2024 Regional Transmission Plan (RTP) Economic Study: Stability Interface Limits

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2024 RTP Stability Limit Summary – Valley

- The table below shows Valley-area stability constraints to be included in the 2024 RTP that are directly analogous to current Generic Transmission Constraints (GTCs).

GTC	Location	UPLAN Limit Type[1]	Assumed UPLAN Limit[2]	
			2026[3]	2029[4]
Nelson Sharpe – Rio Hondo	Valley	Static	932	9,999
North Edinburg – Lobo	Valley	Static	1,319	9,999
Valley Export	Valley	Static	563	9,999
Valley Import	Valley	Hourly profile[5]	1,598	9,999

[1] GTCs with real-time VSAT will have UPLAN hourly profiles using historical data.
[2] Limits are for no prior outages.
[3] 2026 limits are taken from MIS GTC Methodology updated on Feb 28, 2024.
[4] Lower Rio Grande Valley 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.
[5] Hourly multipliers developed from historical data will be applied to base rating.

2024 RTP Stability Limit Summary – Non-Valley

- The table below shows stability constraints outside of the Valley to be included in the 2024 RTP that are directly analogous to current GTCs.

GTC	Location	UPLAN Limit Type[1]	Assumed UPLAN Limit[2]	
			2026	2029
North to Houston	Houston	Hourly profile[3]	3,712	3,712
McCamey	West Texas	Static[4]	3009	3009
West Texas Export	West Texas	Static[5]	10,404	10,404
Panhandle	West Texas	Static[6]	3,239	3,239

[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 from MIS GTC Methodology.
[4] Limits from MIS GTC Methodology updated on June 19, 2024.
[5] Limits from Long-Term West Texas Export Study.
[6] Limits from MIS GTC Methodology updated on Feb 28, 2024.

2024 RTP Stability Limit Summary

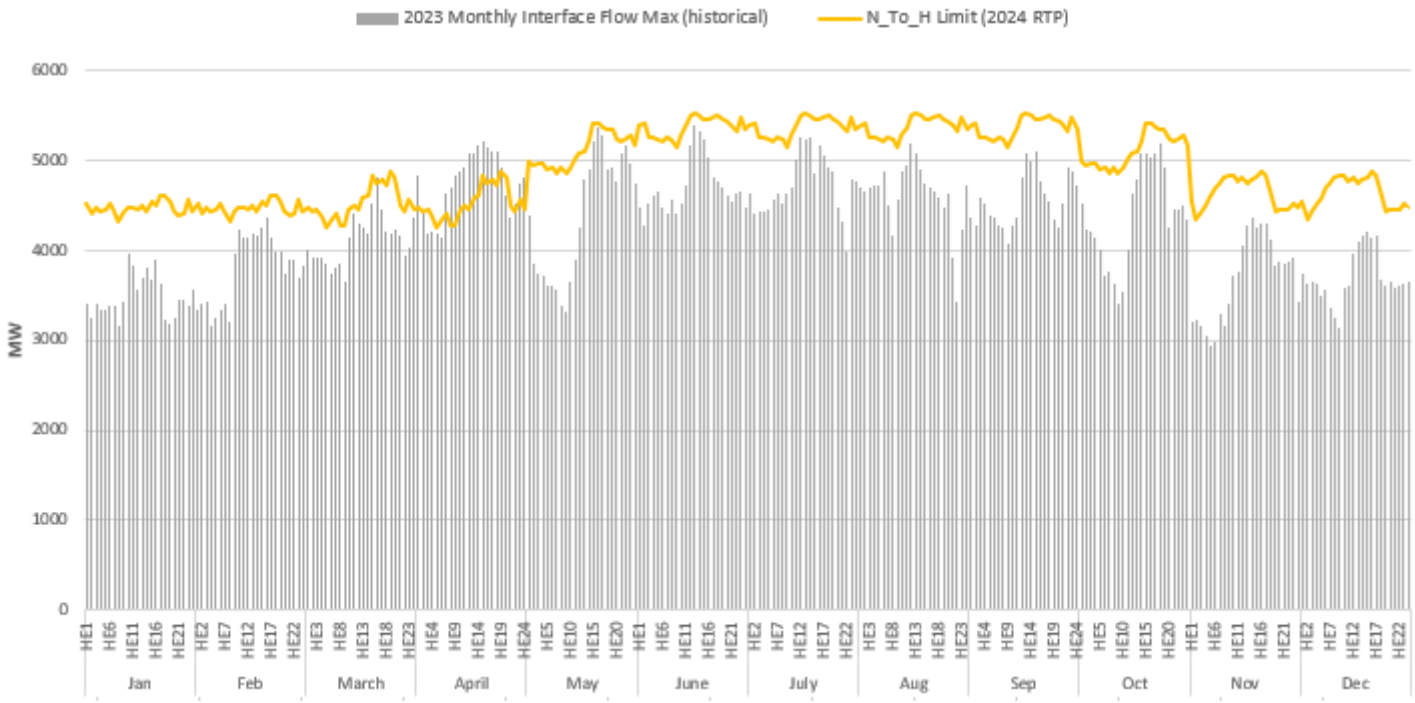
- The table below shows current GTCs that will not be included in 2024 RTP base analysis.
- Stability constraints related to these GTCs may be considered for outage sensitivity analysis.

