Item 8: Independent Market Monitor (IMM) Report

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Board of Directors Meeting

ERCOT Public
June 21, 2022
2021 Energy Prices

Average real-time energy prices up more than six-fold in 2021
• Winter Storm Uri had a significant impact
• Average natural gas prices up considerably

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<td>$50.77</td>
<td>$31.58</td>
<td>$105.27</td>
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<td>(S/MMBtu)</td>
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<tr>
<td>Natural Gas</td>
<td>$4.32</td>
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Load Trends

Total ERCOT load increased in 2021
• Up by more than 1,300 MW per hour on average
Approximately 8,800 MW of new generation resources came online in 2021

- Most were intermittent renewable resources with an effective peak serving capacity totaling 2,400 MW
- The remaining capacity was:
  - 660 MW from combustion turbines;
  - 70 MW from combined cycle; and
  - 820 MW of energy storage resources.

The percentage of total generation supplied by wind resources increased to more than 24% of all annual generation.
Real-time congestion costs were up 46%, to $2.1B

- High congestion in South zone during Uri
- Higher gas prices
- GTC contribution up ($400M, from $190M in 2020)
Operational Posture

The second half of 2021 was affected by ERCOT’s operational changes

• Increased non-spinning reserve requirements;
• More routine use of RUC, including issuing instructions earlier in the day and committing more longer-lead time resources; and
• Adjusting the selection of forecasts to more frequently rely on the highest load forecast and the lowest wind and solar forecasts.
2022 Effects

• The operational posture changes made in 2021 continue to impact market outcomes into 2022
  – We estimate $210M-$385M YTD* due to the increased non-spin procurement and its affect on ancillary services prices

• Due to frequent use of RUCs, the contribution of the reliability deployment price adder YTD* has been approx. $460M

• Another change in 2022 is the Operating Reserve Demand Curve
  – System-wide offer cap lowered to $5,000/MWh
  – Minimum contingency level increased to 3,000 MW effective January 1
  – We estimate the impact of this shift on energy costs to be approx. $475M YTD*
    • For reference, the total ORDC adder impact in 2022 YTD* has been ~$900M.

*as of 5/31/22
Key recommendations

- Prioritize implementation of Real-Time Co-optimization project
- Implement an uncertainty product (2- to 4-hour ancillary service)
Conclusion

Full 2021 State of the Market Report can be found here.