ERCOT System Operations

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ERCOT OPERATIONS MONTHLY REPORT – FEBRUARY 2006

February 2006

Acronyms

Grid Operation

- Daily Peak Demand
- 13 Month Review of Peak Demand
- 13 Month Review of Average Peak Demand
- Daily Average Temperature in Five Congestion Management Zones
- Monthly Average Temperature in Five Congestion Management Zones
- Total Number of Days of Local Congestion Management
- Instances of SCE Congestion
- Notable Events

Market Operation

- Ancillary Services
  - Average Hourly Procurement by Ancillary Service
  - 13 Month Review of Average Hourly Procurement by Ancillary Service
  - Average MCPE by Ancillary Service
  - Average Deployment by Ancillary Service
  - 13 Month Review of Average Deployment by Ancillary Service
- Balancing Energy
  - Average Balancing Energy Deployed in Five Zones
  - 13 Month Review of Average Balancing Energy Deployed in Five Zones
- Energy Purchased Through ERCOT
  - Total Daily Balancing Energy Scheduled for Purchase Through ERCOT (GWh)
  - 13 Month Review of Total Balancing Energy Scheduled for Purchase through ERCOT (GWh)
- % of Total ERCOT Energy Requirement
  - Average BES Deployed: as a Percentage of Total Energy Requirement
  - 13 Month Review of Average BES Deployed: as A Percentage of Total Energy Requirement
- Average MCPE
  - Average MCPE in Five Zones
  - Average MCPE at Each Interval for Five Zones
  - 13 Month Review of MCPE
  - Average Fuel Index
- Average Shadow Price
  - Average Shadow Price
  - 13 Month Review of Average Shadow Price
- Cost Summary
  - Ancillary Service Capacity Cost
  - 13 Month Review of Ancillary Service Capacity Cost
  - Ancillary Service Deployment Cost
  - 13 Month Review of Ancillary Service Deployment Cost
  - OOMC Cost At Final
  - OOMC Cost At Final Settlement and True Up
  - RMR Cost (Initial Settlement)
  - RMR Net Cost (Initial Settlement)
  - Verified Actual RMR Cost
  - Total Local Congestion Costs by the Physical Location of Instructed Units
  - Total Local Congestion Costs by Instruction Type (in Million $)
  - Local Congestion Cost By Instruction Type by Day
Addendum: Map of Local Congestion Areas (charts on pages 34 & 35)
Grid Operation

Daily Peak Demand

Peak Demand for the Month: 2/18/06 19:00 43358

13 Month Review of Peak Demand

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

0 10 20 30 40 50 60 70 80

- Houston
- North
- South
- West
- North East

**Relative Activity Capacity Purchases – OOMC & RMR**

- OOMC
- RMR

**Total Number of Days of Local Congestion Management**

**Contingency**
- Bowie TMPP - Patterson Street 138 kV
- Comanche Peak 1 & 2
- Lon Hill - N Edinburg 345 kV
- Skyline - Marion & STP 345 kV
- Hill Country - Marion & STP 345 kV
- Marion - Hill Country & Skyline 345 kV
- North Edinburg 345/138 kV Tr
- Buffalo Gap-Abilene South 138 kV
- Austrop - Lost Pines 345 kV
- Austrop - Sandow 345 kV
- Odessa EHV Switch 345/138 kV Tr

**Congestion Element**
- Bowie 138/69 kV Tr
- Uvalde 138/69 kV Tr
- Lon Hill - Stratton
- Schertz - Parkway 138 kV
- Schertz - Parkway 138 kV
- Rio Hondo - MV Burns 138 kV
- Buffalo Gap-Abilene South 138 kV Tr
- Fayetteville 345/138 kV Tr #2
- Odessa EHV 345/138 kV Tr
- Odessa EHV 345/138 kV Tr

**# of Days**
- 17
- 17
- 13
- 11
- 10
- 8
- 4
- 3
- 2
- 2
- 2

Note: 1 Day = 1 Unit procured during any time period within one trade day. Total numbers of 1 day or less of local congestion management not shown in the graph. Occurrences of 1 day or less are not listed in table but are totaled in graph. Indicates congestion affected by outages.
Instances of CSC Congestion

