Acronyms ................................................................. 4

Grid Operation ......................................................... 5
  Daily Peak Demand ....................................................... 6
  13 Month Review of Peak Demand ..................................... 6
  Trend of Temperature in Five Congestion Management Zones .................................................. 7
  Relative Activity Capacity Purchases – OOMC & RMR ................................................................. 7
  Total Number of Days of Local Congestion Management .......................................................... 8
  Instances of CSC Congestion ........................................... 9
  Notable Events .......................................................... 10

Market Operation .......................................................... 12
  Ancillary Services ....................................................... 12
    Average Hourly Procurement by Ancillary Service ............................................................ 13
    13 Month Review of Average Hourly Procurement by Ancillary Service ................................ 13
    Average MCPC by Ancillary Service .............................................................................. 14
    13 Month Review of Average MCPC by Ancillary Service .................................................. 14
    Average Deployment by Ancillary Service ..................................................................... 15
    13 Month Review of Average Deployment by Ancillary Service ........................................ 15

Balancing Energy .......................................................... 16
  Average Balancing Energy Deployed ....................................... 16
    Average UBES Deployment in Five Zones .................................................................. 17
    Average DBES Deployment in Five Zones .................................................................. 17
    13 Month Review of UBES Deployment .................................................................. 18
    13 Month Review of DBES Deployment .................................................................. 18

Energy Purchased Through ERCOT ...................................... 19
  Total Daily Balancing Energy Scheduled for Purchase Through ERCOT (GWh) ................. 20
  Review of Total Balancing Energy Scheduled for Purchase Through ERCOT (GWh) ............ 20
  Average Balancing Energy Scheduled for Purchase Through ERCOT by Interval (MWh) .... 21

% of Total ERCOT Energy Requirement .................................. 22
  Average BES Deployed: as A Percentage of Total Energy Requirement ................................ 23
  13 Month Review of Average BES Deployed: as A Percentage of Total Energy Requirement ... 23

Average MCPE ................................................................... 24
  Average MCPE in Five Zones ........................................................................ 25
  Average MCPE at Each Interval for Five Zones .................................................................. 25
  13 Month Review of MCPE ........................................................................... 26
  Trend of Average Fuel Index .................................................................................. 26

Average Shadow Price ........................................................ 27
  Average Shadow Price ........................................................................ 28
  13 Month Review of Average Shadow Price ................................................................ 28

Cost Summary ............................................................. 29
  Ancillary Service Capacity Cost ............................................................................... 30
  13 Month Review of Ancillary Service Capacity Cost ..................................................... 30
  Ancillary Service Deployment Cost ............................................................................... 31
  13 Month Review of Ancillary Service Deployment Cost .................................................. 31
  OOMC Cost At Final Settlement ............................................................................... 32
  13 Month Review of OOMC Cost At Final Settlement and True Up ................................ 32
  RMR Cost (Initial Settlement) .............................................................................. 33
  RMR Net Cost (Initial Settlement) ............................................................................ 33
  Verified Actual RMR Cost* .................................................................................. 34
  Total Local Congestion Costs by Area ...................................................................... 35
  Total Local Congestion Costs by Instruction Type (in Million $) .................................... 35
Addendum: Map of Local Congestion Areas
### Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AS</td>
<td>Ancillary Service</td>
</tr>
<tr>
<td>BES</td>
<td>Balancing Energy Service</td>
</tr>
<tr>
<td>DBES</td>
<td>Down Balancing Energy Service</td>
</tr>
<tr>
<td>DRS</td>
<td>Down Regulation Service</td>
</tr>
<tr>
<td>LBE</td>
<td>Local Balancing Energy</td>
</tr>
<tr>
<td>MCPC</td>
<td>Market Clearing Price for Capacity</td>
</tr>
<tr>
<td>MCPE</td>
<td>Market Clearing Price for Energy</td>
</tr>
<tr>
<td>NSRS</td>
<td>Non-Spinning Reserve Service</td>
</tr>
<tr>
<td>OOMC</td>
<td>Out of Merit Capacity</td>
</tr>
<tr>
<td>OOME</td>
<td>Out of Merit Energy</td>
</tr>
<tr>
<td>QSE</td>
<td>Qualified Scheduling Entity</td>
</tr>
<tr>
<td>RMR</td>
<td>Reliability Must Run</td>
</tr>
<tr>
<td>RPRS</td>
<td>Replacement Reserve Service</td>
</tr>
<tr>
<td>RRS</td>
<td>Responsive Reserve Service</td>
</tr>
<tr>
<td>UBES</td>
<td>Up Balancing Energy Service</td>
</tr>
<tr>
<td>URS</td>
<td>Up Regulation Service</td>
</tr>
</tbody>
</table>
Grid Operation
Daily Peak Demand

