North	Feb-12	Coal	925	
09INR0007	Nacogdoches Project	IA	Nacogdoches	North	Apr-12	Biomass	100	
07INR0004	Pampa Energy Center	PL	Gray	West	May-12	Coal	165	
09INR0024	B&B Panhandle Wind	PL	Carson	West	Jun-12	Wind	1,001	
09INR0037	Scurry County Wind III	PL	Scurry	West	Jun-12	Wind	350	
12INR0004	Fort Concho Wind Farm	PL	Tom Green	West	Jul-12	Wind	400	
06INR0012b	Sherbino Mesa Wind Farm 2	IA	Pecos	West	Jul-12	Wind	150	
09INR0036	McAdoo Energy Center II	PL	Dickens	West	Dec-12	Wind	500	
08INR0018	Gunsight Mountain	IA	Howard	West	Dec-12	Wind	120	
06INR0022c	Penascal Wind Farm 3	IA	Kenedy	South	Dec-12	Wind	202	Date
06INR0026	Wild Horse Mountain	IA	Howard	West	Dec-12	Wind	120	
06INR0006	Cobisa-Greenville	IA	Hunt	North	May-13	Gas-CC	1,792	
04INR0011b	Cedar Elm	IA	Shackelford	West	Jun-14	Wind	136	
04INR0011c	Cottonwood Wind	IA	Shackelford	West	Jun-14	Wind	100	
<b>12INR0016</b>	<b>Las Brisas Energy Center</b>	<b>IA</b>	<b>Nueces</b>	<b>South</b>	<b>Sep-14</b>	<b>Other</b>	<b>1,300</b>	<b>New</b>
15INR0002	Comanche Peak 3 and 4	PL	Somervel	North	Jan-15	Nuclear	3,200	
15INR0008	STP 3 and 4	PL	Matagorda	South	Jan-15	Nuclear	2,700	
						TOTAL	18,238	