GTC	Notes
Red Tap	No limit under no prior outage conditions.
East Texas	No limit under no prior outage conditions.
Treadwell	No limit under no prior outage conditions.
Raymondville – Rio Hondo	No limit under no prior outage conditions.
Bearkat	No limit under no prior outage conditions.
Zapata Starr	No limit under no prior outage conditions.
Williamson – Burnet	No limit under no prior outage conditions.
Culberson	No limit under no prior outage conditions.
Wharton	No limit under no prior outage conditions.
Hamilton	No limit under no prior outage conditions.
Uvalde	No limit under no prior outage conditions.

Stability Interface Limit for 2024 RTP – Hourly Profile

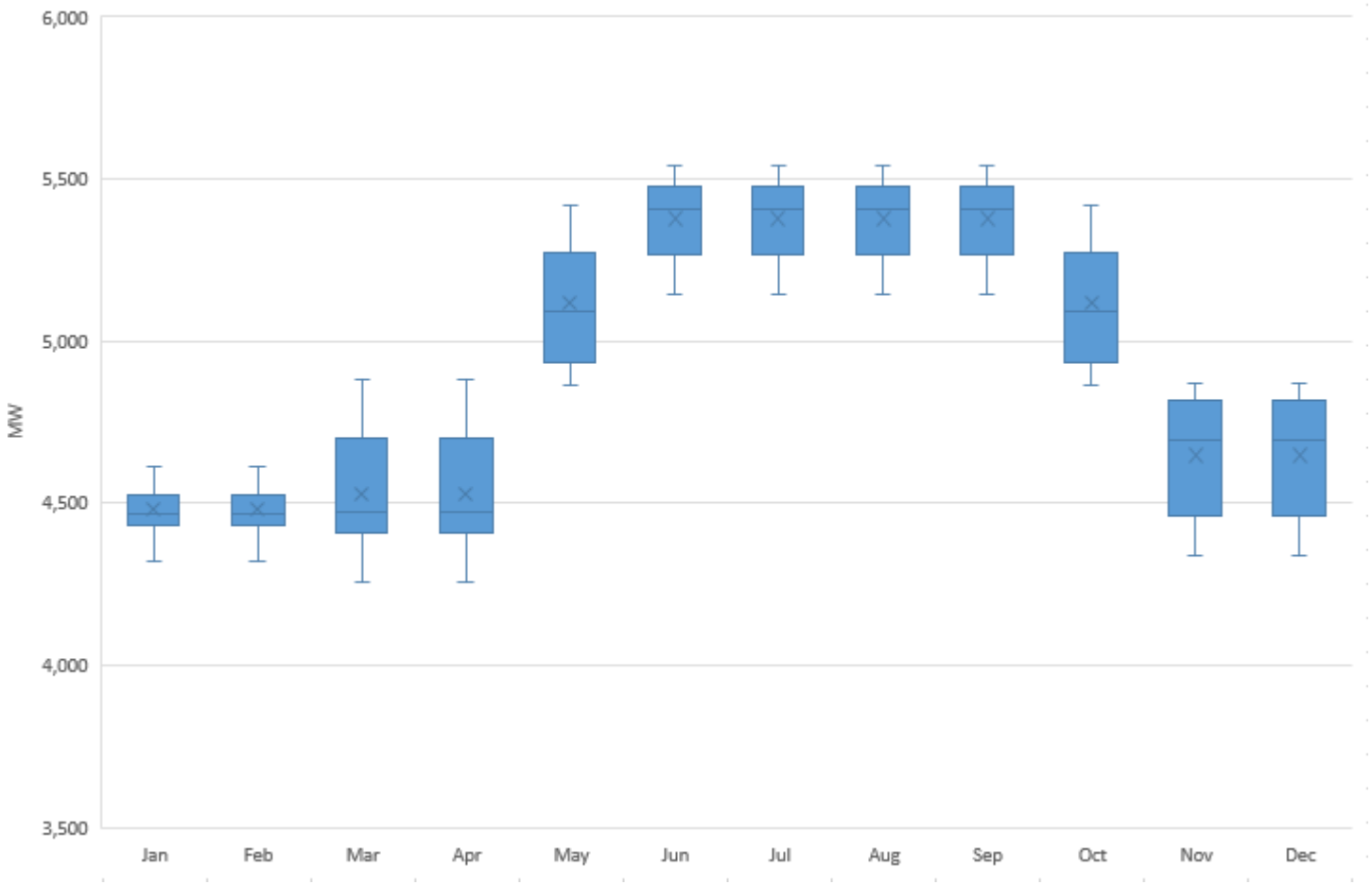
- Historical real-time VSAT data for the respective interface limits was extracted for the whole 12 months of the selected year. The 12-month data was then clustered into 5 groups, i.e., (Jan, Feb), (March, April), (May, Oct), (June-Sep), (Nov. Dec).
- The maximum interface limit value was identified for every hour within each group.
- These hourly maximum limits were applied to the respective hours of every day within the same group for the selected year.
- The same process was repeated for each hour of each group for the selected year.
- The same process was repeated for the past 3 years and the final interface limit for each hour will be the minimum of those limits previously determined for the same hour among 3 past years.