Peak Demand for the Month: 7/06/05 17:00 57457

13 Month Review of Peak Demand

Peak Demand is Peak Interval Demand
Trend of Daily Average Temperature in Five Congestion Management Zones

Relative Activity Capacity Purchases – OOMC & RMR

Note: 1 Unit-Day = 1 unit procured during any time period within one trade day.
Total Number of Days of Local Congestion Management

Contingency

Gibbons Creek - Bryan East - Greens Prairie 138kV
Lytton Spring - Zorn & Austrop - Zorn 345kV
Uvalde - Hamilton 138kV
Somerset - Lytle 138kV
Odessa EHV-Moss 345kV
McNeil AEN - Decker Power 138kV
Marion - Hill country - Skyline 345kV
Trinidad - Watermill & TriComer 345kV

Sargent Rd - Watermill 345kV
Sandow - Temple 345kV
Marion - Zorn - Clear Springs 345kV
Frontera - South McAllen 138kV
La Palma 345kV/138kV auto
Comanche Peak Units #1 and #2
Bates 138kV/69kV auto
Temple - Sandow 345kV
STP - Skyline & Hill Country
Lon Hill - Koch Hearns Ferry 138kV
Braunig - Elmendorf 138kV
Austrop-Sandow 345kV

Congestion Element

Texas A&M - Dansby 138kV
Canyon LCRA - San Marcos 138kV
Asherton - West Conoco 138kV
Leon Creek - Pleasanton 138kV
Odessa EHV-Huntsman 138kV
N. Edinburg - Moore Field 69
N. McAllen - W. McAllen
Rio Hondo - La Palma 138
Blessing - Lolita 138
Gideon - Butler 138
McKenzie - Westside 138

Number of Days

31
13
12
10
6
6
5
4
4
4
4
3
2
2

Note: 1 day= units procured during any time period within one trade day. Total numbers of 1 day or less of local congestion management are not shown in the graph. Occurrences of 1 day or less are not listed in table but are totaled in graph.

Blue fonts indicates a Remedial action plan has been developed for the element.
Notable Events

**New Procedures/ Forms/ Operations Bulletins**

- **07/01/2005**  
  Operations Bulletin 191  
  Summary of Steady State Voltage Control

- **07/05/2005**  
  Operations Bulletin 193  
  Procurement of Additional RRS.

- **07/05/2005**  
  Operations Bulletin 192  
  Notification to MP’s when a critical problem exists and when it is resolved.

- **07/22/2005**  
  Operations Bulletin 194  
  Special Protection Schemes

**Security Alert Stage/ Threatcon/ Related issues**

- None/Yellow

**EECP Occurrence**

- None

**Major Weather Related Power System Problems**

- None

**Major system Voltage problems/ Load Shed incidences**

- **07/01/05**  
  15:13 - Sandow – Temple – Killeen 345 kV lines and Killeen 345/138 kV Tr tripped. The over current relay on the transformer actuated. No CB exists on the high side of the transformer, causing the two associated 345 kV circuits to open. Killeen Switch Tr is rated at 471/515/672 MVA and pre disturbance flow of 400 MVA. The voltage on the 138 kV bus at Killeen Switch dropped to .817 PU and low voltages were observed as far south as Travis County. Significant generation in the area had been forced out of service earlier in the day. 100 MW of load was shed in the Killeen area in accordance with the posted Mitigation Plan.

- **07/22/05**  
  12:00-12:40 - 10 MW load shed in Collin County following a forced outage of a 138 kV switch

**Significant Communication Problems**

- **07/13/05**  
  Held Interval Ending 21:45. RTBM did not clear in time.

- **07/17/05**  
  Held Interval Ending 11:45. RTBM did not solve.