# County Location of Installed Generation and Interconnection Requests (all fuels)

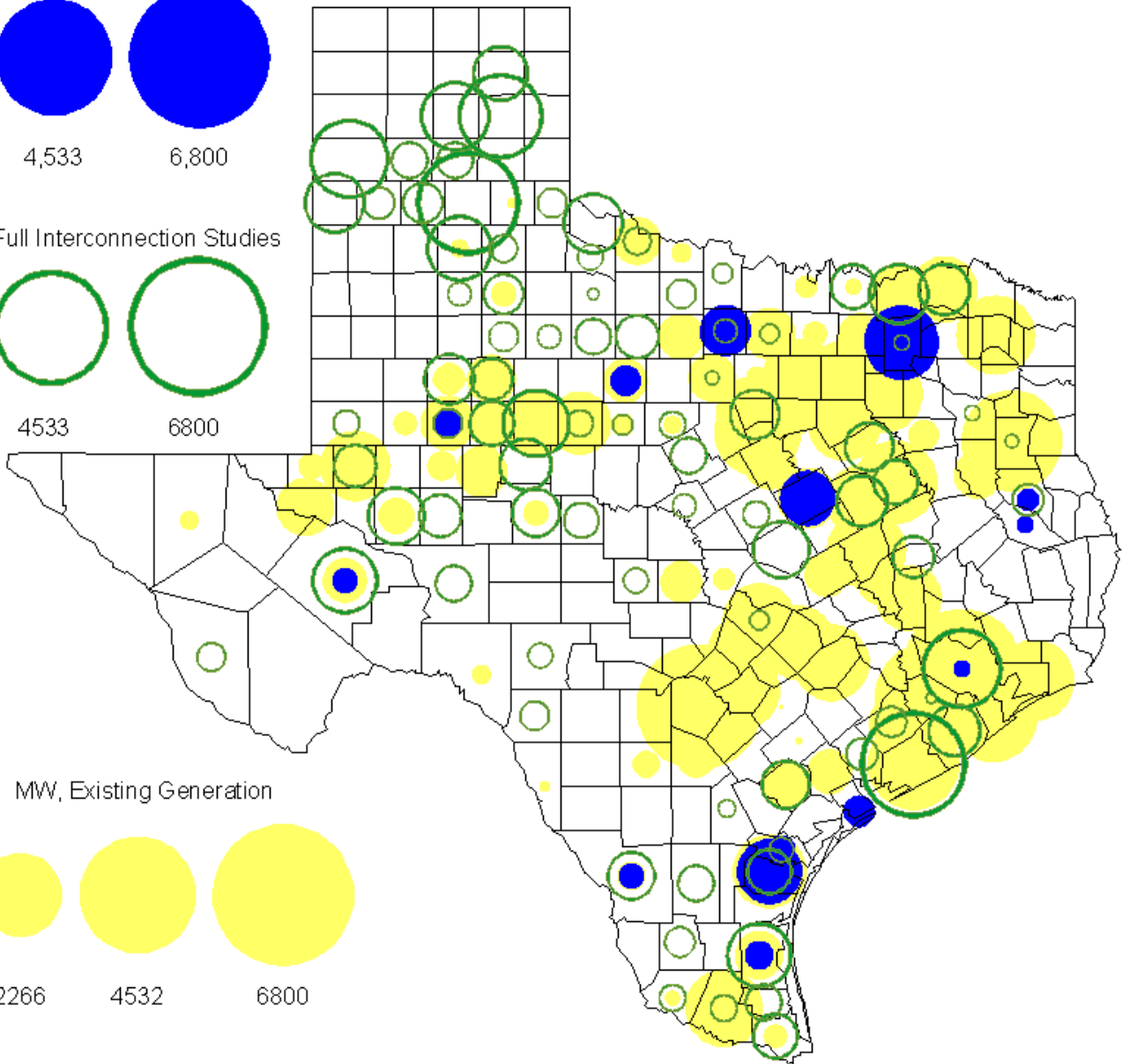
MW under Interconnection Agreements



MW under Full Interconnection Studies



MW, Existing Generation



## 1.5 Generation Projects Undergoing Full Interconnection Studies (not otherwise public)

INR	County	Capacity	COD	Fuel
08INR0049	Clay	50	TBD	Wind
09INR0061	Kent	258	TBD	Wind
10INR0045	Webb	734	TBD	Wind
10INR0016	Childress	150	TBD	Wind
09INR0070	Reagan	42	TBD	Wind
10INR0079	Nolan	60	TBD	Wind
10INR0029	Hood	810	Jun-10	Gas
09INR0081	Rusk	18	Jun-10	Coal
10INR0013	Upton	400	Jul-10	Wind
10INR0057	Taylor	200	Jul-10	Wind
10INR0041	Floyd	135	Oct-10	Wind
10INR0081a	Clay	30	Oct-10	Wind
11INR0029	Throckmorton	200	Nov-10	Wind
07INR0015	Foard	180	Dec-10	Wind
10INR0008	Pecos	500	Dec-10	Wind
08INR0062	Archer	249	Dec-10	Wind
11INR0012	Duval	400	Dec-10	Wind
10INR0033	Armstrong	399	Dec-10	Wind
09INR0076	Jackson	300	Dec-10	Wind
10INR0056	Borden	249	Dec-10	Wind
10INR0077	Callahan	101	Dec-10	Wind
10INR0082	Travis	30	Dec-10	Solar
11INR0081	Live Oak	72	Mar-11	Wind
11INR0075	Fort Bend	15	Apr-11	Coal
10INR0009	Castro	300	May-11	Wind
11INR0048	Harris	300	May-11	Gas
11INR0060	Tom Green	90	May-11	Solar
11INR0062	Nueces	149	May-11	Wind
11INR0033b	Cameron	200	May-11	Wind
08INR0020	Eastland	200	Jun-11	Wind
10INR0023	Haskell	386	Jun-11	Wind
11INR0054	San Patricio	161	Jun-11	Wind
11INR0065	Nueces	240	Jun-11	Wind
11INR0040	freestone	640	Aug-11	Gas
11INR0039	Starr	201	Sep-11	Wind
07INR0014a	Wilbarger	140	Oct-11	Wind
10INR0062a	Pecos	80	Oct-11	Wind
10INR0021	Grayson	646	Nov-11	Gas
11INR0005	Upton	500	Dec-11	Wind
11INR0025	Crockett	400	Dec-11	Wind
11INR0067	Cameron	78	Dec-11	Wind
09INR0048	Jack	150	Dec-11	Wind
12INR0021	Edwards	165	Jan-12	Wind
10INR0018	Madison	550	Mar-12	Gas

INR	County	Capacity	COD	Fuel
09INR0054	Stonewall	149	TBD	Wind
10INR0048	Hardeman	1,000	TBD	Wind
10INR0046	Jim Hogg	264	TBD	Wind
09INR0069	Reagan	36	TBD	Wind
10INR0054	Palo Pinto	36	TBD	Wind
10INR0069	Rusk	13	TBD	Coal
10INR0035	Harris	416	Jun-10	Gas
10INR0012	Nacogdoches	300	Jul-10	Gas
10INR0052a	Knox	21	Jul-10	Wind
10INR0015	Mitchell	350	Oct-10	Wind
09INR0074	Motley	70	Oct-10	Wind
10INR0089	Harris	40	Oct-10	Other
07INR0013	Coke	200	Dec-10	Wind
07INR0035	Tom Green	270	Dec-10	Wind
08INR0061	Hardeman	200	Dec-10	Wind
10INR0019	Deaf Smith	609	Dec-10	Wind
10INR0032	Navarro	775	Dec-10	Gas
10INR0042	Mason	170	Dec-10	Wind
10INR0051	Brazoria	200	Dec-10	Wind
10INR0060	Willacy	401	Dec-10	Wind
10INR0080	Presidio	144	Dec-10	Solar
11INR0050	Crosby	149	Mar-11	Wind
11INR0071	Harris	7	Apr-11	Gas
11INR0086	Travis	60	Apr-11	Solar
11INR0037	Smith	50	May-11	Biomass
11INR0061	Presidio	90	May-11	Solar
11INR0058	Pecos	135	May-11	Solar
11INR0087	Wise	90	May-11	Gas
11INR0033a	Cameron	200	May-11	Wind
09INR0050	Fannin	1,200	Jun-11	Gas
11INR0019	Upton	200	Jun-11	Wind
11INR0057	Cameron	165	Jun-11	Wind
11INR0006	Lamar	579	Jul-11	Gas
11INR0008a	Roberts	1,000	Sep-11	Wind
11INR0047	Deaf Smith	600	Sep-11	Wind
07INR0014b	Wilbarger	70	Oct-11	Wind
10INR0081b	Clay	19	Oct-11	Wind
06INR0022d	Kenedy	200	Dec-11	Wind
11INR0013	Mills	150	Dec-11	Wind
11INR0043	Coke	300	Dec-11	Wind
12INR0034	Borden	342	Dec-11	Wind
09INR0075	Kinney	248	Dec-11	Wind
12INR0033	Motley	150	Jan-12	Wind
12INR0042	Deaf Smith	400	Mar-12	Wind

