



ERCOT Update on Issues Related to COVID-19 and Key Projects

Kenan Ögelman
VP, Commercial Operations

TAC
April 1, 2020

Outline

- Update on ERCOT's response to the COVID-19 pandemic – Kristi Hobbs
- COVID-19 Load Impact Analysis – Warren Lasher
- Remote control room operations – Woody Rickerson
- Revision Requests needed for June 2020 Board Meeting – Kenan Ögelman
- Real-Time Co-optimization: Next steps on Revision Requests – Kenan Ögelman and Matt Mereness



ERCOT Pandemic Plan in response to COVID-19

Kristi Hobbs
Director, Enterprise Risk Management &
Strategic Analysis

TAC
April 1, 2020

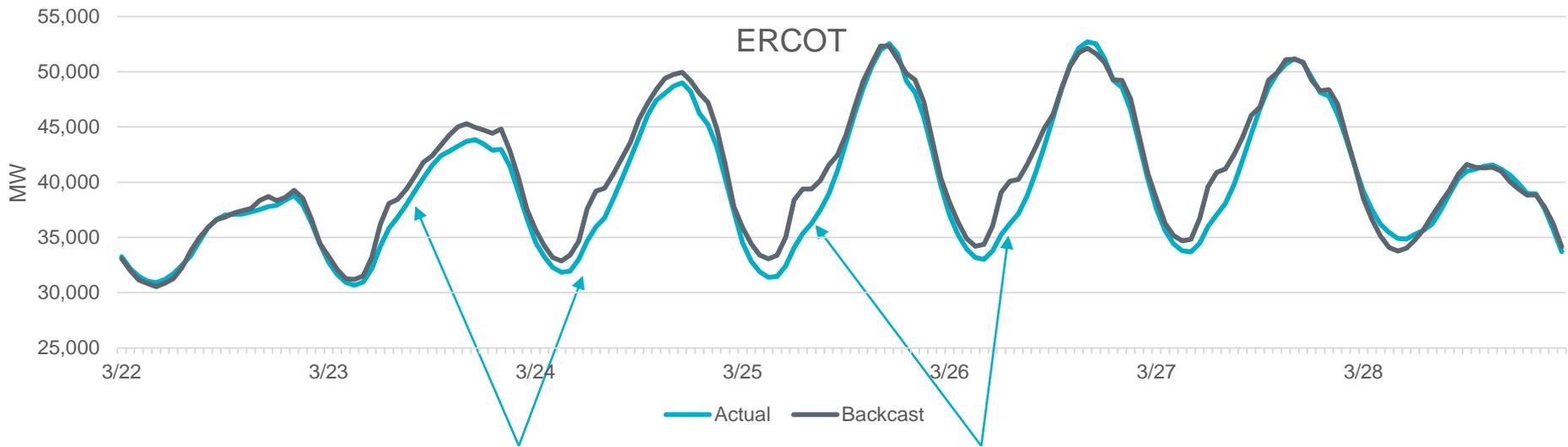


COVID-19 Load Impact Analysis

Warren Lasher
Senior Director, System Planning

TAC
April 1, 2020

Observations

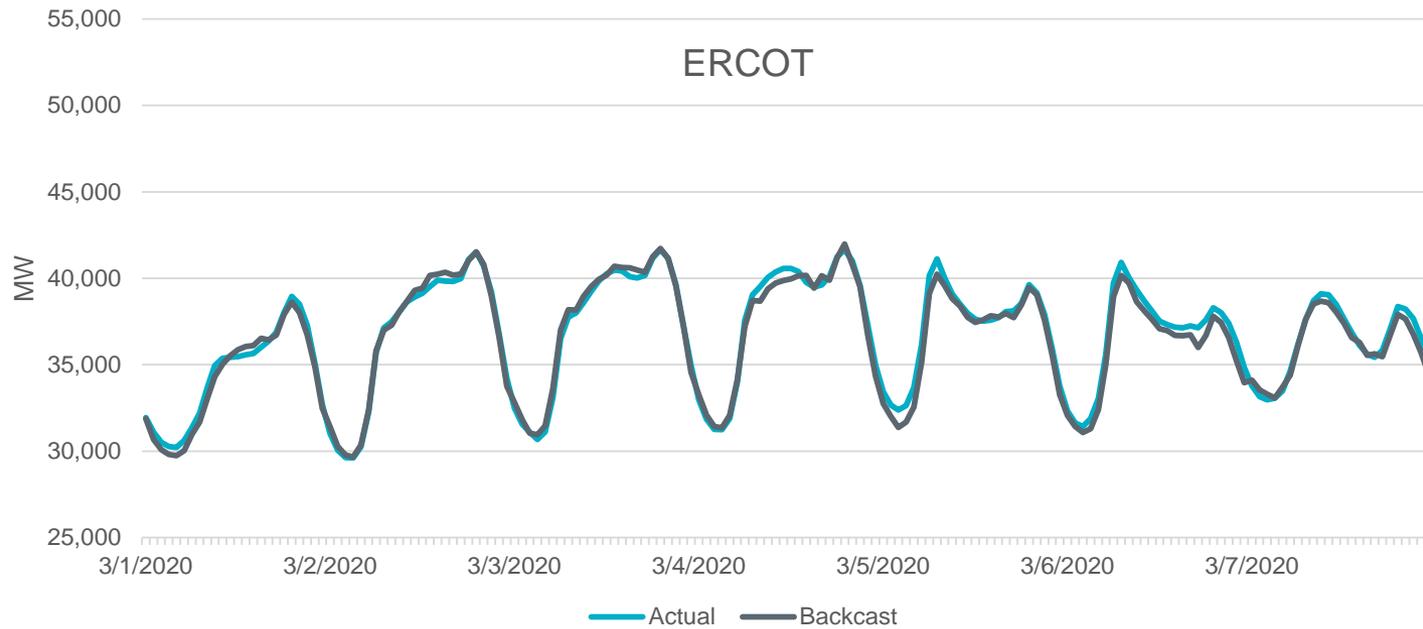


