ERCOT GTC Update (Revised)

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Panhandle GTC Update (12/1/2023)

- This update includes the study results of the followings on the Panhandle GTC.
  - The impact of new resources inside Panhandle
  - The impact of different system conditions: day and night
- Study overview
  - Most recent 2023 DWG HWLL flat start case was used as the start base case
  - Topology changes and new resources were updated. A new IBR (265MW) are going to connect to Panhandle in Q4 2023
  - The nearby Panhandle IBRs (Wind & Solar) have been historically assumed at maximum dispatch for Panhandle GTC assessment
  - Solar resources in and nearby Panhandle were assumed offline in the night system condition

Panhandle GTC Update (12/1/2023) – Results and Observations

- The primary impact of the current Panhandle GTC is determined by the maximum power flow across the Panhandle GTC interface.
  - The impact of day or night system conditions has minimum impact (less than 1.5%) on the Panhandle GTL
  - The dispatch of nearby Panhandle IBRs could have impact on the Panhandle GTC given the Panhandle power is transferred through the nearby Panhandle area to reach the loads => high dispatch of nearby Panhandle IBRs would stress the system and affect the Panhandle IBRs dispatch for reliable transfer
  - The overall system condition such as **system strength** could also have impact on the Panhandle. => lower **system strength** could lead to increasing volatility of dynamic response during the disturbance and cause unstable response
- Historical IBRs performance including wind and solar in and nearby Panhandle has been reviewed and revised for the Panhandle GTC study.
  - 90% dispatch of nearby Panhandle IBRs (wind and solar) was tested and adopted in this Panhandle GTC update
  - 95% dispatch of nearby Panhandle Wind was also tested

Next Steps

- ERCOT will start to use 90% dispatch of nearby Panhandle IBRs (Wind & Solar) in the Panhandle QSA/GTC studies and will revise it as needed based on historical performance

Appendix:

- Generation capacity summary in Panhandle GTC studies

In Service Generation	May 2021-July 2023 GTC	Aug 2023-Nov 2023 GTC	Dec-23 (Day) GTC	Dec-23 (Night) GTC
Panhandle Wind (MW)	3940	3940	4205	4205
Panhandle Solar (MW)	240	755	755	0
Panhandle Total (MW)	4180	4700	4940	4205
Nearby Panhandle Dispatch Assumption	100%	100%	90%	95%
Panhandle Stable Dispatch (%)	100%	85%	80%	93%