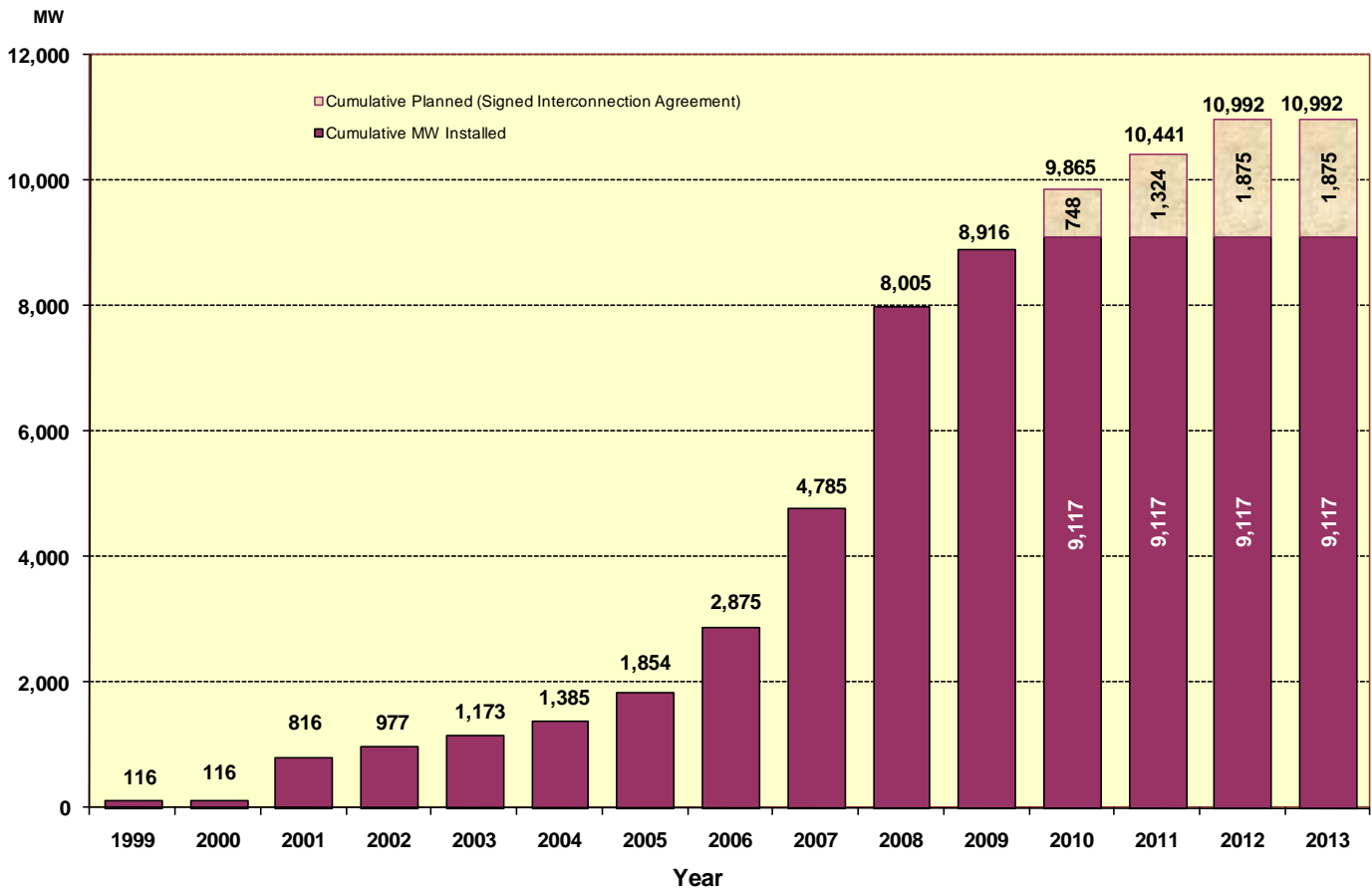


09INR0031	Ector	275	May-12	Gas
11INR0049	Wharton	275	May-12	Gas
12INR0006	Limestone	875	Jun-12	Coal
12INR0002	Briscoe	750	Jul-12	Wind
12INR0026	Randall	400	Oct-12	Wind
08INR0019b	Gray	250	Nov-12	Wind
08INR0019a	Gray	250	Nov-12	Wind
12INR0035	Nueces	249	Nov-12	Wind
08INR0042	Coke	200	Dec-12	Wind
08INR0054	Comanche	401	Dec-12	Wind
12INR0005	Floyd	1,100	Dec-12	Wind
12INR0022	Hidalgo	200	Dec-12	Wind
10INR0024	Briscoe	2,940	Jan-13	Wind
10INR0062b	Pecos	220	May-13	Wind
09INR0051	Borden	249	Jun-13	Wind
13INR0006	Gray	750	Oct-13	Wind
06INR0022e	Kenedy	200	Dec-13	Wind
08INR0023	Floyd	100	Dec-13	Wind
09INR0073	Scurry	200	Dec-13	Wind
14INR0002	Goliad	756	Feb-14	Coal
14INR0005	Matagorda	1,200	Jul-14	Coal
16INR0002	Brazoria	700	Jun-17	Other

12INR0007	Lamar	296	May-12	Gas
08INR0031	Childress	100	Jun-12	Wind
10INR0022	Harris	1,380	Jun-12	Gas
08INR0041	Coke	200	Oct-12	Wind
12INR0027	Gray	200	Oct-12	Wind
08INR0019c	Gray	250	Nov-12	Wind
08INR0044	Concho	200	Nov-12	Wind
06INR0022f	Kenedy	200	Dec-12	Wind
09INR0025	Concho	180	Dec-12	Wind
08INR0056	Nolan	149	Dec-12	Wind
12INR0018	Gray	600	Dec-12	Wind
12INR0029	Swisher	500	Dec-12	Wind
09INR0058	Howard	250	Mar-13	Wind
09INR0041	Mitchell	300	Jun-13	Wind
13INR0004	Deaf Smith	500	Oct-13	Wind
13INR0005	Carson	600	Oct-13	Wind
08INR0022	Floyd	100	Dec-13	Wind
09INR0077	Reagan	500	Dec-13	Wind
13INR0010	Parmer	1,200	Dec-13	Wind
14INR0003	Nolan	850	Jun-14	Coal
14INR0001	Pecos	500	Dec-14	Wind

## 1.6 Wind Generation

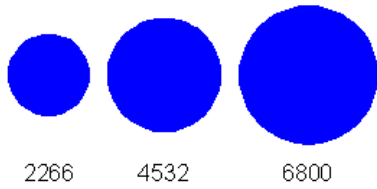
### Wind Capacity Installed by Year



as of April 30, 2010

County Location of Installed Capacity and Interconnection Requests (Wind only)