- There has been little impact to ERCOT's daily peaks.
- Load has been consistently lower during the early morning hours between 6 and 10 a.m. These load values have been decreasing over the past 3 weeks and are currently 10% lower than what the model would predict after accounting for typical model error.
- Based on data analyzed for the week beginning March 22, weekly energy use has decreased by 2%.

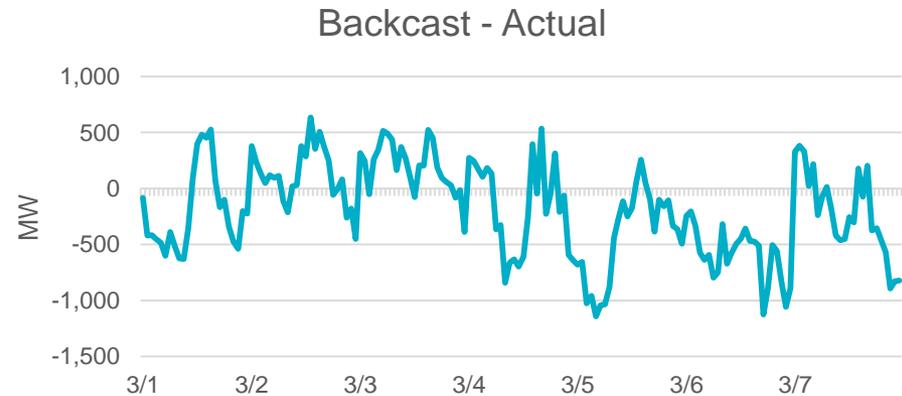
Backcast Model

- Compared model results using actual weather versus actual hourly load; this is referred to as a backcast.
- Model was last updated in January
- No error correction is used (“pure model”)
- The difference between the backcast and actual is model error
- Model error includes the impact of COVID-19

