

# System Planning Division

Monthly Status Report to Reliability and Operations Subcommittee for June 2009

# Report Highlights

#### <u>Item</u>

- 1.
- ERCOT is currently tracking 242 active generation interconnection requests totaling almost 97,000 MW. This includes over 49,000 MW of wind generation.
- 2.
- Regional Planning is currently reviewing proposed transmission improvements with a total cost of \$948.3 Million
- Transmission Projects approved in 2009 total \$ 105 Million
- All projects (in engineering, routing, licensing and construction) totals approximately \$4.1 Billion
- Transmission Projects energized in 2008 total about \$453 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: <a href="http://planning.ercot.com/login/login">http://planning.ercot.com/login/login</a>.

#### 1.1 New Generation Beginning Commercial Operations - none for June 2009

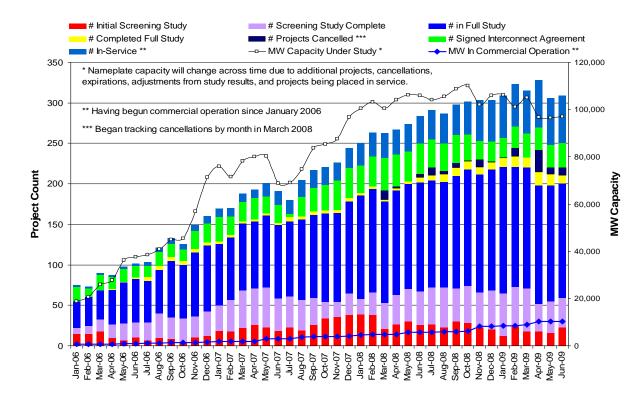
• The total installed wind capacity remains 8,135 MW, of which 7,477 (92%) is located within the Western Congestion Management Zone.

#### 1.2 New Generation Interconnection Agreements

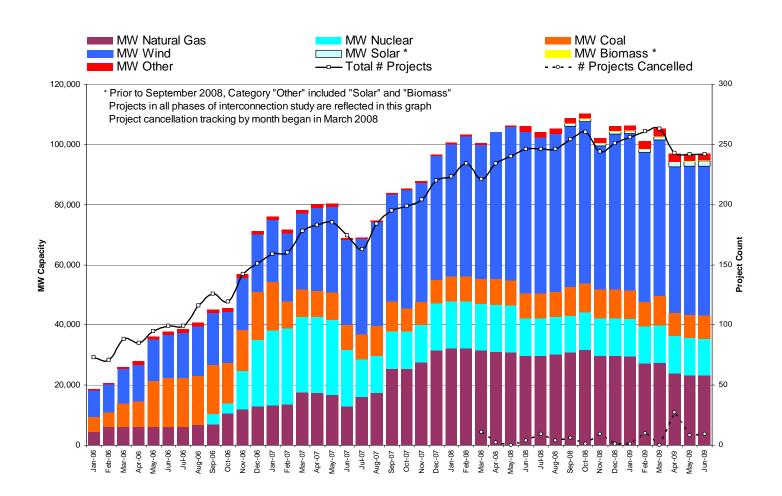
- Rattlesnake Wind Farm (09INR0055) 200 MW in McCulloch County
- CFB Power Plant Units (09INR0029) 263 MW in Calhoun County

#### 1.3 Summary of Active Generation Interconnection Requests

| GENERATION INTERCONNECTION REQUESTS CURRENTLY BEING PROCESSED  Currently tracking 242 active generation interconnection or change requests |        |        |        |        |  |  |  |  |  |
|--|--------|--------|--------|--------|--|--|--|--|--|
| As of June 30, 2009  | North  | South  | West   | Total  |  |  |  |  |  |
| Security Screening Study   | 5      | 7      | 11     | 23     |  |  |  |  |  |
| SSS Completed  | 2      | 10     | 24     | 36     |  |  |  |  |  |
| Full Interconnect Study  | 29     | 34     | 79     | 142    |  |  |  |  |  |
| FIS Completed  | 2      | 4      | 4      | 10     |  |  |  |  |  |
| Interconnect Agreement Completed   | 8      | 11     | 12     | 31     |  |  |  |  |  |
| Capacity under Interconnection Agreements  | 5,342  | 2,813  | 2,203  | 10,358 |  |  |  |  |  |
| Capacity for Grid, MW  | 22,849 | 33,766 | 40,339 | 96,954 |  |  |  |  |  |
| Wind Capacity, MW  | 3,624  | 9,434  | 36,629 | 49,687 |  |  |  |  |  |