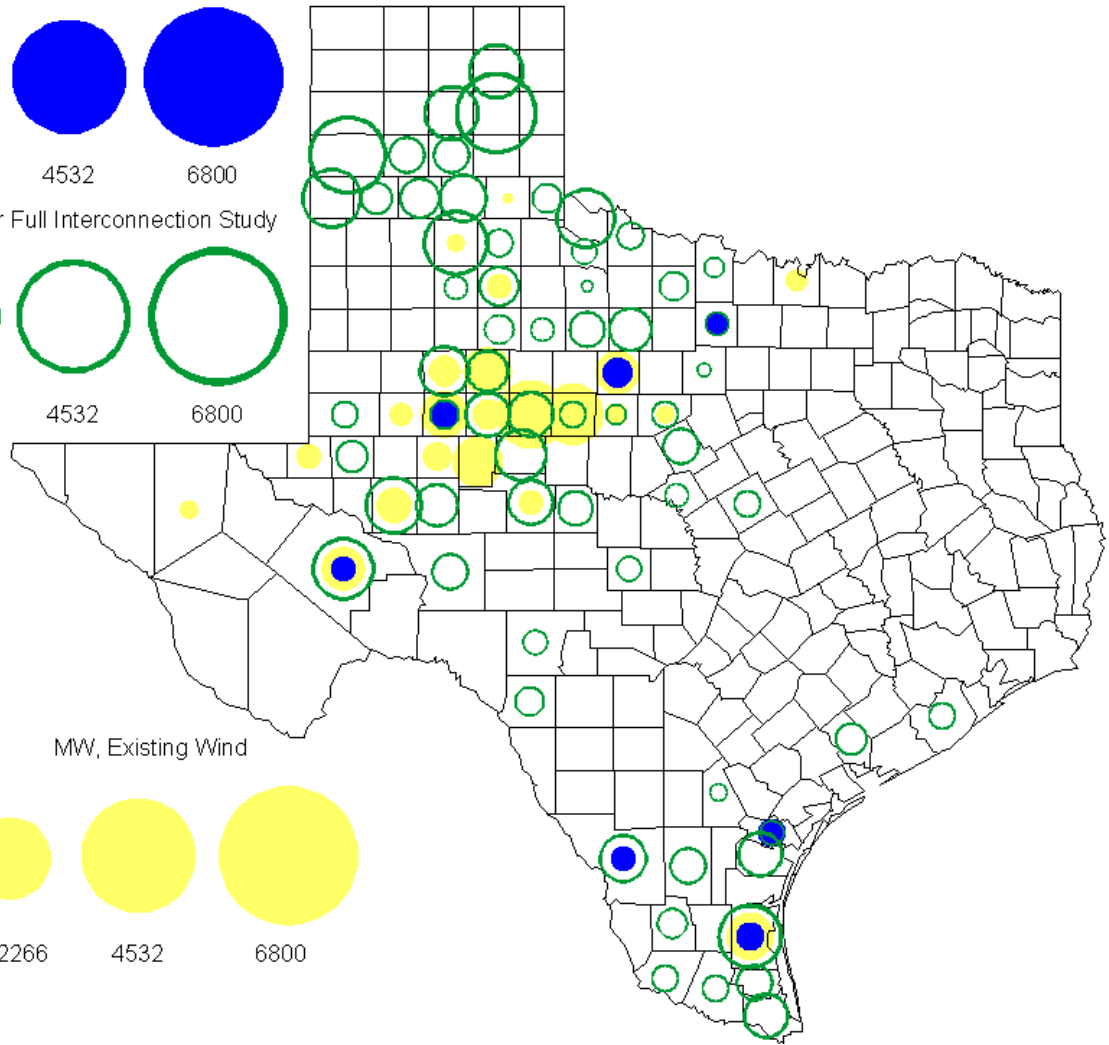
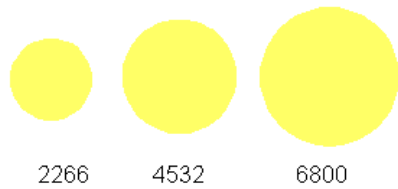
MW, under Interconnection Agreement



MW, under Full Interconnection Study



MW, Existing Wind



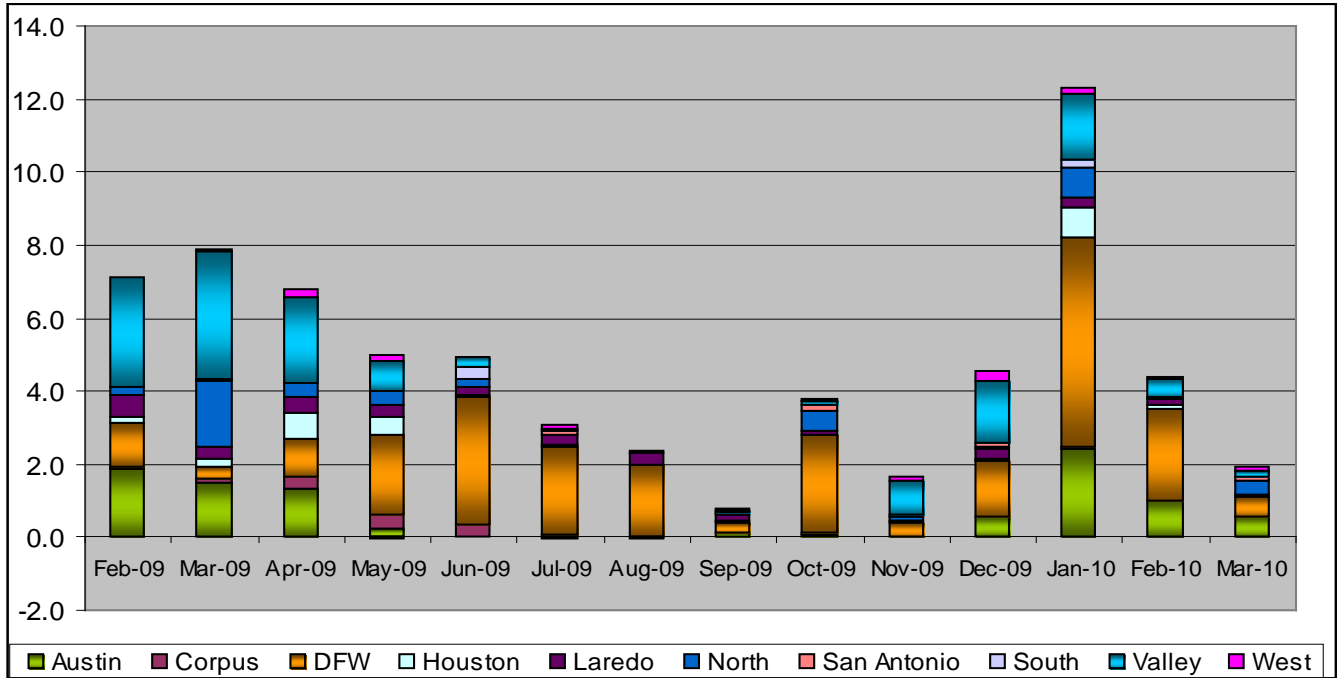
## 2. Regional Planning Group Project Reviews