Notable Events

New Procedures/ Forms/ Operations Bulletins

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>02/15/06</td>
<td>Operating Period Desk – NSRS Deployments</td>
</tr>
<tr>
<td>02/15/06</td>
<td>Day Ahead Desk – Operation Procedure Manual</td>
</tr>
<tr>
<td>02/15/06</td>
<td>Transmission &amp; Security Desk – Conducting Security Analysis</td>
</tr>
<tr>
<td>02/28/06</td>
<td>Transmission &amp; Security Desk – Block Load Transfer</td>
</tr>
<tr>
<td>02/28/06</td>
<td>Transfer Procedures to a New Location</td>
</tr>
<tr>
<td>02/28/06</td>
<td>Frequency Control Desk – South DC Tie</td>
</tr>
</tbody>
</table>

Significant Communication Problems

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>02/09/06</td>
<td>Held 09:30 interval. MCP suspect</td>
</tr>
<tr>
<td>02/21/06</td>
<td>Held 14:30 interval. Erroneous value entered into OC1 constraint</td>
</tr>
</tbody>
</table>

OCN, Advisory, Alert, Emergency Notice and Major Disturbances

<table>
<thead>
<tr>
<th>Date</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>02/04/06</td>
<td>8:00-8:25 OCN Capacity shortage for HE 10:00</td>
</tr>
<tr>
<td>02/04/06</td>
<td>8:25-9:15 Alert Capacity shortage for HE 10:00</td>
</tr>
<tr>
<td>02/16/06</td>
<td>17:15-20:15 OCN Insufficient UBES bids for operating hour 20:00</td>
</tr>
<tr>
<td>02/17/06</td>
<td>11:00-24:00 Advisory Cold temp &amp; freezing precipitation forecasted through Sunday.</td>
</tr>
<tr>
<td>02/18/06</td>
<td>15:00-22:30 Alert Loss of Live Oak-Sonora loads Conoco-Lake Nasworthy</td>
</tr>
<tr>
<td>02/18/06</td>
<td>15:00-22:30 Alert Loss of Asherton 138/69 kV Tr loads Uvalde 138/69 kV Tr</td>
</tr>
<tr>
<td>02/18/06</td>
<td>15:00-16:45 Alert Loss of Menard 138/69 kV Tr loads Ft Mason-Mason TO</td>
</tr>
<tr>
<td>02/19/06</td>
<td>15:00-24:00 Advisory Cold temp &amp; freezing precipitation forecasted through Sunday.</td>
</tr>
<tr>
<td>02/19/06</td>
<td>4:45-13:45 Alert Loss of Kingsville-Alice loads Falfurrias 138/69 kV Tr</td>
</tr>
<tr>
<td>02/19/06</td>
<td>10:45-22:00 Alert Loss of Live Oak-Sonora loads Conoco-Lake Nasworthy Tr</td>
</tr>
<tr>
<td>02/19/06</td>
<td>10:45-22:00 Alert Loss of Asherton 138/69 kV Tr loads Uvalde 138/69 kV Tr</td>
</tr>
<tr>
<td>02/19/06</td>
<td>10:45-22:00 Alert Loss of Big Foot 138/69 kV loads Dilley-Pearsall</td>
</tr>
<tr>
<td>02/20/06</td>
<td>0:15-14:00 Advisory Cold temp &amp; freezing precipitation forecasted through Sunday.</td>
</tr>
<tr>
<td>02/20/06</td>
<td>3:30-7:30 OCN Capacity shortage for HE 8:00</td>
</tr>
<tr>
<td>02/21/06</td>
<td>5:15-5:30 Emergency Notice EMMS Regulation, Responsive Deployments are not being sent</td>
</tr>
<tr>
<td>02/27/06</td>
<td>10:45-12:30 Alert Loss of Orange Grove-Lon Hill loads Three Rivers 138/69 kV Tr</td>
</tr>
<tr>
<td>02/27/06</td>
<td>10:45-12:30 Alert Loss of George West-Sigmon or George West 138/69 kV Tr causes voltage violations on the 69 kV system</td>
</tr>
<tr>
<td>02/28/06</td>
<td>12:50-14:30 OCN Capacity shortage for HE 20:00</td>
</tr>
</tbody>
</table>