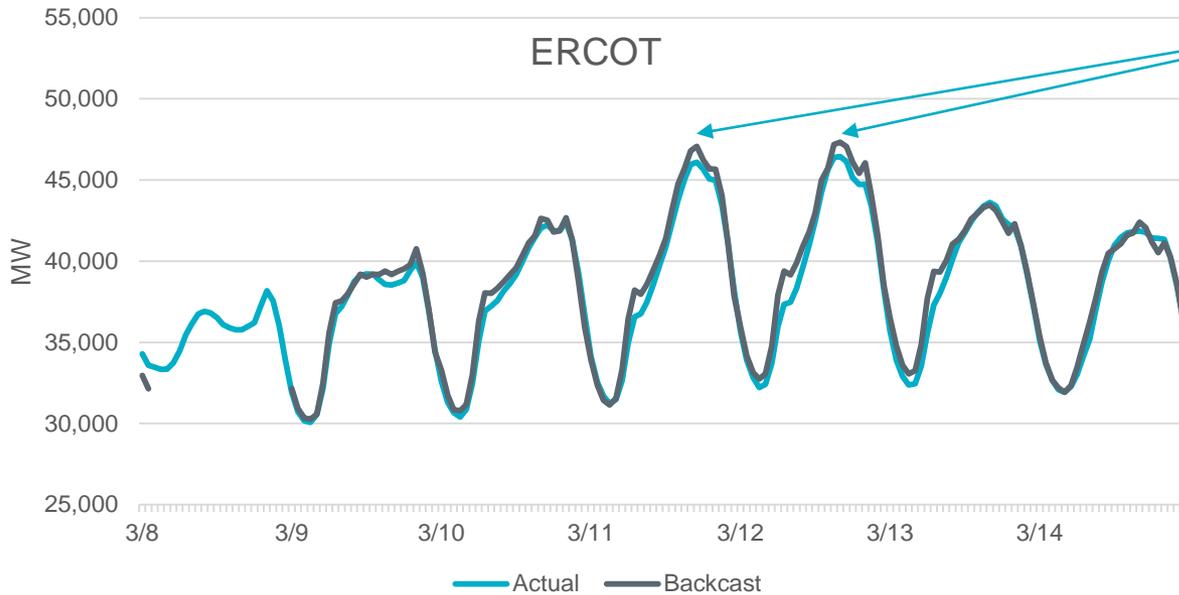
Week Beginning 3/1



- Model performance before COVID-19
- Overall model performs well, though weather is milder
- Expectation is for model error to be centered around 0