- Oncor submitted a project to relieve congestion related to new wind units in the Lamesa area. The project will upgrade the Lamesa to Bluff Creek 138 kV line, rebuild the Bluff Creek to China Grove 138 kV line, rebuild the Lamesa to Ackerly Vealmoor 69 kV line to 138/69 kV double circuit, rebuild the Lamesa 138 kV switching station, build a new 138 kV Ackerly Vealmoor station, add second circuits to all rebuilt lines and include station upgrades at China Grove and Big Spring. The cost of this project is \$ 80.8 M. This project will be reviewed to ensure that the improvements fit into the likely CREZ transmission solution for the area. This project is in ERCOT Independent Review.
- Oncor submitted a project to add several 345 kV circuits to support the addition of Comanche Peak units 3 and 4 in 2015 at an estimated cost of \$ 133 M. These upgrades include a new 345 kV double circuit line with one circuit in place from Comanche to Whitney, a new 345 kV line from Comanche to Johnson Switch, a new circuit on existing structures from Johnson Switch to Everman, a new 345 kV double circuit with one circuit in place from Comanche to DeCordova, and a new 345 kV line on existing structures from Comanche to Parker Switch. This project has been withdrawn due to changes in the study assumptions.
- Sharyland Utilities submitted a project to construct and operate the ERCOT Southeast Loop facilities consisting of a 345 kV double circuit from Lufkin to Canal 345 kV substation on the northeast side of Houston. This project will cost \$359 M with an estimated completion date of summer 2013. This project is in ERCOT Independent Review.
- Centerpoint Energy has submitted a project to construct a new 345 kV double circuit line to allow greater power imports into the Houston area. The project involves expanding the Fayetteville and Zenith substations and constructing a new 345 kV double circuit from Fayetteville to Zenith. The proposal also includes looping the Fayette Power Project to Salem 345 kV circuit into Fayetteville and upgrading the Fayette Power Project to Fayetteville 345 kV double circuit lines. The project is estimated to be complete by September 2014 at a cost of \$222 M. This project is in ERCOT Independent Review.
- Austin Energy has submitted a project to construct a new 345 kV bus with a 345/ 138 kV autotransformer at the Dunlap station. The project also involves rerouting several nearby transmission lines. The estimated cost of the project is \$16.7 M. This project is currently in the comment phase.

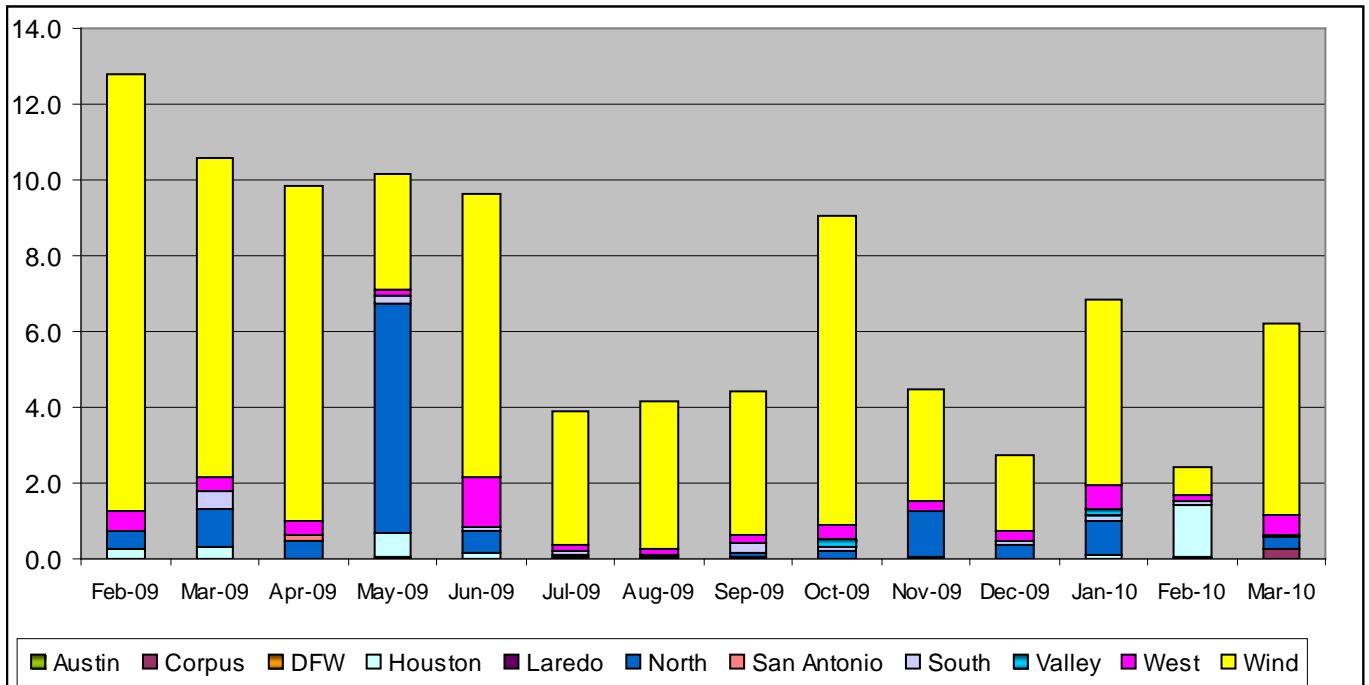
### 3. Congestion Costs

Dollars shown in graphs are settlement quality.