| Fuel Type   | Confidential Projects<br>(MW) | Projects Under Full<br>Study (MW) | Projects w/ Interconnect<br>Agreement/Public Letter<br>(MW) | Grand Total<br>(MW) |
|-------------|-------------------------------|-----------------------------------|---|---------------------|
| Gas-CC      |                               |                                   | 4,241   | 21,937              |
| Gas-CT      |                               |                                   | 527   | 1,277               |
| Total Gas   | 4,479                         | 13,967                            | 4,768   | 23,214              |
| Nuclear     |                               | 3,200                             | 9,186   | 12,386              |
| Coal        |                               | 3,732                             | 3,813   | 7,545               |
| Wind        | 11,701                        | 30,098                            | 7,888   | 49,687              |
| Solar       | 1,401                         | 369                               |   | 1,770               |
| Biomass     |                               | 50                                | 145   | 195                 |
| Other       | 957                           | 1,200                             |   | 2,157               |
| Grand Total | 18,538                        | 52,616                            | 25,800  | 96,954              |



# 1.4 Publicly Disclosed Generation Interconnection Projects

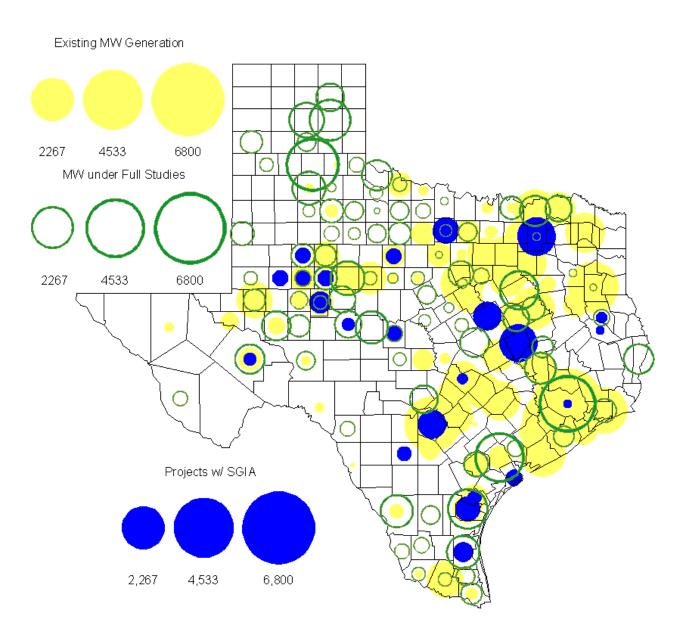
The table below summarizes the publicly disclosed generation projects for the ERCOT region.