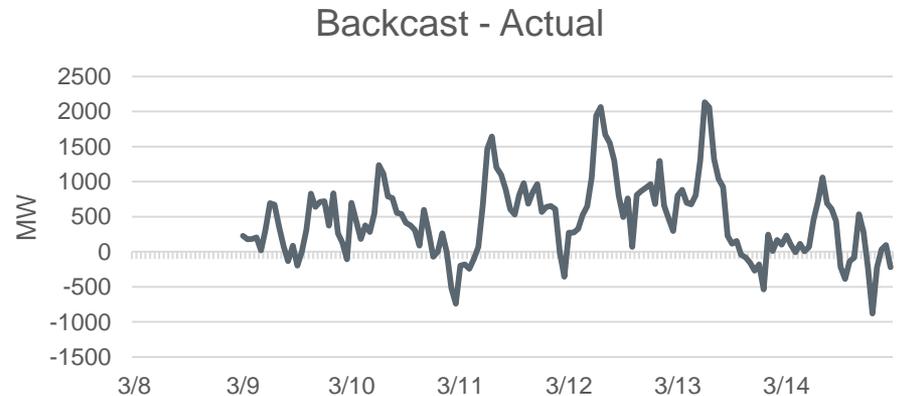


Week Beginning 3/8

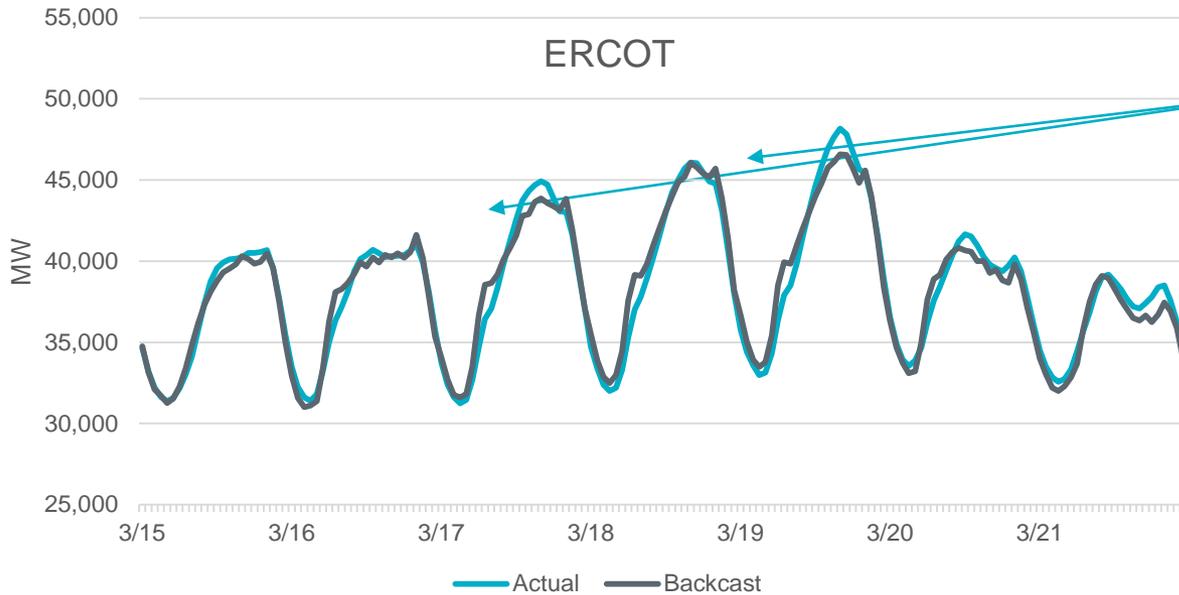


Peaks are slightly lower than the backcast, but they are within the range of normal model error

- Software doesn't create backcast for Daylight Saving Time
- Errors are increasing with an average value of >500 MW