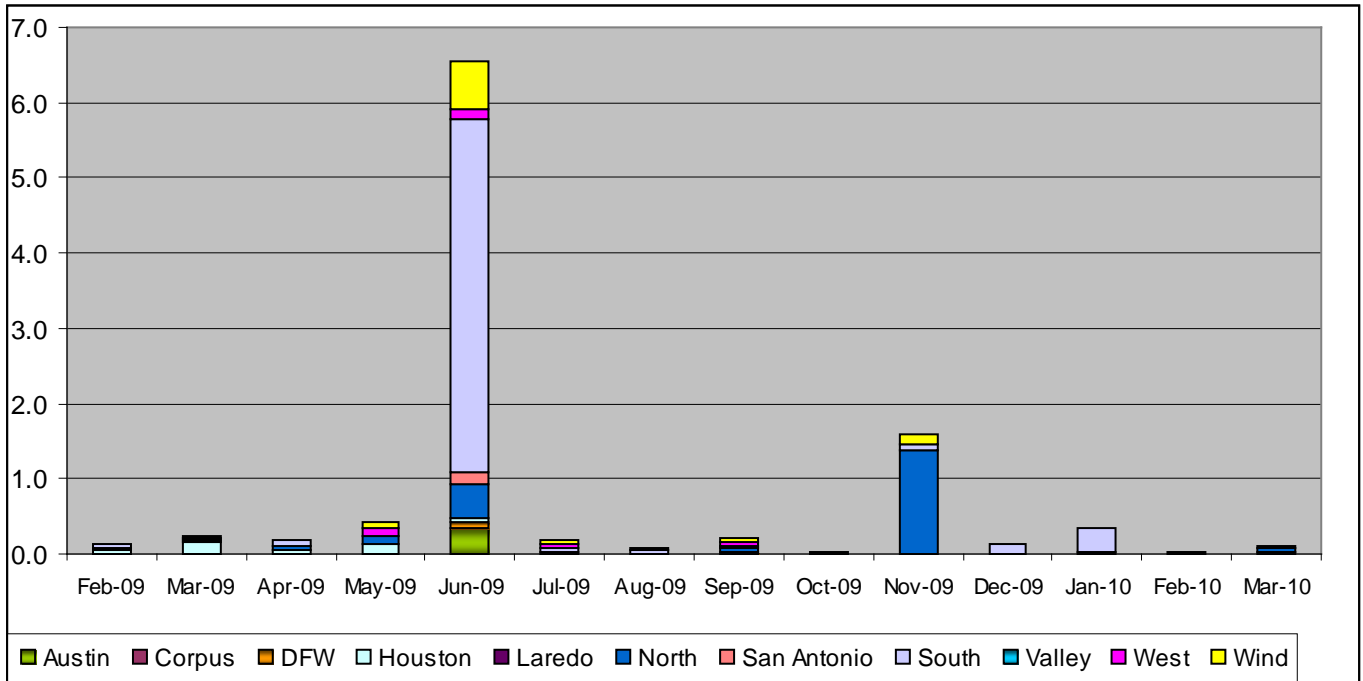
**OOMC – last 13 months in million\$**



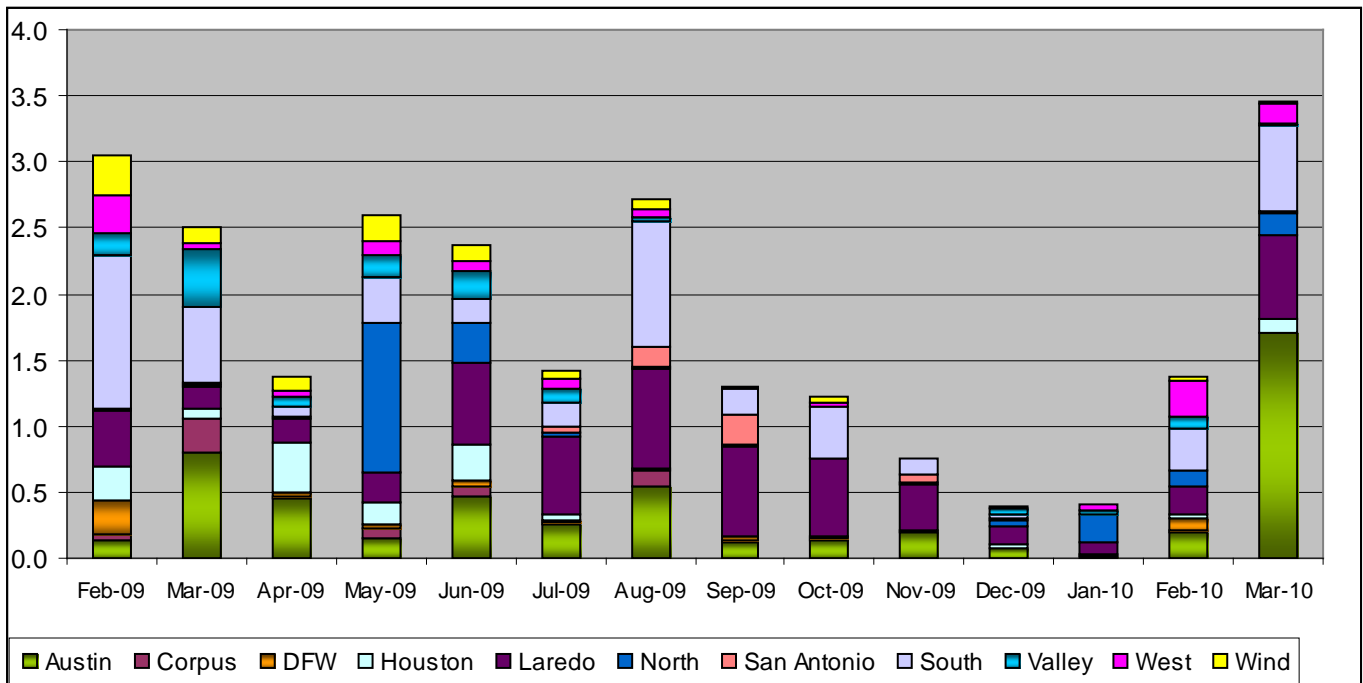
**OOM Down – last 13 months in million\$**