North to Houston (N_To_H) Limit Hourly Profile Used in UPLAN for 2024 RTP



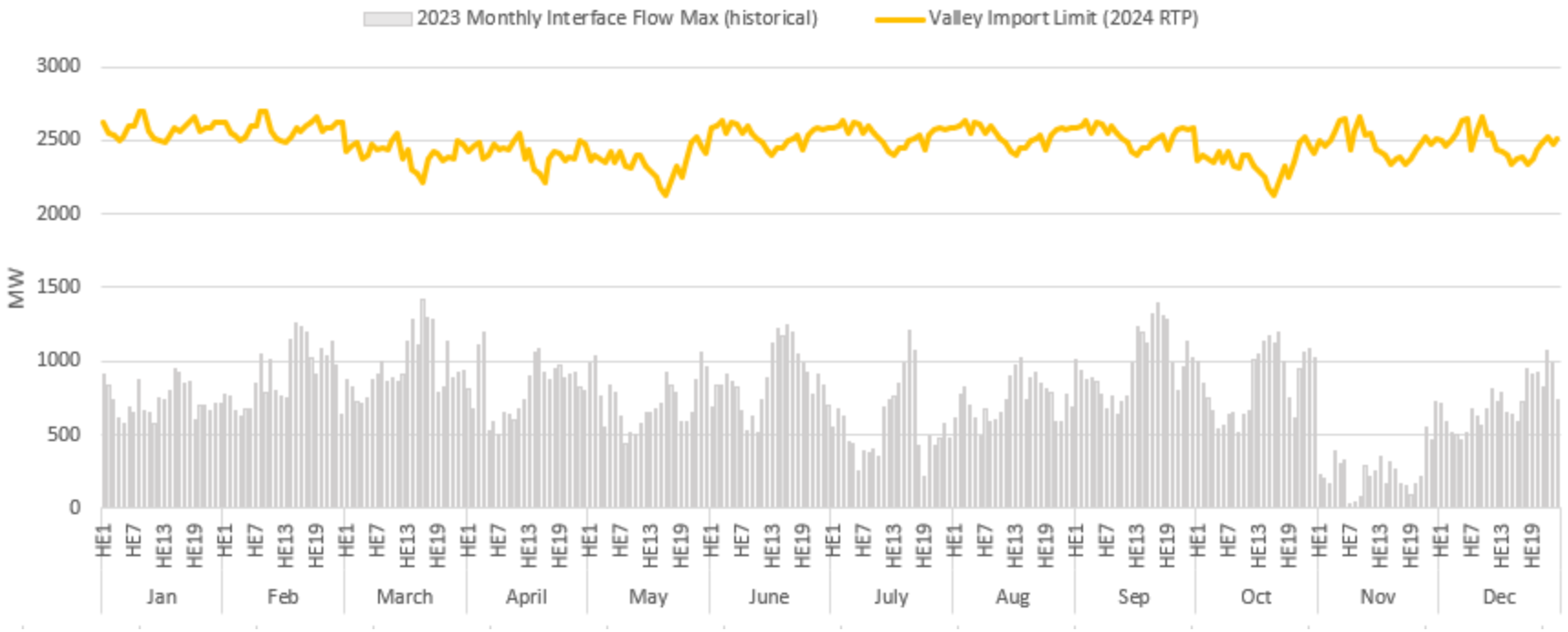
*Limits are shown as 85% of calculated stability limits