Major System Voltage Problems/ Load Shed Incidents

None

Major Computer System Problems/Enhancements/Fixes

<table>
<thead>
<tr>
<th>Date</th>
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</tr>
</thead>
<tbody>
<tr>
<td>02/06</td>
<td>PR40113 RAP-C Modeling Enhancements implemented</td>
</tr>
<tr>
<td>02/21/06</td>
<td>05:00-05:11 Out of memory error caused SMP to fail. Regulation deployments were not being updated. A patch installed on 3/13 is expected to fix the issue.</td>
</tr>
</tbody>
</table>

Security Alert Stage/ Threatcon/ Related Issues

None/Yellow
Major Weather Related Power System Problems
  None

New SPS & RAP's
  None

Update on New Generation
  None

Max / Min Temperature
  Max:  91.2°F  SW
  Min:  19.5°F  FW

Market Operation
  Ancillary Services
13 Month Review of Average Deployment by Ancillary Service

Balancing Energy

Average Balancing Energy Deployed
Balancing Energy
Energy Purchased Through ERCOT

(PRR404: Any Balancing Energy scheduled through the ERCOT Scheduling process)
Average Balancing Energy Scheduled for Purchase Through ERCOT by Interval (MWh)

Balancing Energy
% of Total ERCOT Energy Requirement
Average BES Deployed: as a Percentage of Total Energy Requirement

13 Month Review of Average BES Deployed: as A Percentage of Total Energy Requirement

Balancing Energy
Average MCPE
Balancing Energy
Average Shadow Price

Average Shadow Price

13 Month Review of Average Shadow Price
Cost Summary

13 Month Review of Ancillary Service Capacity Cost

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

- DRS
- URS
- RRS
- NSRS

Total w/DRS: $0.84 Million  Total w/o DRS: $4.61 Million

13 Month Review of Ancillary Service Deployment Cost

Total w/DRS: $2.04 Million  Total w/o DRS: $81.74 Million

OOMC Cost At Final Settlement and True Up

- Start-Up Payment (Total: $1.34 Million)
- Total OOMC Payment (Total: $8.51 Million)

13 Month Review of OOMC Cost At Final Settlement and True Up

Total OOMC Payment (Total: $87.20 Million)

Totals are for time range of the chart.
Total Net Cost $7.81 Million

RMR Net Cost: $111.29

*Note:
1. Trade dates thru 2/28/06 complete with Initial Settlement data, using estimated eligible costs.
2. Trade dates thru 1/19/06 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

- CENTEX: $5.0
- CORPUS: $0.0
- SOUTH: $0.0
- VALLEY: $2.58
- DFW: $1.70
- NORTH: $0.84
- HOUSTON: $0.01
- WEST: $2.26
- MCCAMEY: $0.01

Total: $13.38 Million

Local Congestion Cost By Instruction Type by Day

- OOMC: $5.9
- OOMEDN: $0.0
- OOMEUP: $0.0
- LBE-operate at or below a level: $2.58
- LBE-operate at above a level: $1.70
- LBE-hold at a level: $0.84
- Manual OOME Dn: $0.01
- Manual OOME Up: $2.26

Total $ 13.38 Million

Pie Chart:
- LBE-operate at or below a level: $8.51
- LBE-operate at above a level: $3.64
- LBE-hold at a level: $0.99
- Manual OOME Dn: $0.09
- Manual OOME Up: $0.04
- OOMC: $0.01
Top Ten Local Energy Deployment Cost by Local Constraints
(Does not include OOMC)

Top Ten Total: $4.55 Million

1. Marion-Hill Country & Skyline 345kv - $0.44 Million
2. Comanche Peak Units 1 & 2 - $0.43 Million
3. Bowie Tmp-Patterson Str 138kv - $0.28 Million
4. North Edinburg 345/138kv Auto #2 - $0.17 Million
5. Hill Country-Marion & Stp 345kv - $0.13 Million
6. Stephenville-Lingleville 138kv - $0.11 Million
7. Uvalde-Asphalt Mines 138 Kv - $0.11 Million
8. Bowie 138/69kv Auto - $0.10 Million
9. Morgan Creek 345/138kv Auto #2 - $0.10 Million
10. 2/21 Schertz-Parkway 138kv - $0.10 Million

Cost Summary

Total with DBES: $64.81 Million
Total without DBES: $85.13 Million

13 Month Review of Cost Summary

Total with DBES (Total: $1,508.04 Million)
Total Without DBES (Total: $1,811.53 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.

Addendum: Map of Local Congestion Areas (charts on pages 35 & 36)

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.