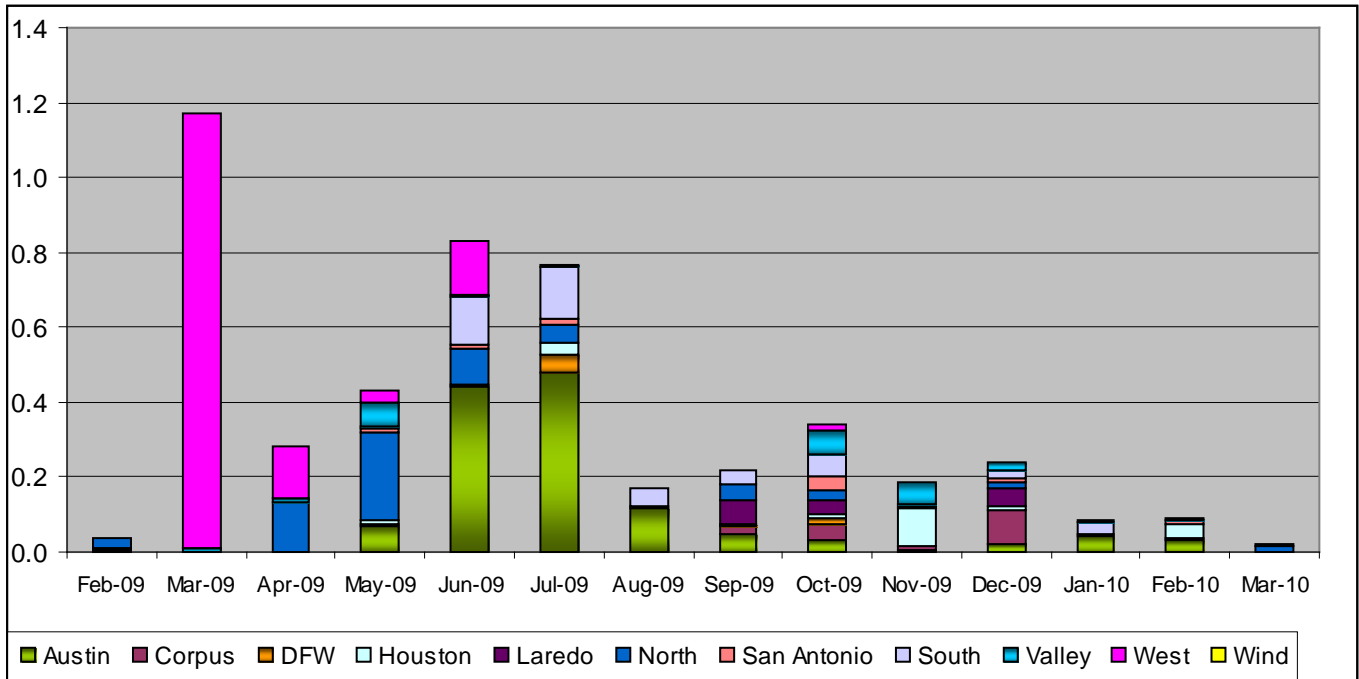
**Local Balancing Energy Down – last 13 months in million\$**



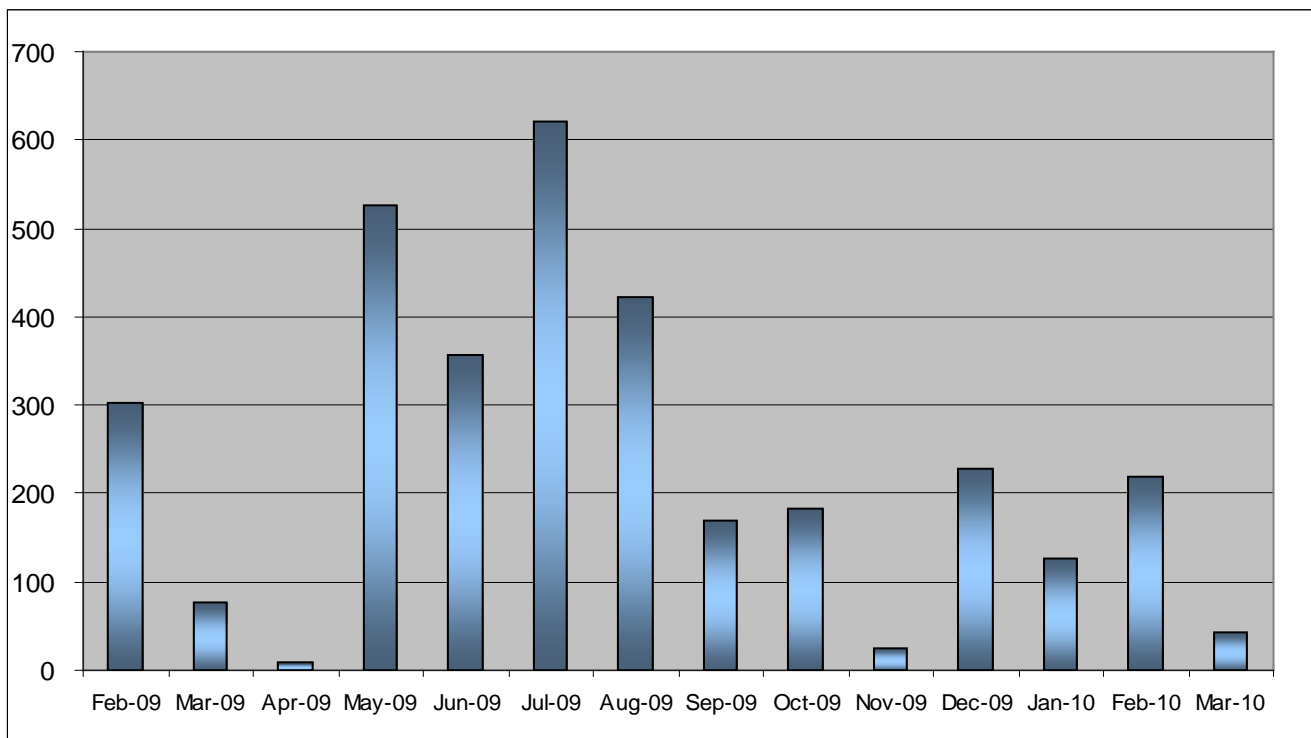
**OOM Up – last 13 months in million\$**