North to Houston (N_To_H) Limit Hourly Profile Used in UPLAN for 2024 RTP



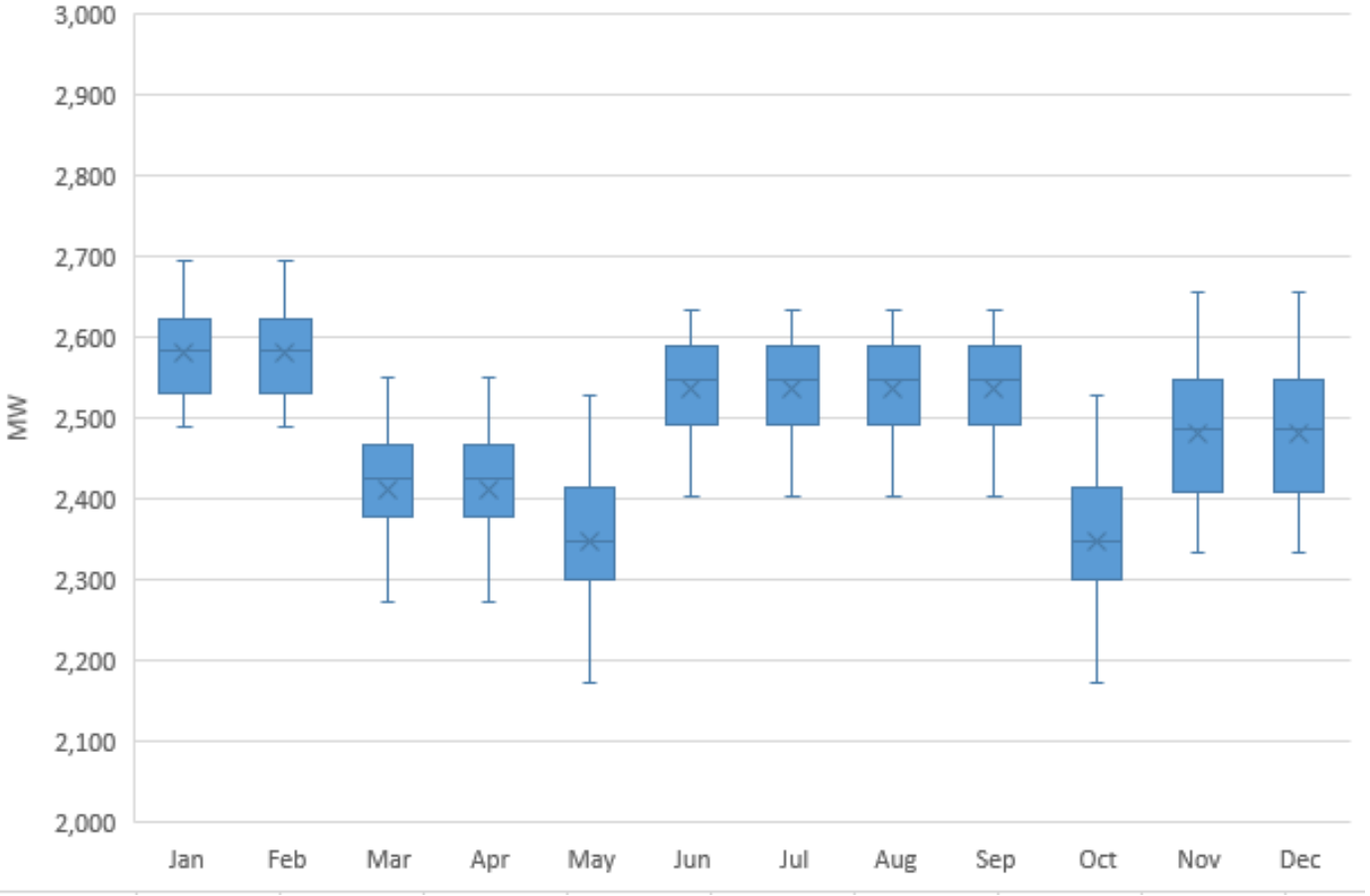
*Limits are shown as 85% of calculated stability limits

Valley Import Limit Hourly Profile Used in UPLAN for 2024 RTP



*Limits are shown as 85% of calculated stability limits

Valley Import Limit Hourly Profile Used in UPLAN for 2024 RTP



*Limits are shown as 85% of calculated stability limits

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.