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

| Generation Interconnections as of June 30, 2009 |                           |        |              |        |        |         |                |                               |  |
|---|---------------------------|--------|--------------|--------|--------|---------|----------------|-------------------------------|--|
| INR   | SiteName                  | Status | County       | Region | COD    | Fuel    | MW For<br>Grid | Change<br>from Last<br>Report |  |
| 09INR0036                                       | McAdoo Energy Center II   | PL     | Dickens      | West   | Dec-12 | Wind    | 500            |                               |  |
| 09INR0079                                       | Pearsall Expansion        | IA     | Frio         | South  | Aug-09 | Gas-CT  | 200            |                               |  |
| 09INR0072                                       | Dansby3                   | PL     | Brazos       | North  | Aug-09 | Gas-CT  | 48             |                               |  |
| 08INR0033                                       | Lufkin                    | IA     | Angelina     | North  | Sep-09 | Biomass | 45             |                               |  |
| 05INR0015b                                      | Gulf Wind 2               | PL     | Kenedy       | South  | Sep-09 | Wind    | 400            |                               |  |
| 09INR0028                                       | V H Braunig 6             | IA     | Bexar        | South  | Oct-09 | Gas-CT  | 185            |                               |  |
| 09INR0015                                       | Comanche Peak 1&2 Upgrade | PL     | Somervell    | North  | Oct-09 | Nuclear | 86             |                               |  |
| 08INR0012a                                      | Papalote Creek Wind Farm  | IA     | San Patricio | South  | Oct-09 | Wind    | 180            |                               |  |
| 09INR0038                                       | Barney Davis 2 Repowering | IA     | Nueces       | South  | Nov-09 | Gas-CC  | 360            |                               |  |
| 11INR0015                                       | Panther Creek 3           | IA     | Sterling     | West   | Nov-09 | Wind    | 200            |                               |  |
| 09INR0006a                                      | Oak Grove SES 1           | IA     | Robertson    | North  | Nov-09 | Coal    | 855            |                               |  |
| 09INR0047                                       | Loraine Windpark          | IA     | Mitchell     | West   | Dec-09 | Wind    | 251            |                               |  |
| 09INR0034                                       | Gatesville Wind Farm      | PL     | Coryell      | North  | Dec-09 | Wind    | 200            |                               |  |
| 08INR0038                                       | M Bar Wind                | PL     | Andrews      | West   | Dec-09 | Wind    | 194            |                               |  |
| 10INR0026                                       | Langford Wind Power       | IA     | Tom Green    | West   | Dec-09 | Wind    | 150            |                               |  |
| 11INR0014                                       | TECO Central Plant        | IA     | Harris       | South  | Feb-10 | Gas-CC  | 50             |                               |  |
| 09INR0037                                       | Scurry County Wind III    | PL     | Scurry       | West   | Mar-10 | Wind    | 350            |                               |  |
| 09INR0039                                       | Nueces Bay 7 Repowering   | IA     | Nueces       | South  | Apr-10 | Gas-CC  | 327            |                               |  |
| 09INR0006b                                      | Oak Grove SES 2           | IA     | Robertson    | North  | May-10 | Coal    | 855            |                               |  |
| 09INR0002                                       | J K Spruce 2              | IA     | Bexar        | South  | Jun-10 | Coal    | 750            |                               |  |
| 09INR0045                                       | Sand Hill Peakers         | IA     | Travis       | South  | Jul-10 | Gas-CT  | 94             |                               |  |
| 06INR0012b                                      | Sherbino Mesa Wind Farm 2 | IA     | Pecos        | West   | Jul-10 | Wind    | 150            |                               |  |
| 05INR0015c                                      | Gulf Wind 3               | PL     | Kenedy       | South  | Sep-10 | Wind    | 400            |                               |  |
| 08INR0011                                       | Senate Wind Project       | IA     | Jack         | North  | Nov-10 | Wind    | 150            |                               |  |
| 09INR0029                                       | CFB Power Plant           | IA     | Calhoun      | South  | Dec-10 | Coal    | 263            | new IA                        |  |
| 12INR0003                                       | Throckmorton Wind Farm    | PL     | Throckmorton | West   | Dec-10 | Wind    | 400            |                               |  |
| 06INR0022c                                      | Penascal Wind Farm 2      | IA     | Kenedy       | South  | Dec-10 | Wind    | 202            |                               |  |
| 08INR0065                                       | Buffalo Gap 4 and 5       | PL     | Nolan        | West   | Mar-11 | Wind    | 465            |                               |  |
| 07INR0036                                       | Coyote Run Windfarm       | IA     | Borden       | West   | Mar-11 | Wind    | 225            |                               |  |
| 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            |                               |  |
| 08INR0018                                       | Gunsight Mountain         | IA     | Howard       | West   | Aug-11 | Wind    | 120            |                               |  |
| 09INR0055                                       | Rattlesnake Wind Farm     | IA     | McCulloch    | West   | Sep-11 | Wind    | 200            | new IA                        |  |
| 09INR0060                                       | Stephens Wind Farm        | PL     | Borden       | West   | Nov-11 | Wind    | 141            |                               |  |
| 06INR0026                                       | Wild Horse Mountain       | IA     | Howard       | West   | Dec-11 | Wind    | 120            |                               |  |
| 08INR0025                                       | Pistol Hill Energy Center | PL     | Ector        | West   | Dec-11 | Wind    | 300            |                               |  |
| 06INR0022b                                      | Penascal Wind Farm 3      | IA     | Kenedy       | South  | Dec-11 | Wind    | 202            |                               |  |
| 09INR0007                                       | Nacogdoches Project       | IA     | Nacogdoches  | North  | Apr-12 | Biomass | 100            |                               |  |
| 07INR0004                                       | Pampa Energy Center       | PL     | Gray         | West   | May-12 | Coal    | 165            |                               |  |
| 09INR0001                                       | Sandy Creek 1             | IA     | McLennan     | North  | Jun-12 | Coal    | 925            |                               |  |
| 09INR0026a                                      | Sterling Energy Center    | PL     | Sterling     | West   | Jun-12 | Wind    | 200            |                               |  |
| 09INR0026                                       | Sterling Energy Center    | IA     | Sterling     | West   | Jun-12 | Wind    | 300            |                               |  |

| 09INR0024  | B&B Panhandle Wind    | PL | Carson      | West  | Jun-12 | Wind    | 1,001  |  |
|------------|-----------------------|----|-------------|-------|--------|---------|--------|--|
| 12INR0004  | Fort Concho Wind Farm | PL | Tom Green   | West  | Jul-12 | Wind    | 400    |  |
| 08INR0040  | Lenorah Project       | IA | Martin      | West  | Sep-12 | Wind    | 251    |  |
| 06INR0006  | Cobisa-Greenville     | IA | Hunt        | North | May-13 | Gas-CC  | 1,792  |  |
| 04INR0011c | Cottonwood Wind       | IA | Shackelford | West  | Jun-13 | Wind    | 100    |  |
| 04INR0011b | Mesquite Wind Phase 4 | IA | Shackelford | West  | Jun-13 | Wind    | 136    |  |
| 11INR0011  | Victoria City Nuclear | PL | Victoria    | South | Jan-15 | Nuclear | 3,200  |  |
| 15INR0008  | STP 3 and 4           | PL | Matagorda   | South | Jan-15 | Nuclear | 2,700  |  |
| 15INR0002  | Comanche Peak 3 and 4 | PL | Somervel    | North | Jan-15 | Nuclear | 3,200  |  |
|            |                       |    |             | •     |        | •       | 25,800 |  |