**Local Balancing Energy Up – last 13 months in million\$**



**Replacement Reserve – last 13 months in thousand\$**

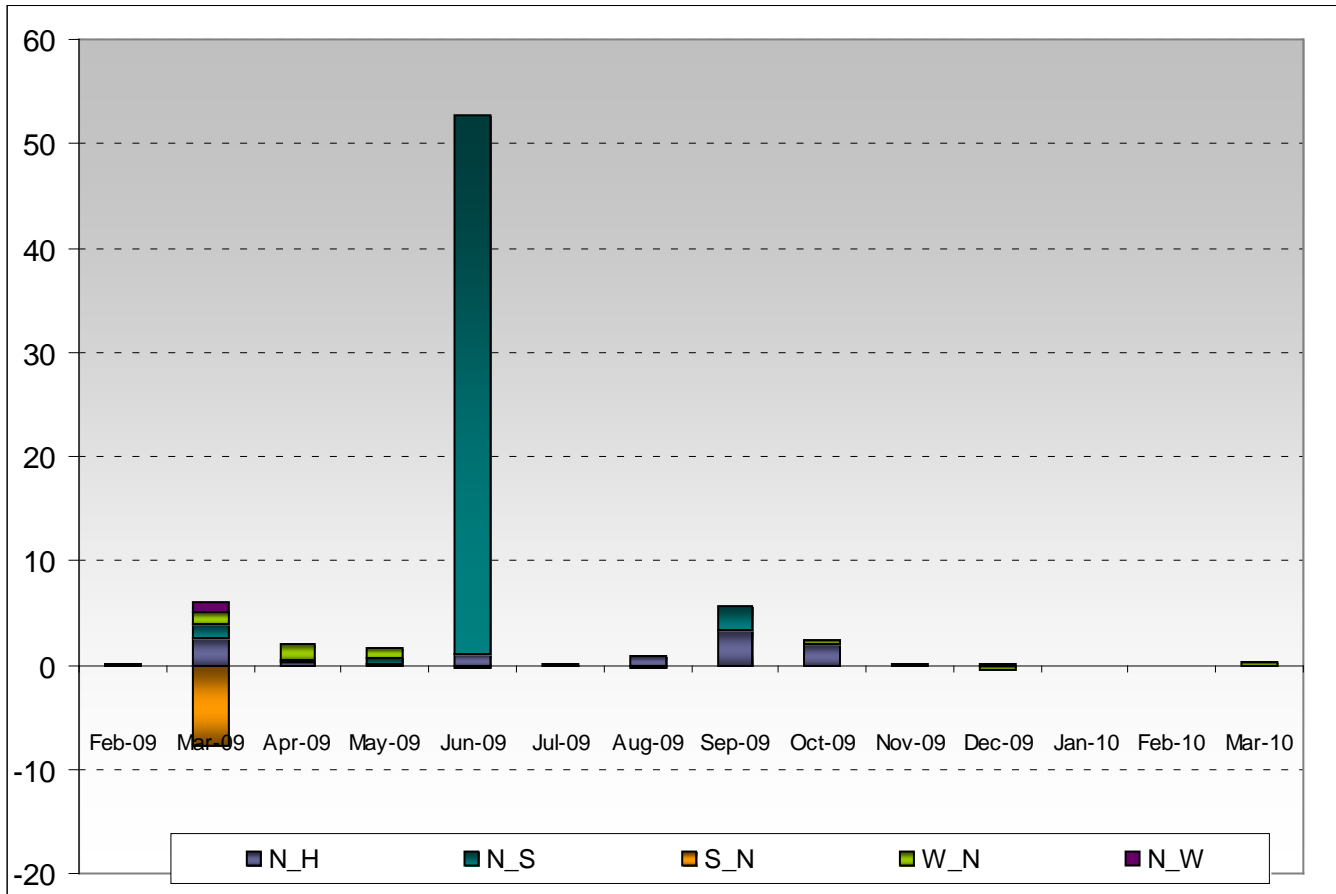


**Binding Constraints & Capacity Shortages– April, 2010**

<b>Contingency</b>	<b>Binding Element</b>	<b>Estimated Costs</b>	<b>Transmission Project</b>	<b>Clearance</b>
	DFW Reactive	\$ 2,888,611	Renner SVCs [10TPIT0056; 11TPIT0095]	
Graham SES - Long Creek Switching Station & Cookfield Road Switching Station 345kV	Comanche Switch - Comanche Tap 138kV	\$ 1,669,891		Outage on Comanche Peak SES 345KV CB and Comanche Switch DSC 345 KV
Graham SES - Long Creek Switching Station & Cookfield Road Switching Station 345kV	Cisco - Putnam 69kV	\$ 851,650	Cisco, convert station to 138kV [11TPIT0056]	
Roanoke Switch - West Denton & Lewisville Switch 345kV	West Denton - Pockrus 138kV	\$ 732,181	West Denton re-route (07TPIT0132)	Outage on West Denton-Jim Christal and North Denton-JMCRSTL 138 kV
Roanoke Switch - West Denton & Lewisville Switch 345kV	West Denton - Teasley 138kV	\$ 707,340	West Denton re-route (07TPIT0132)	Outage on West Denton-Jim Christal and North Denton-JMCRSTL 138 kV
Abilene Mulberry Creek - Bitter Creek & Long Creek Switching Station - Sweetwater Generating Plant 345kV	Merkel - Trent 69kV	\$ 660,768		Outage on Potter to McElmurray Tap 138kV
Pawnee - Lon Hill 345kV	Sinton - Skidmore 69kV	\$ 544,324	Lon Hill to Sinton 69 kVLine Modifications [11TPIT0103]	
Graham SES - Parker Switch 345kV	Barton Switch - Oran TU 138kV	\$ 312,159		
Odessa EHV - Morgan Creek - Quail Switch 345kV	Big Spring Switch - Big Spring West 138kV	\$ 256,296		Outage on Cal Energy 345 KV breaker and Midland East 345 KV switch
Paris Switch - Valley & Paris Switch - Valley South 345kV	Paris Switch 345/138kV Autotransformer	\$ 193,051		Outage on Monticello SES 345kV bus and Monticello SES - Paris SW 345 KV



## Inter-zonal Congestion



## 4. Other Notable Activities

Work on the 2010 Five-Year Transmission Plan is underway. The initial set of projects needed to reliably serve load in 2015 has been identified and is out for comment. The analysis is currently focused on finding reliability projects for the years 2011-2014.

The final 2009 Five-Year Transmission Plan report has been posted to the ERCOT Planning and Operations Information website.

Nodal Network Model Management System Topology Processor work continues with bi-weekly meetings/calls with SSWG and weekly ERCOT topology processor output. The most recent topology processor output was the first utilizing the NMMS 8.2 upgrade to the NMMS database which eliminates one day of processing before creating a Topology Processor output. This will allow ERCOT to create the weekly topology processor output and give the ERCOT TSPs an additional day to submit NOMCR that will be reflected in that output.

The Phase III of the Voltage Ride Through Study continues. Contingency simulations for the study base scenarios (high wind/high load and high wind/low load) are complete. Analysis is underway for additional scenarios with no West Texas conventional generation online and the inclusion of dynamic motor load models. The vendor has reached out to both equipment manufacturers and simulation software providers to investigate certain unusual wind turbine model responses observed during Phase III dynamic simulations.