ERCOT GTC Updates

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ROS Meeting
3/6/2025

A New SAMSW GTC

- Instability was identified in the subsynchronous resonance (SSR) studies conducted in PSCAD for new planned generation resources in Hill County
- Based on the SSR findings, ERCOT conducted a stability assessment to determine the need of Generic Transmission Constraint (GTC) and its Generic Transmission Limit (GTL) including the existing and new planned GRs
  - No instability identified for the existing generating operational GRs
  - Instability identified with new planned GRs connect to Hill County and nearby area under prior outage conditions

A New SAMSW GTC

- ERCOT conducted the stability assessment in both PSCAD and PSSE
  - All existing GRs in the study area are IBRs
  - No stability issue identified in the study area without planned GRs
  - With two planned GRs/IBRs, instability challenges were identified for tested prior outages and contingencies:
    - System strength is very weak
    - Lower limits identified in the PSCAD study
- A SAMSW GTC has been implemented to manage the stability challenge for Hill County and nearby area
  - This GTC is not Interconnection Reliability Operating Limit (IROL)
  - This GTC became effective on March 5, 2025. This GTC interface and associated GTLs are available in the posted GTC Methodology:

    https://mis.ercot.com/secure/data-products/grid/transmission?id=NP3-770-M

A New SAMSW GTC

- ERCOT is currently conducting a stability assessment for additional planned GR/IBR to be connected to the study area
  - Preliminary Observation
    - The system strength of this area could become extremely weak
    - The stability challenges may stem from not only the IBR output level but also the total IBR connected capacity (MVA) in this area, potentially limiting the effectiveness of GTC/GTL in managing the grid stability in this area