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



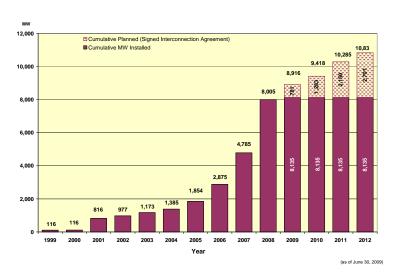
# 1.5 Generation Projects Undergoing Full Interconnection Studies

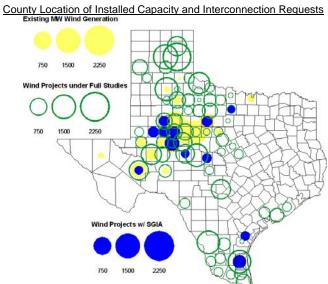
| INR        | County       | Capacity | COD    | Fuel    | INR        | County        | Capacity | COD    | Fuel  |
|------------|--------------|----------|--------|---------|------------|---------------|----------|--------|-------|
| 08INR0044  | Concho       | 200      | TBD    | Wind    | 09INR0064  | Borden        | 41       | TBD    | Wind  |
| 08INR0042  | Coke         | 200      | TBD    | Wind    | 08INR0041  | Coke          | 200      | TBD    | Wind  |
| 09INR0059  | Freestone    | 20       | TBD    | Coal    | 09INR0025  | Concho        | 180      | TBD    | Wind  |
| 09INR0075  | Kinney       | 248      | Oct-09 | Wind    | 07INR0014b | Wilbarger     | 70       | Oct-09 | Wind  |
| 10INR0027  | Nueces       | 35       | Oct-09 | Wind    | 09INR0041  | Mitchell      | 300      | Oct-09 | Wind  |
| 07INR0014a | Wilbarger    | 140      | Oct-09 | Wind    | 09INR0048  | Jack          | 150      | Oct-09 | Wind  |
| 08INR0054  | Comanche     | 401      | Oct-09 | Wind    | 09INR0073  | Scurry        | 200      | Nov-09 | Wind  |
| 08INR0031  | Childress    | 100      | Nov-09 | Wind    | 09INR0082  | Webb          | 300      | Dec-09 | Wind  |
| 09INR0077  | Reagan       | 500      | Dec-09 | Wind    | 11INR0013  | Mills         | 150      | Dec-09 | Wind  |
| 11INR0012  | Duval        | 400      | Dec-09 | Wind    | 09INR0065  | Webb          | 150      | Dec-09 | Wind  |
| 09INR0061  | Kent         | 258      | Dec-09 | Wind    | 09INR0058  | Howard        | 250      | Dec-09 | Wind  |
| 09INR0054  | Stonewall    | 148.5    | Dec-09 | Wind    | 09INR0051  | Borden        | 249      | Dec-09 | Wind  |
| 08INR0056  | Nolan        | 149      | Dec-09 | Wind    | 08INR0039  | Hamilton      | 90       | Dec-09 | Wind  |
| 08INR0022  | Floyd        | 100      | Dec-09 | Wind    | 08INR0023  | Floyd         | 100      | Dec-09 | Wind  |
| 10INR0011  | Johnson      | 275      | Jan-10 | Gas     | 10INR0048  | Hardeman      | 1000     | Jan-10 | wind  |
| 10INR0047  | Kendall      | 1000     | Jan-10 | wind    | 11INR0036a | Matagorda     | 200      | Jan-10 | Wind  |
| 11INR0033a | Cameron      | 200      | Jan-10 | Wind    | 10INR0024  | Briscoe       | 3000     | Jan-10 | Wind  |
| 10INR0046  | Jim Hogg     | 264      | Apr-10 | wind    | 10INR0045  | Webb          | 734      | Apr-10 | wind  |
| 10INR0079  | Nolan        | 60       | May-10 | Wind    | 10INR0054  | Palo Pinto    | 36       | May-10 | Wind  |
| 09INR0069  | Reagan       | 36       | May-10 | Wind    | 09INR0070  | Reagan        | 42       | May-10 | Wind  |
| 10INR0023  | Haskell      | 386      | May-10 | Wind    | 10INR0016  | Childress     | 150      | May-10 | Wind  |
| 09INR0035  | Concho       | 750      | May-10 | Wind    | 09INR0018  | Concho        | 249      | May-10 | Wind  |
| 07INR0032  | Tom Green    | 249      | May-10 | Wind    | 10INR0069  | Rusk          | 818      | May-10 | Coal  |
| 09INR0081  | Rusk         | 818      | Jun-10 | Coal    | 10INR0035  | Harris        | 416      | Jun-10 | Gas   |
| 10INR0029  | Hood         | 810      | Jun-10 | Gas     | 10INR0057  | Taylor        | 200      | Jul-10 | Wind  |
| 10INR0052a | Knox         | 21       | Jul-10 | Wind    | 10INR0013  | Upton         | 400      | Jul-10 | Wind  |
| 10INR0038  | Glasscock    | 350      | Aug-10 | Wind    | 10INR0071  | Matagorda     | 88       | Sep-10 | Wind  |
| 09INR0074  | Motley       | 70       | Oct-10 | Wind    | 10INR0041  | Floyd         | 135      | Oct-10 | Wind  |
| 10INR0015  | Mitchell     | 350      | Oct-10 | Wind    | 10INR0070  | Hunt          | 50       | Nov-10 | Gas   |
| 11INR0029  | Throckmorton | 200      | Nov-10 | Wind    | 10INR0039  | Dickens       | 200      | Nov-10 | Wind  |
| 10INR0032  | Navarro      | 800      | Dec-10 | Gas     | 09INR0031  | Ector         | 275      | Dec-10 | Gas   |
| 10INR0080  | Presidio     | 144      | Dec-10 | Solar   | 10INR0077  | Callahan      | 101      | Dec-10 | Wind  |
| 10INR0060  | Willacy      | 400.5    | Dec-10 | Wind    | 10INR0059  | Zapata        | 250.7    | Dec-10 | Wind  |
| 10INR0056  | Borden       | 249      | Dec-10 | Wind    | 10INR0051  | Brazoria      | 200      | Dec-10 | wind  |
| 09INR0076  | Jackson      | 300      | Dec-10 | Wind    | 10INR0042  | Mason         | 170      | Dec-10 | Wind  |
| 10INR0033  | Armstrong    | 420      | Dec-10 | Wind    | 10INR0019  | Deaf<br>Smith | 609      | Dec-10 | Wind  |
| 08INR0062  | Archer       | 249      | Dec-10 | Wind    | 08INR0061  | Hardeman      | 200      | Dec-10 | Wind  |
| 10INR0008  | Pecos        | 500      | Dec-10 | Wind    | 07INR0035  | Tom<br>Green  | 270      | Dec-10 | Wind  |
| 07INR0026  | Baylor       | 400      | Dec-10 | Wind    | 07INR0015  | Foard         | 180      | Dec-10 | Wind  |
| 07INR0013  | Coke         | 200      | Dec-10 | Wind    | 11INR0036b | Matagorda     | 200      | Jan-11 | Wind  |
| 11INR0033b | Cameron      | 200      | Jan-11 | Wind    | 11INR0050  | Crosby        | 149      | Mar-11 | Wind  |
| 11INR0037  | Smith        | 55       | May-11 | Biomass | 11INR0048  | Harris        | 300      | May-11 | Gas   |
| 11INR0046  | Brazoria     | 300      | May-11 | Gas     | 11INR0028  | Grimes        | 1280     | May-11 | Gas   |
| 11INR0061  | Presidio     | 90       | May-11 | Solar   | 11INR0058  | Pecos         | 135      | May-11 | Solar |