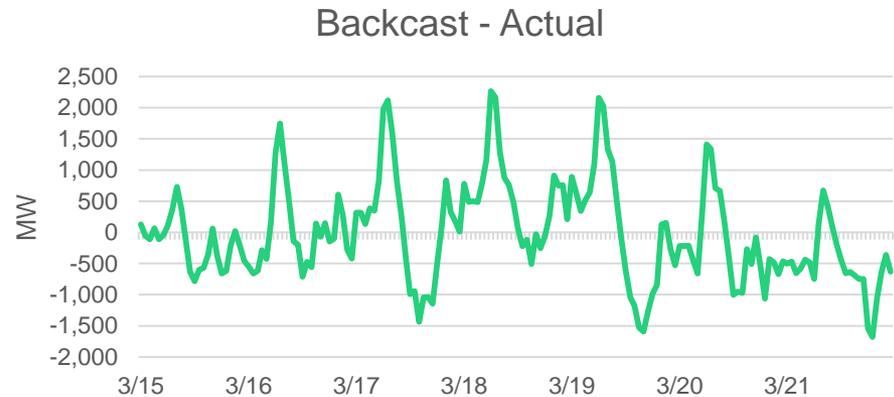


Week Beginning 3/15

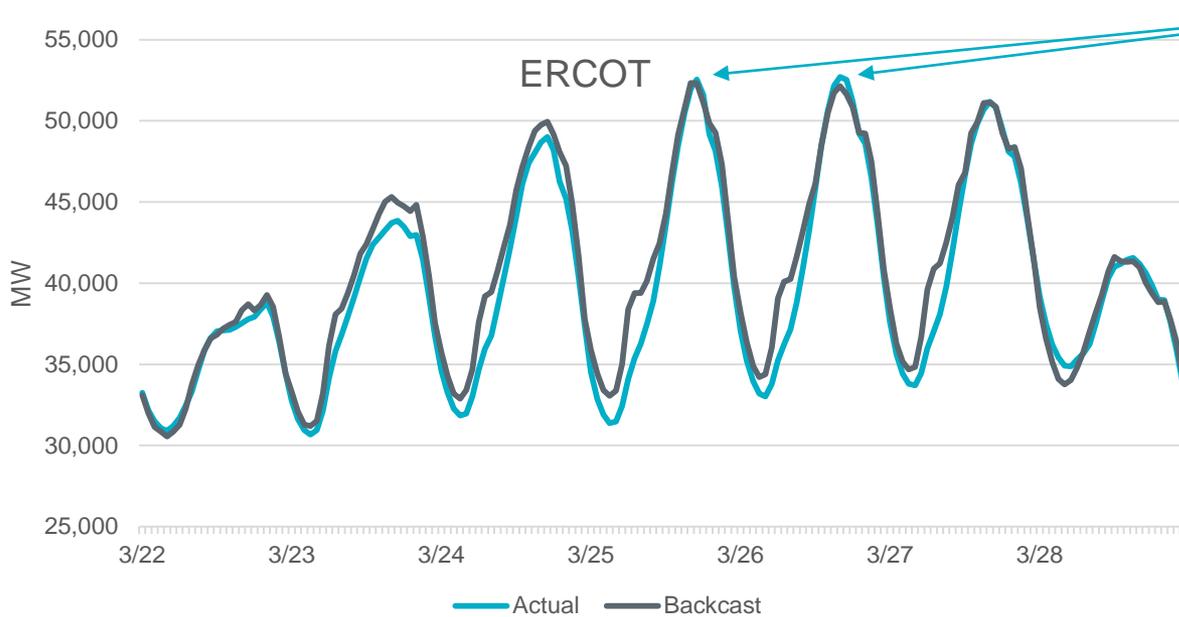


Some variation but no consistent pattern

Similar results to previous week

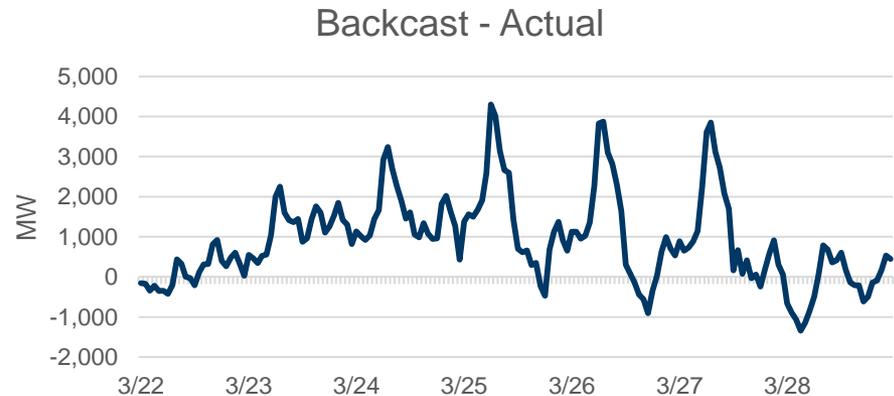


Week Beginning 3/22

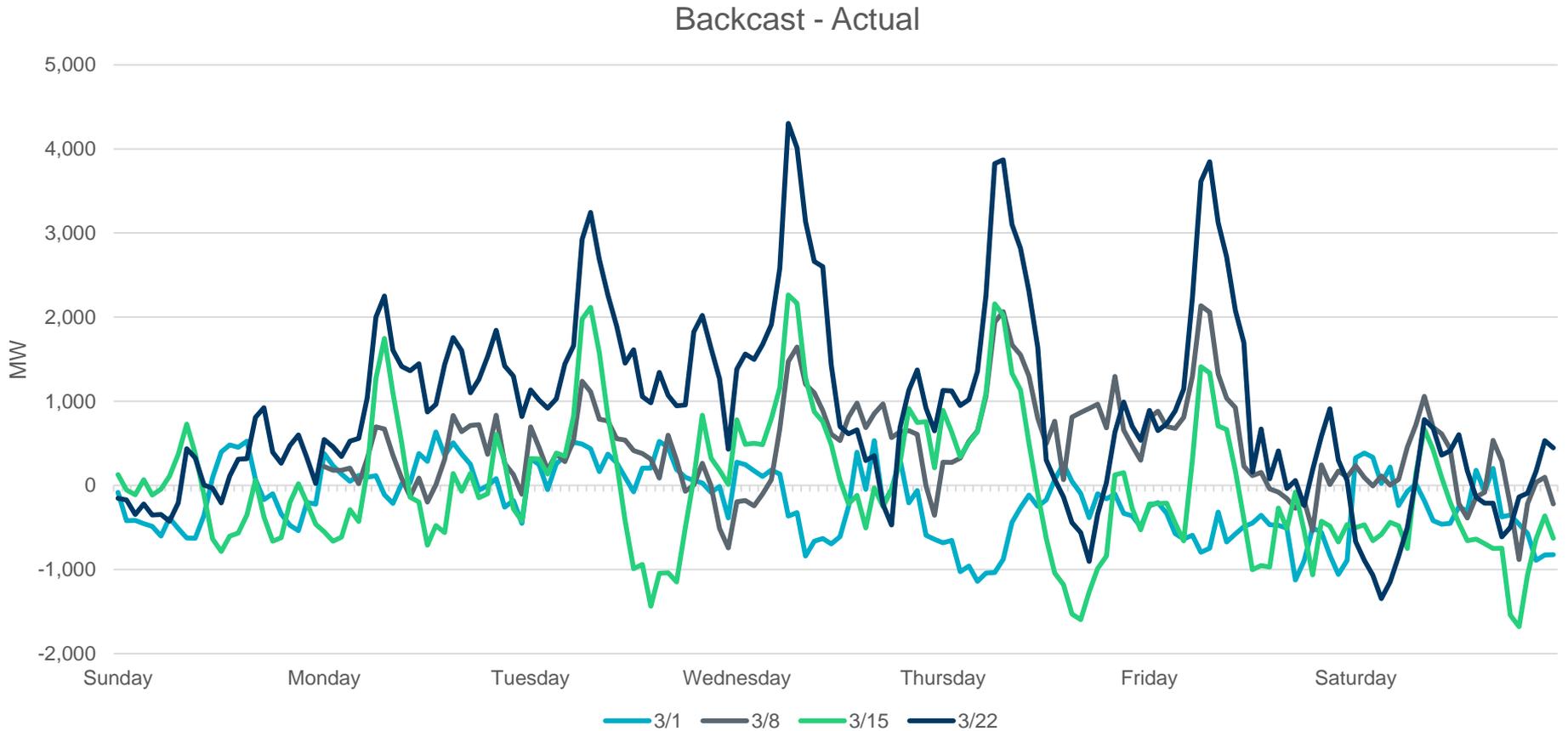


Model appears very accurate at daily peak during these hotter days. This implies little COVID-19 impact during daily peak.

- Errors are increasing with an average value of >1,000 MW
- Reflects remote work and business closings



Weekly Model Error Summary



- Model error is increasing due to COVID-19 impacts
- Largest errors have been occurring at 7 and 8 a.m.

Questions?



Remote Control Room Operations

Woody Rickerson
VP, Grid Planning & Operations

TAC
April 1, 2020



Revision Requests Needed for June 2020 Board of Directors Meeting

Kenan Ögelman
VP, Commercial Operations

TAC
April 1, 2020

Revision Requests

- NPRR 953, Addition of Relay Loadability Rating Definition
- NPRR 975, Load Forecast Model Transparency
- NPRR 997, Gas Pipeline Coordination for Natural Gas Generation Resources
- NPRR 998, ERS Deployment and Recall Messages
- NPRR on Pricing and Settlement of Combined Cycle Switchable Generation Resources
- NPRR on QSE Termination Clarifications

Other NPRRs and Document Changes of Note

