# 2025 Regional Transmission Plan (RTP) Economic Study: Stability Interface Limits

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# 2025 RTP Stability Limit Summary – Valley

- The table below shows Valley-area stability constraints to be included in the 2025 RTP that are directly analogous to current Generic Transmission Constraints (GTCs).
- In the table below, 9,999 indicates that no limit is needed.

| GTC | Name in ERCOT Network Operations Model | Location | UPLAN Limit Type[1] | Assumed UPLAN Limit[2] | |
|---|---|---|---|---|---|
| | | | | 2027[3] | 2030[3] |
| Nelson Sharpe – Rio Hondo | NELRIO | Valley | Static | 9,999 | 9,999 |
| North Edinburg – Lobo | NE_LOB | Valley | Static | 9,999 | 9,999 |
| Valley Export | VALEXP | Valley | Static | 9,999 | 9,999 |
| Valley Import | VALIMP | Valley | Hourly profile | 9,999 | 9,999 |

[1] GTCs with real-time VSAT will have UPLAN hourly profiles using historical data.
[2] Limits are for no prior outages.
[3] Lower Rio Grande Valley (LRGV) project included in case. Limits reflect the expectation that the constraints would not be binding in the planning timeframe based on recent planning studies. Future changes in generation and/or topology could change that expectation.

# 2025 RTP Stability Limit Summary – Rest

- The table below shows stability constraints outside of the Valley to be included in the 2025 RTP that are directly analogous to current GTCs.
- Limits used in UPLAN will be discounted according to the ERCOT Operating Procedure Manual.

| GTC | Name in ERCOT Network Operations Model | Location | UPLAN Limit Type[1] | Assumed Limit[2] | |
|---|---|---|---|---|---|
| | | | | 2027 | 2030 |
| North to Houston | N_TO_H | Houston | Hourly profile[3] | 5595 | 5595 |
| McCamey | MCCAMY | West Texas | Static[4] | 9999 | 9999 |
| West Texas Export | WESTEX | West Texas | Static[5] | 12,240 | 16,200 |
| Panhandle | PNHNDL | West Texas | Static[6] | 4,440 | 4,440 |
| Hamilton County | HMLTN | North Central | Static[6] | 70 | 70 |
| Wharton County | WHARTN | Coast | Static[6] | 1285 | 1285 |
| Zapata-Starr | ZAPSTR | South Texas | Static[6] | 230 | 230 |