| 10INR0009  | Castro    | 200  | May-11 | Wind    | 11INR0009  | Navarro  | 1200 | Jun-11 | Gas   |
|------------|-----------|------|--------|---------|------------|----------|------|--------|-------|
| 09INR0050  | Fannin    | 1200 | Jun-11 | Gas     | 11INR0019  | Upton    | 200  | Jun-11 | Wind  |
| 08INR0020  | Eastland  | 200  | Jun-11 | Wind    | 11INR0006  | Lamar    | 579  | Jul-11 | Gas   |
| 11INR0040  | freestone | 749  | Aug-11 | Gas     | 11INR0039  | Starr    | 201  | Sep-11 | Wind  |
| 11INR0008a | Roberts   | 1000 | Sep-11 | Wind    | 10INR0021  | Grayson  | 646  | Nov-11 | Gas   |
| 11INR0043  | Coke      | 300  | Dec-11 | Wind    | 11INR0025  | Crockett | 400  | Dec-11 | Wind  |
| 11INR0005  | Upton     | 500  | Dec-11 | Wind    | 06INR0022d | Kenedy   | 200  | Dec-11 | Wind  |
| 10INR0018  | Madison   | 550  | Mar-12 | Gas     | 12INR0007  | Lamar    | 296  | May-12 | Gas   |
| 12INR0006  | Limestone | 875  | Jun-12 | Coal    | 10INR0022  | Harris   | 3500 | Jun-12 | Gas   |
| 12INR0002  | Briscoe   | 750  | Jul-12 | Wind    | 12INR0016  | Nueces   | 1200 | Nov-12 | Other |
| 08INR0019c | Gray      | 250  | Nov-12 | Wind    | 08INR0019b | Gray     | 250  | Nov-12 | Wind  |
| 08INR0019a | Gray      | 250  | Nov-12 | Wind    | 12INR0022  | Hidalgo  | 200  | Dec-12 | Wind  |
| 12INR0018  | Gray      | 600  | Dec-12 | Wind    | 11INR0023  | King     | 400  | Dec-12 | Wind  |
| 12INR0005  | Floyd     | 1100 | Dec-12 | Wind    | 06INR0022f | Kenedy   | 200  | Dec-12 | Wind  |
| 12INR0009  | Nueces    | 875  | May-13 | Gas     | 13INR0006  | Gray     | 750  | Oct-13 | Wind  |
| 13INR0005  | Carson    | 600  | Oct-13 | Wind    | 06INR0022e | Kenedy   | 200  | Dec-13 | Wind  |
| 14INR0002  | Goliad    | 756  | Feb-14 | Coal    | 14INR0003  | Nolan    | 850  | Jun-14 | Coal  |
| 14INR0005  | Matagorda | 1200 | Jul-14 | coal    | 14INR0001  | Pecos    | 500  | Dec-14 | Wind  |
| 15INR0003  | Matagorda | 3200 | Jan-15 | Nuclear |            |          |      | ·      |       |