**OCN, Advisory, Alert, Emergency Notice and Major Disturbances**

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Type</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>7/1</td>
<td>3:30</td>
<td>Alert</td>
<td>Capacity insufficiency 1400 - 1800</td>
</tr>
<tr>
<td>7/1</td>
<td>1:30</td>
<td>OCN</td>
<td>Capacity insufficiency 1400 - 1800</td>
</tr>
<tr>
<td>7/1</td>
<td>12:53</td>
<td>Transmission Alert</td>
<td>Loss of S McAllen Tr loads La Palma - Rangerville</td>
</tr>
<tr>
<td>7/1</td>
<td>14:00</td>
<td>Transmission Alert</td>
<td>Loss of Menard Tr loads Ballinger - Paint Rock</td>
</tr>
<tr>
<td>7/1</td>
<td>12:23</td>
<td>Transmission Alert</td>
<td>Loss of San Miguel Tr loads Derby - Pearsall</td>
</tr>
<tr>
<td>7/2</td>
<td>12:40</td>
<td>Transmission Alert</td>
<td>Loss of S McAllen Tr loads La Palma - Rangerville</td>
</tr>
<tr>
<td>7/2</td>
<td>17:15</td>
<td>Transmission Alert</td>
<td>Low voltages in the Marble Falls Area</td>
</tr>
<tr>
<td>7/2</td>
<td>08:55</td>
<td>Transmission Alert</td>
<td>Loss of Menard Tr loads Ballinger - Paint Rock</td>
</tr>
<tr>
<td>7/2</td>
<td>13:06</td>
<td>Transmission Alert</td>
<td>Loss of San Miguel Tr loads Bigfoot Tr</td>
</tr>
<tr>
<td>7/3</td>
<td>15:28</td>
<td>Transmission Alert</td>
<td>Loss of Eagle Pass - Hamilton loads Asherton - W Conoco</td>
</tr>
<tr>
<td>7/3</td>
<td>05:11</td>
<td>Transmission Alert</td>
<td>Loss of Menard Tr loads Ballinger - Paint Rock</td>
</tr>
<tr>
<td>7/3</td>
<td>13:30</td>
<td>Transmission Alert</td>
<td>Loss of San Miguel Tr loads Pleasanton Tr</td>
</tr>
<tr>
<td>7/6</td>
<td>18:00</td>
<td>Transmission Alert</td>
<td>Loss of Frontera-S McAllen loads N McAllen - W McAllen</td>
</tr>
<tr>
<td>7/7</td>
<td>06:40</td>
<td>OCN</td>
<td>Capacity insufficiency IE 1700</td>
</tr>
<tr>
<td>7/7</td>
<td>11:00</td>
<td>Transmission Alert</td>
<td>Loss of Marion Tr loads Sequin Tr</td>
</tr>
<tr>
<td>7/7</td>
<td>02:36</td>
<td>Transmission Alert</td>
<td>Loss of Zorn-Sequim loads Sequin - McQueeney</td>
</tr>
<tr>
<td>7/10</td>
<td>22:55</td>
<td>Alert</td>
<td>Capacity insufficiency 1500 - 1900 for operating day 7/11</td>
</tr>
</tbody>
</table>
### New SPS & RAP's

Two conditional RAP posted in July and will become active when anticipated system configuration changes occur under high loading conditions. Both RAP affect the flows on the Northeast to North interface.

### Major Computer System Problems/Enhancements/Fixes

None

### Update on New Generation

None

### Max / Min Temperature

<table>
<thead>
<tr>
<th>Max</th>
<th>Min</th>
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</thead>
<tbody>
<tr>
<td>108.5°F</td>
<td>65.5°F</td>
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</table>

FW
Market Operation

Ancillary Services
Average Hourly Procurement by Ancillary Service

13 Month Review of Average Hourly Procurement by Ancillary Service
Average Deployment by Ancillary Service

13 Month Review of Average Deployment by Ancillary Service
Balancing Energy

Average Balancing Energy Deployed
Average UBES Deployment in Five Zones

Average DBES Deployment in Five Zones
13 Month Review of UBES Deployment

13 Month Review of DBES Deployment
Balancing Energy
Energy Purchased Through ERCOT

(PRR404: Any Balancing Energy scheduled through the ERCOT Scheduling process)
Total Daily Balancing Energy Scheduled for Purchase Through ERCOT (GWh)

13 Month Review of Total Balancing Energy Scheduled for Purchase through ERCOT (GWh)
Balancing Energy
% of Total ERCOT Energy Requirement
Balancing Energy
Average MCPE
Average MCPE in Five Zones

Average MCPE at Each Interval for Five Zones
13 Month Review of MCPE

Trend of Average Fuel Index

Trend Chart
Balancing Energy
Average Shadow Price
Cost Summary
ANCILLARY SERVICE CAPACITY COST