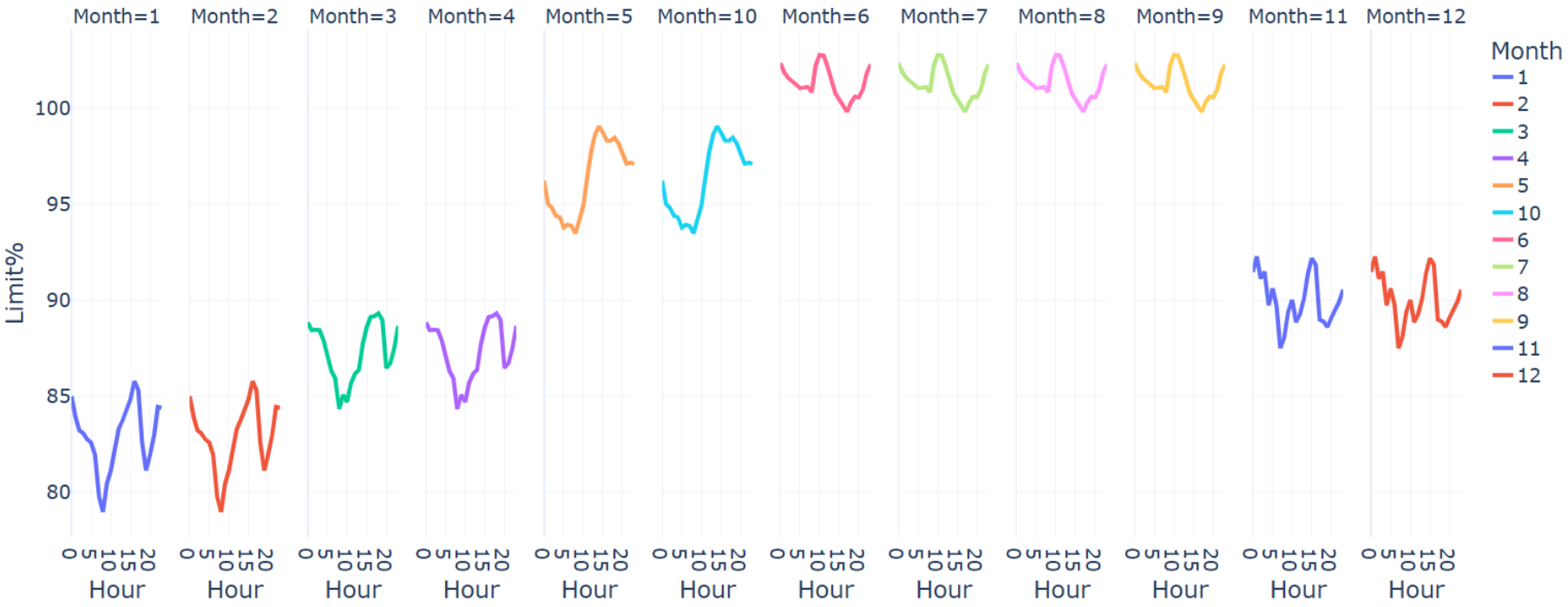
[1] GTCs with real-time VSAT will have UPLAN hourly profiles using historical data.
[2] Limits are for no prior outages.
[3] Hourly multipliers developed from historical data will be applied to base ratings obtained from a voltage stability study in the area.
[4] No stability constraints used due to RPG-approved project: New Bearkat-North McCamey-Sand Lake 345-kV line (22RPG010, in-service in 2026).
[5] The limit for 2027 is obtained from the Long-Term West Texas Export Study and the limit for 2030 is obtained from the 2024 Regional Transmission Plan (RTP) 345-kV Plan and Texas 765-kV Strategic Transmission Expansion Plan Comparison
[6] Limits are obtained from the most recent MIS GTC methodology documents.

# 2025 RTP – North-to-Houston Hourly Profile

- A dataset of historical real-time VSAT data for the N-To-H interface limit was extracted on an hourly basis for the past three years.
- A list of critical lines in the study area was obtained to verify if there are any planned or unplanned outages with potential impact on the N-to-H limit for every data sample.
- Data samples for which outage conditions were identified were disregarded from the dataset.
- Data samples with base flow less than 1000 MW over the North to Houston interface were also disregarded from the dataset.
- The 12-month data of the study year were clustered into 5 groups, i.e., (Jan, Feb), (March, April), (May, Oct), (June-Sep), (Nov. Dec). For each group, the hourly limit was estimated as the average of the  samples of each hour in the dataset (using samples without outage conditions).
- The hourly profile was normalized using an estimation of the limit at peak loading conditions (the average of the limit in June, July and August for hours 16 and 17).
- The normalized hourly profile is multiplied by the North-to-Houston limit calculated with a Voltage Stability study using the 2025RTP basecase.

# North-to-Houston Limit Hourly Profile Used in UPLAN for 2025 RTP

- Base rating: 5595 MW




*The base rating was calculated via a Voltage Stability Study using the 2025RTP basecase with added generation and transmission projects.

**Limits will be discounted according to the ERCOT Operating Procedure Manual.

# Questions

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# Generic Transmission Constraints – Background

- Generic Transmission Constraints (GTCs) and their associated Generic Transmission Limits (GTLs) are operational tools for managing non-thermal System Operating Limits (SOLs) using market-based dispatch*
- GTC studies consider existing resources and resources with planned Initial Synchronization dates ~3-6 months in the future
- Planning studies evaluate system needs 2-6 years in the future (or beyond), and include planned resources meeting the requirements of Planning Guide Section 6.9
  - i.e., Planning studies include more resources further out in the future than GTC studies
- Stability interfaces and limits considered in planning studies may necessarily differ from current operational GTCs/GTLs

* For more information on GTCs and GTLs refer to the ERCOT white paper, *Use of Generic Transmission Constraints in ERCOT*, which can be found at https://www.ercot.com/files/docs/2020/11/27/The_Use_of_GTCs_in_ERCOT_July_2020.pdf.