# 1.6 Wind Generation

Wind Capacity Installed by Year





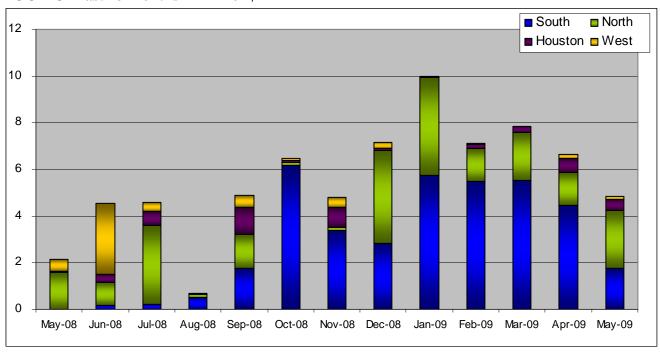
### 2. Regional Planning Group Project Reviews

- American Electric Power Service Corporation submitted a project to construct 2 new 138 kV substations, rebuild a 138 kV circuit, build 2 new 138 kV circuits, and install a new 138/69 kV autotransformer in the Abilene/San Angelo area. The estimated cost of this project is \$105.9 M. The review of this project is complete and an ERCOT Endorsement Letter is in process.
- 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 and will be studied as part of the 2009 Five-Year Transmission Plan.
- 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 is in ERCOT Independent Review and will be studied when the 2009 Five-Year Transmission Plan is complete.
- 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 and will be studied as part of the 2009 Five-Year Transmission Plan.
- Austin Energy submitted a project to relocate the Decker to Technidge circuit to new ROW so that the existing structures can be utilized for the new Gilleland to Technidge circuit. The estimated completion date of this project is November 2010 and estimated cost is \$ 4.3 M. The review of this project is complete and an ERCOT Endorsement Letter is in process.
- Centerpoint Energy has submitted a project to expand the Zenith substation, add one 800 MVA
  autotransformer, connect Zenith to existing circuits near the Gertie substation and upgrade/reconfigure
  nearby 138 kV circuits. The estimated completion date of this project is summer 2012 and estimated cost is
  \$ 26.6 M. This project is in ERCOT Independent Review.
- American Electric Power Service Corporation submitted a project to construct several improvements in the Corpus Christi area. The estimated completion date of this project is June 2012 and estimated cost is \$ 214 M. This project is in ERCOT Independent Review.

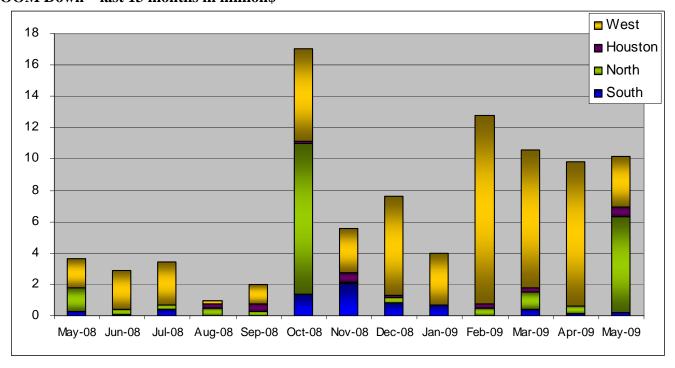
# 3. Congestion Costs

Dollars shown in graphs are settlement quality.