- NPRR 987, Energy Storage Resource Contribution to Physical Responsive Capability and Real-Time On-Line Reserve Capacity Calculations
- NPRR 989, Energy Storage Resource Technical Requirements
- NPRR 1016 / RGRR 26 / NOGRR 212 – Needed to end moratorium on DGR
- NPRR 1006, Update Emergency Response Service (ERS) Restoration Assumption for Reliability Deployment Price Adder to Match Actual Data – TIEC requested June Board approval



Real-Time Co-optimization Task Force (RTCTF) Update

Matt Mereness
Senior Director, Compliance / RTCTF Chair

TAC
April 1, 2020

Outline

- RTC Revision Requests (RTCRRs) and Impact Analysis
- RTCRR review assumptions and schedule
- RTCRR review process
- Other RTC considerations
- Next steps

RTCTF Charter Scope - Phase II

Phase II:

- *Following ERCOT Board consideration of key RTC policy principles, ERCOT will draft the necessary RRs and present the proposed RRs to RTCTF for consideration. ERCOT staff shall sponsor and submit the RRs in accordance with Section 21, Revision Request Process, of the ERCOT Protocols or other applicable RR process.*

RTC Revision Requests and Impact Analysis

- Based on Board-approved RTC Key Principles (KPs), ERCOT developed and released the following NPRRs, NOGRR and OBDRR with a single Impact Analysis (IA).