Total: $61.66 Million

Note: There is not a price for self-arranged Ancillary Services. MCPC is used to calculate the cost for self-arrangement.
Ancillary Service Deployment Cost

![Chart showing Ancillary Service Deployment Cost]

Total w/DRS: $-2.52 Million  Total w/o DRS: $5.42 Million

13 Month Review of Ancillary Service Deployment Cost

![Chart showing 13 Month Review of Ancillary Service Deployment Cost]

Total w/DRS: $-15.26 Million  Total w/o DRS: $57.47 Million

Totals are for time range of the chart.
13 Month Review of OOMC Cost At Final Settlement and True Up

- Total OOMC Payment (Total: $79.02 Million)
- Totals are for time range of the chart.
RMR Cost (Initial Settlement)

RMR Net Cost (Initial Settlement)

Total Net Cost $8.82 Million
Verified Actual RMR Cost*

*Note:

1. Trade dates thru 7/31/05 complete with Initial Settlement data, using estimated eligible costs.

2. Trade dates thru 6/18/05 complete with Final Settlement data, using verifiable actual cost data provided by the RMR Unit owner.
### Total Local Congestion Costs by the Physical Location of Instructed Units

**Total: $17.02 Million**

- **CENTEX** $3.24
- **CORPUS** $0.50
- **VALLEY** $0.49
- **NORTH** $3.53
- **HOUSTON** -$0.01
- **WEST** $1.79
- **MCCAMEY** $0.00

### Total Local Congestion Costs by Instruction Type (in Million $)

- LBE-operate at or below a level: $8.76
- LBE-operate at or above a level: $2.49
- LBE-hold at a level: $0.32
- Manual OOME UP: $0.05
- Manual OOME DN: $2.59
- OOMIC: $2.81
Top Ten Local Energy Deployment Cost by Local Constraints
(Does not include OOMC)

<table>
<thead>
<tr>
<th>Contingency</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gibbons Creek</td>
<td>$1.78</td>
</tr>
<tr>
<td>Salem LCRA - Highway 36</td>
<td>$1.54</td>
</tr>
<tr>
<td>Lytton Springs - Zorn &amp; Austrop - Zorn 345</td>
<td>$1.43</td>
</tr>
<tr>
<td>Temple SES - Sandow 345</td>
<td>$0.55</td>
</tr>
<tr>
<td>Frontera - South McAllen 138</td>
<td>$0.48</td>
</tr>
<tr>
<td>Uvalde - Hamilton Road 138</td>
<td>$0.31</td>
</tr>
<tr>
<td>Trinidad SES - Watermill Switch - Tricomer 345</td>
<td>$0.25</td>
</tr>
<tr>
<td>*Marion - Zorn - Clear Springs 345</td>
<td>$0.21</td>
</tr>
<tr>
<td>*Marion - Hill Country 345</td>
<td>$0.14</td>
</tr>
<tr>
<td>*Marion - Hill Country - Kendall 345</td>
<td>$0.11</td>
</tr>
</tbody>
</table>

Note: OC2s have several possible contingency and overloaded element pairs

* Marion - Zorn - Clear Springs 345 Kv Overloads:
  a. Seguin Auto - Transformer 138 /69
  b. Zorn - Seguin 138
  c. McCarty - Henna 138
  d. Comfort - Kendall 138

Total: $7.01 Million
Cost Summary

Total with DBES: $128.45
Total without DBES: $161.88

13 Month Review of Cost Summary

Total with DBES (Total: $1,133.81 Million)
Total Without DBES (Total: $1,377.79 Million)

Totals are for time range of the chart.
Note:

1. DBES cost is a credit to system costs and therefore is shown as a negative number here to differentiate it from the other types of Reliability Costs.

2. BES deployment costs include two parts: the cost for Power Balance and the cost for CSC Congestion. Due to Relaxed Balanced Schedule, the cost paid for Power Balance covers both the difference between ERCOT load forecast and QSE's schedule and the amount of energy that QSEs intend to buy from Real-Time Energy market.

The historical data gathered from the monthly reports has been compiled into an Excel workbook which will be updated and posted along with this report at the following link:


Please contact Shuye Teng at 512-248-3998 or email at steng@ercot.com should you have any questions.
Addendum: Map of Local Congestion Areas (charts on page 36)