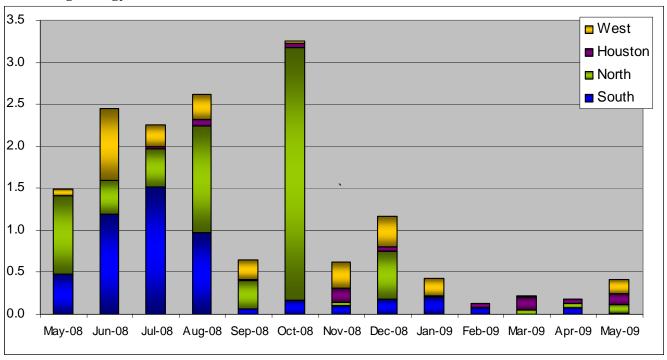
**OOMC** – last 13 months in million\$



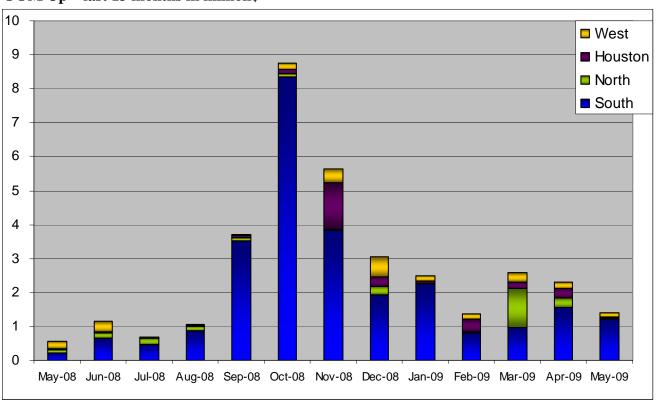
#### **OOM Down – last 13 months in million\$**



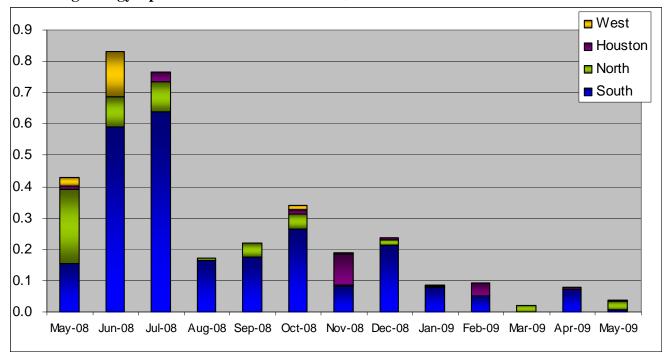
# Balancing Energy Down – last 13 months in million\$