RTCRs released March 25, 2020	Pages 549 total
NPRR1007 - RTC NP3 - Management Activities for the ERCOT System	62
NPRR1008 - RTC NP4 - Day-Ahead Operations	65
NPRR1009 - RTC NP5 - Transmission Security Analysis and Reliability Unit Commitment	39
NPRR1010 - RTC NP6 - Adjustment Period and Real-Time Operations	248
NPRR1011 - RTC NP8 - Performance Monitoring	49
NPRR1012 - RTC NP9 - Settlement and Billing	15
NPRR1013 - RTC NP 1, 2, 16, 25 - Overview, Definitions/Acronyms, Registration and Qualification of MPs, and Market Suspension and Restart	24
NOGRR211 - RTC Nodal Operating Guides 2 and 9 - System Operations and Control Requirements and Monitoring Programs	21
OBDRR020 - RTC - Methodology for Setting Maximum Shadow Prices for Network and Power Balance Constraints	26

Detailed Schedule for Reviewing the RTCRR Language

- ERCOT staff has developed a detailed schedule for reviewing the RTCRR language with RTCTF.
 - The schedule is available on the [RTCTF](#) page.
- While each RTCRR section has been assigned a specific series of RTCTF meetings, all language has been posted, and MPs are encouraged to contact ERCOT in advance with any questions or concerns regarding the language.
- A portion of the RTCTF meeting on April 8, 2020 will be used to discuss in more detail what the process will be for RTCTF's review of the language. However, the meeting will also include the first review of specific RTCRR sections.
 - MPs are not expected to submit comments in advance of the April 8, 2020 meeting.

