Item 5.2: 2018 Summer Operations

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Board of Directors Meeting

ERCOT Public
June 12, 2018
## Summer 2018 Resource Adequacy Outlook

<table>
<thead>
<tr>
<th>Total Resources (as of April 30)</th>
<th>78,184</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forecasted Peak Load</td>
<td>72,756(^1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scenarios:</th>
<th>Forecasted Season Peak Load / Extreme Generation Outages(^2)</th>
<th>Forecasted Season Peak Load / Low Wind Output(^3)</th>
<th>Extreme Peak Load(^4) / Typical Generation Outages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses of Reserve Capacity</td>
<td>4,349</td>
<td>6,915</td>
<td>7,746</td>
</tr>
<tr>
<td>Capacity Available for Operating Reserves</td>
<td>1,079</td>
<td>(1,487)</td>
<td>(2,318)</td>
</tr>
</tbody>
</table>

\(^1\) Based on normal weather from 2002-2016

\(^2\) Based on typical generation outages (average historical planned and forced outages during peak hours for June-September weekdays, starting in 2015), plus additional forced outages at 90\(^{th}\) percentile

\(^3\) Based on 10\(^{th}\) percentile of wind output during 100 highest Net Load hours for the 2013-2017 Summer seasons

\(^4\) Based on 2011 weather
Summer 2018 Transmission Outlook

• No expected wide-area reliability concerns this year, barring significant outages

• May experience congestion in some areas
  – Far West Texas due to rapid localized load growth and solar generation development
  – Panhandle export
  – Localized areas in the Hill Country, the Valley, and southeast Houston
Summer 2018 Preparations

- ERCOT and the market participants are focused on performance.

- The PUC Chair and ERCOT met with market segments to encourage enhanced preparations for summer operations.

- Example initiatives:
  - Restrictions to reduce potential generation curtailment due to planned transmission outages
  - Coordination with gas pipelines to reduce potential for generation unavailability due to pipeline outages or electric curtailments
Operational Changes for Summer 2018

- NPRR 815 implemented, increasing limit on Load Resources providing Responsive Reserve Service (RRS) to 60%; revised RRS quantities beginning June 1 for remainder of year.

- Integration of second hourly wind forecast completed.
## Operating Notices

<table>
<thead>
<tr>
<th>Notice</th>
<th>Trigger</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Condition Notice (OCN)</td>
<td>Issued in anticipation of a possible emergency condition, such as when more resources may be needed</td>
</tr>
<tr>
<td>Conservation appeal</td>
<td>May be issued in anticipation of expected emergency conditions</td>
</tr>
<tr>
<td>Advisory</td>
<td>Available Operating Reserves, measured by Physical Responsive Capability (PRC), are less than 3,000 MW and not expected to recover within 30 minutes</td>
</tr>
</tbody>
</table>
# Energy Emergency Alert (EEA) levels

## EEA 1
- PRC < 2,300 MW; > 30 mins
  - Order all resources online
  - Request DC-Tie emergency imports
  - Deploy Emergency Response Service (ERS) 30-minute demand response
  - Release generation Responsive REServes

## EEA 2
- PRC < 1,750 MW; > 30 mins
  - Deploy ERS 10-minute demand response
  - Deploy Load Resources
  - Request TDSP Load Management
  - Request TDSP Voltage Reduction
  - Issue conservation appeal, if not already

## EEA 3
- PRC < 1,375 MW
  - Implement any measures not already being used

## EEA 3
- PRC < 1,000 MW; > 30 mins
  - Implement load shed to match generation to load and bring PRC above 1,000 MW
Questions?