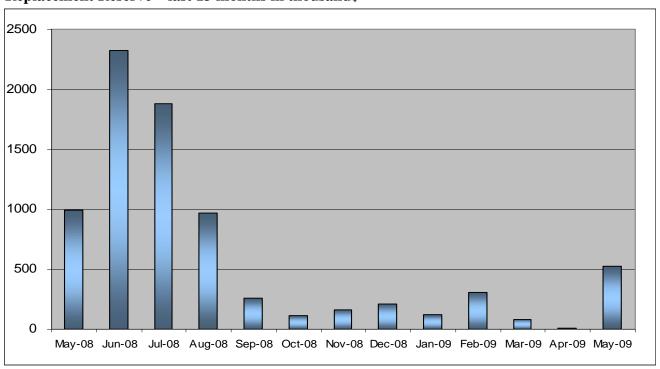
# OOM Up – last 13 months in million\$



# Balancing Energy Up – last 13 months in million\$



# Replacement Reserve – last 13 months in thousand\$



**Binding Constraints – June, 2009** 

| Contingency  | Binding Element                         | <b>Estimated Costs</b> | Transmission<br>Project   |
|--|---|------------------------|---|
| Menard - Gillespie 138kV   | Menard Auto                             | \$ 3,620,392.10        | Yellowjacket, Add 2nd 69/138 kV Auto  |
| Skyline to Marion & Elm Creek 345  | Marion - Hill Country 345kV             | \$ 3,159,056.69        | Hill Country to Skyline<br>- 345 kV 2nd Circuit   |
| Temple Pecan Creek -<br>Tradinghouse & Temple Switch -<br>Long Creek SES | San Angelo Power Station -<br>Shrew Tap | \$ 2,923,976.71        | San Angelo Power<br>Station, to Menard 138<br>kV line improvements                                |
| Watermill - West Levee SW &  | Capacity Shortage                       | \$ 2,545,381.69        | Trinidad – Watermill  |
| Sargent Road   | Watermill - DeSoto                      | \$ 1,832,359.56        | 345kV line  |
| Watermill - DeSoto Switch -<br>Cedar Hill Switch 345kV                   | Watermill - DeSoto                      | \$ 1,582,548.73        | Trinidad – Watermill<br>345kV line  |
| Oklaunion - Fisher Road -<br>Bowman 345kV                                | Vernon - Grayback 69kV                  | \$ 891,532.81          | Fisher Road - Wichita<br>Falls 138 kV line<br>upgrade   |
| Tradinghouse - Venus Switch 345kV  | Rogers Hill - Elm Mott<br>138kV         | \$ 839,174.75          | Elm Mott - Waco<br>Northcrest 138 kV line<br>upgrade<br>N. Waco - NE. Waco<br>138 kV line upgrade |
| Dilley Switch - San Miguel<br>138kV                                      | Derby - Pearsall 69kV                   | \$ 704,606.56          | Pearsall to Dilley 69<br>kV Line Upgrade  |
| Tradinghouse - Venus Switch<br>345kV                                     | Rogers Hill - Bosque Switch<br>138kV    | \$ 513,791.87          | Elm Mott - Waco<br>Northcrest 138 kV line<br>upgrade<br>N. Waco - NE. Waco<br>138 kV line upgrade |

#### **Binding Constraints – May 2009**

| Contingency   | <b>Binding Element</b>                     | <b>Estimated Costs</b> | <b>Transmission Project</b>  |
|---|--|------------------------|--|
| Comanche Peak SES - DeCordova<br>SES & Wolf Hollow - Rocky Creek<br>345kV |  | \$ 3,515,768.74        | Venus - Cedar Hill 345<br>kV line upgrade                          |
| Watermill - DeSoto Switch - Cedar<br>Hill Switch 345kV                    | Watermill - DeSoto                         | \$ 1,966,940.07        | Trinidad – Watermill 345kV line                                    |
| Comanche Peak SES-DeCordova SES & Wolf Hollow-Rocky Creek 345kV           | Comanche Peak SES - Parker<br>Switch 345KV | \$ 1,652,826.07        | Willow Creek - Parker 345 kV line rebuild as double circuit        |
| Capacity Shortage   |  | \$ 1,613,065.72        |  |
| Comanche Peak SES-DeCordova<br>SES-Wolf Hollow 345kV                      | Parker Switch - Benbrook<br>Switch 345KV   | \$ 1,160,067.25        | Parker Switch - Everman<br>345 kV line                             |
| Comanche Peak SES-DeCordova SES & Wolf Hollow-Rocky Creek 345kV           | Venus Switch - Johnson<br>Switch TU 345kV  | \$ 744,535.01          | Venus - Cedar Hill 345<br>kV line upgrade                          |
| Valley Import   |  | \$ 732,379.13          |  |
| PH Robinson 345/138kV<br>Autotransformer #3                               | PH Robinson AT1<br>345/138KV Transformer   | \$ 468,812.45          | P.H. Robinson - Oasis<br>Ckt.99                                    |
| Graham-Long Creek 345kV   | San Angelo Power Station -<br>Shrew Tap    | \$ 449,743.68          | San Angelo Power<br>Station, to Menard 138<br>kV line improvements |
| Replacement Reserve Service   |  | \$ 444,068.87          |  |

#### 4. Other Notable Activities

All postings referred to below can be found at <a href="http://planning.ercot.com/login/login">http://planning.ercot.com/login/login</a> unless otherwise indicated.

- The reliability phase of the 2009 Five-Year Transmission Plan utilizing the latest SSWG base cases is underway. Projects to eliminate unserved energy in 2014 have been identified and coordinated with ERCOT TSPs. Projects to eliminate unserved energy in the remaining years of the 5 year horizon are being studied along with projects needed to eliminate unserved energy in 2014 with specific generating units or combined cycle trains not available.
- RMR exit strategy development is almost complete for the Permian Basin RMR unit.
- The Voltage Ride Through Study has started. Phase I of the study was initiated with the contingency selection process. This is the first part of this phase needed to determine if more VRT capability is needed using the existing wind farm models. Phase II will consist of model improvement. Both of these phases are scheduled for completion by the End of 2009. Phase III involves simulating the VRT capabilities of the system with the revised models and investigation of any required changes.
- Steady-State Working Group Data Set A cases for the 2010 Summer and Winter 2011 peak are complete and posted on the Planning and Operations Information web site. The remainder of the cases will be completed and posted by July 14, 2009.