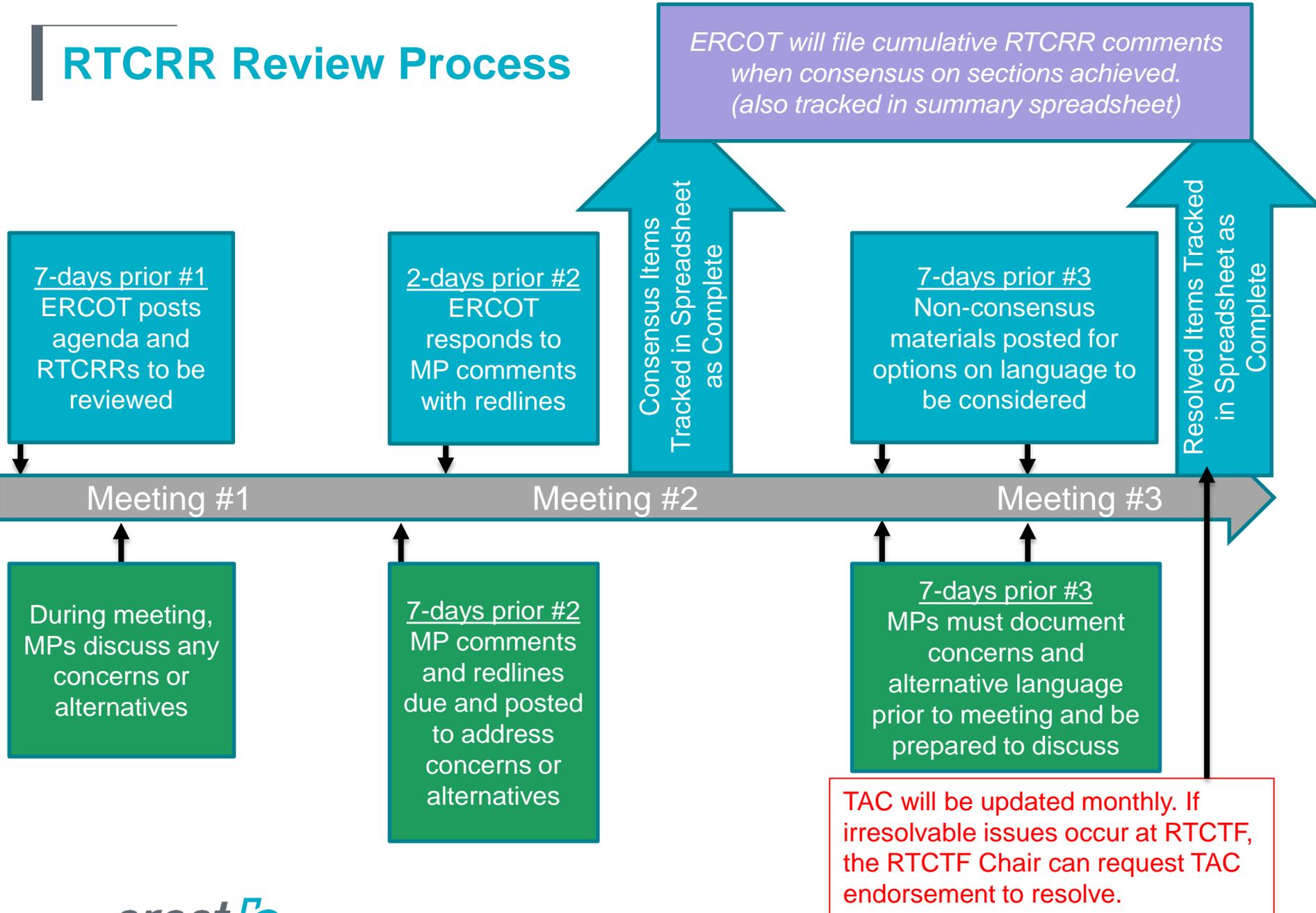
Philosophy for Developing the Schedule

- Each RTCRR section has been grouped into a category and mapped to a series of RTCTF meetings.
 - In general, each section spans across 3 meetings.
- For the April 8 meeting, will look to identify revisions that are largely taken straight from the approved KPs or deletions of language.
- For RUC, DAM and RTM, the functional/process changes are scheduled prior to the applicable settlement.
 - In line with how the KPs were reviewed.
- The greatest number of sections, including many RTM process sections, will be in flight during the June and July timeframe.
- Performance monitoring, general reporting and administrative sections are scheduled for the latter part of the year.
 - Also in line with how the KPs were reviewed.
- There are no sections currently scheduled for the Nov. 12 RTCTF meeting; this meeting is being held in reserve.

RTCRR Review Assumptions and Schedule

- Schedule of 2020 meetings for RTCRRs:
 - March 11 – RTCTF (Plan and logistics for RR review)
 - April 8 – RTCTF (Review detailed plan and begin review process)
 - April 30 – RTCTF
 - May 20 – RTCTF
 - June 10 – RTCTF
 - June 29 – RTCTF
 - July 22 – RTCTF
 - Aug. 12 – RTCTF
 - Sept. 9 – RTCTF
 - Sept. 28 – RTCTF
 - Oct. 21 – RTCTF
 - Nov. 5 – ROS
 - Nov. 11 – PRS
 - Nov. 12 – RTCTF (if needed)
 - Nov. 17 – CWG
 - Nov. 18 – TAC
 - Dec. 8 – ERCOT Board

RTCRR Review Process



TAC will be updated monthly. If irresolvable issues occur at RTCTF, the RTCTF Chair can request TAC endorsement to resolve.

Other RTC Considerations

- *Draft timeline:*



- There are several items/policies, beyond RTCRRs, that must be addressed prior to the implementation of RTC:
 - Proxy Offer Curves
 - RUC AS Demand Curves
 - Transitional language for RTC go-live (if any)
 - ORDC/RTC results comparison
 - Target dates for MP detailed requirements (e.g., SCADA changes, XML changes, Market Trials plans)

Next Steps

- ERCOT plans to post a detailed schedule for the RTCTF to review to help ensure there is an orderly process for navigating through RTCRRs and maintain alignment with the RTC KPs.
- Reminder to escalate any questions or issues to ERCOT at any time by emailing DMaggio@ercot.com and/or MMereness@ercot.com, or by submitting comments through the RR process.
- RTCTF schedule:
 - April 8, 2020 - RTCTF will begin reviewing RTC NPRRs
 - + 8 RTCTF meetings
 - Oct. 21, 2020 - Complete RTCTF review for November stakeholder meetings
- Comments or questions?