Follow-up on TAC Emergency Conditions List Items Assigned to PLWG

John Bernecker
Manager, Transmission Planning Assessment

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Agenda

- Transmission Planning Studies and Extreme Winter Cases (Related to Items 47, 93, and 94)
- DC Tie Performance and Planning Assumptions (Related to Items 41 and 106)
- GTC Management (Related to Items 29 and 51)

Transmission Planning Studies and Extreme Winter Cases

Past Extreme Weather Event Analysis

- The 2016 LTSA included an Extended Extreme Weather scenario assuming sustained drought and water stress conditions affecting the availability of thermal and hydro generation
  - ERCOT's drought-risk prediction model (refer to http://www.ercot.com/gridinfo/resource for recent analysis) was used to help identify derate and outage assumptions

- Some Extreme Events submitted through the SSWG contingency process have been based on previous hurricane experiences

Multiple Generator Outages

- The 2020 RTP included extreme events associated with the disruption of gas pipelines
- The 2021 RTP may consider multiple generator outages due to a common cause failure as a first-level contingency for G-1+N-1 analysis
- ERCOT supports further discussion of events representing multiple generator outages due to common cause failures, including extreme weather

DC Tie Performance and Planning Assumptions

DC Tie Performance

- ERCOT will be presenting on DC Tie performance during Winter Storm Uri at the June OWG meeting
- DC Ties did not experience any known performance issues pertaining to reliability of the DC Ties themselves
- DC Ties were not exporting during the winter event

DC Tie Planning Assumptions

- DC Ties are dispatched in the RTP based on historical data (see presentation on 2021 RTP assumptions from April RPG)

- Planning Guide Section 4.1.1.1, Planning Assumptions:
  - Paragraph (6) states, “Assumed Direct Current Tie (DC Tie) imports and exports will be curtailed as necessary to meet reliability criteria in planning studies.”

- Contingencies removing DC Ties from service are included in RTP reliability analysis

GTC Management

Existing References

- ERCOT published a whitepaper, *Use of Generic Transmission Constraints in ERCOT*, in July 2020
  - Associated FAQ was posted to the Transmission Issues Related to Generations Constraints Workshop page

- Details on the operational management of GTCs can be found in Section 4.5 of the Transmission and Security Desk Operating Procedure

- ERCOT presented on the consideration of GTCs in planning studies at the May RPG meeting

GTC Notices

- For new GTCs, or substantial changes to existing GTCs, Market Notices are issued in advance of the new or updated GTCs going into service

- In real-time the activation of a constraint for a GTC is the same as a thermal constraint, so the “notice” is effectively that constraint appearing in the Network Security Analysis (NSA) Active Constraints report on MIS

Curtailment Resulting from GTCs During the Winter Event

- Generation curtailment by constraints during the 2021 February winter event was presented at the May CMWG meeting
  - An update was also provided at the June CMWG meeting

- Curtailment due to constraints was low throughout the duration of the winter event

- Regardless of curtailed capacity, transmission limitations must be respected in order to maintain grid reliability and stability