SCR 819 Post-Implementation Performance Review

Grid Analysis

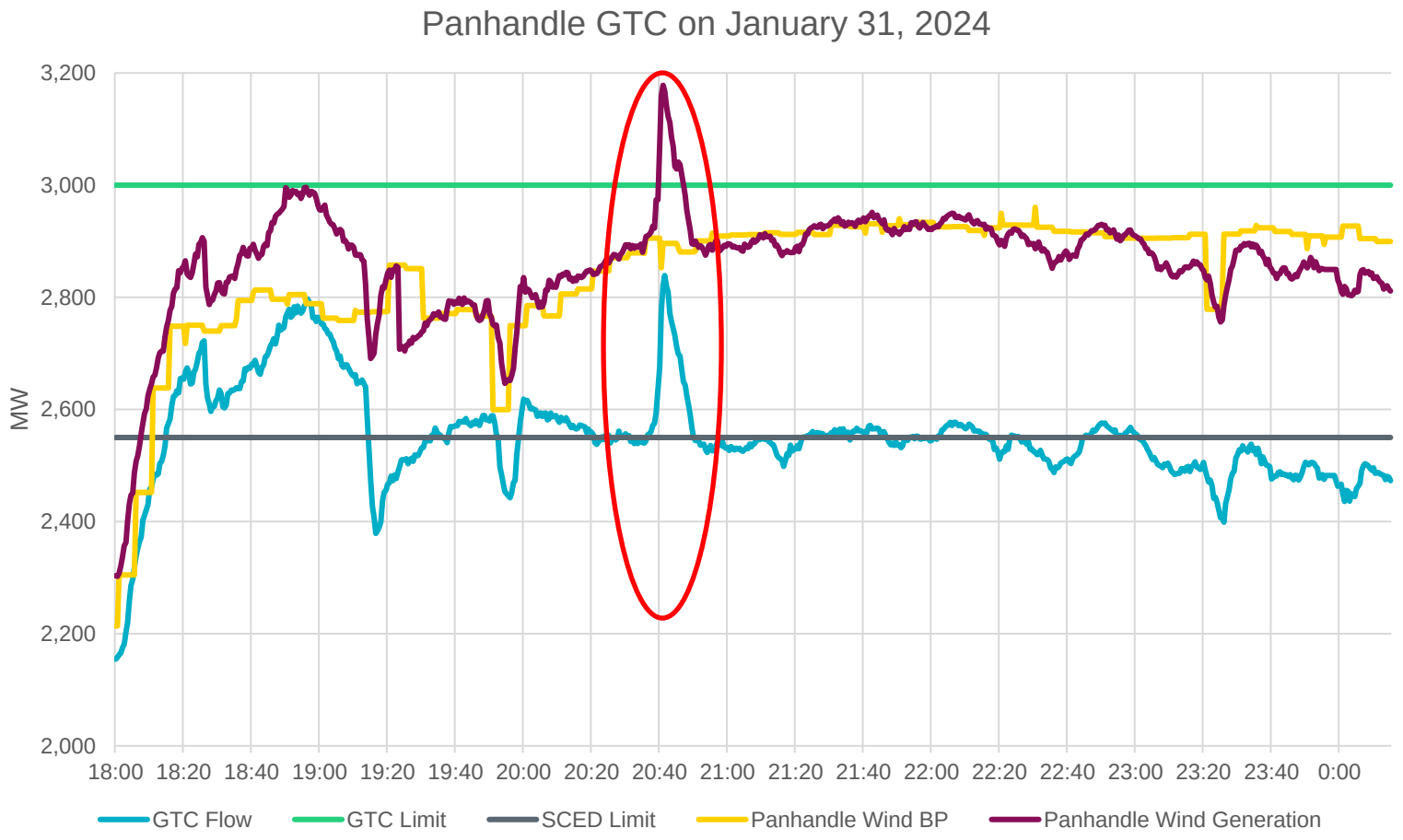
CMWG Meeting
September 23, 2024

SCR 819: Improving IRR Control to Manage Generic Transmission Constraints (GTC) Stability Limits

- Pre-SCR819 Problem:
  - SCED curtails only marginal units to manage the GTC flow.
  - Non-marginal IRRs behind the GTC are permitted to ignore SCED Base Point and produce power at the maximum potential.
  - GTC limit exceedance may occur when non-marginal IRRs ramp up quickly.

- SCR819 Solution (Implemented on June 1, 2024):
  - Non-marginal IRRs behind the GTC cannot exceed SCED Base Point.

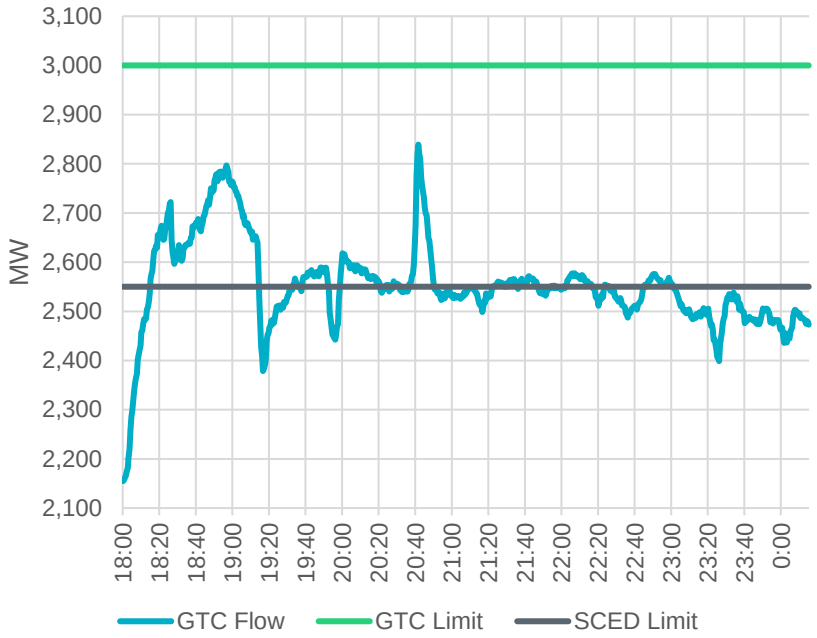
Panhandle Wind Increase on Jan 31, 2024



- SCED Discount Factor = 85%.
- If the SCED Discount Factor of 90% was used, GTC Exceedance may have occurred around 20:40.

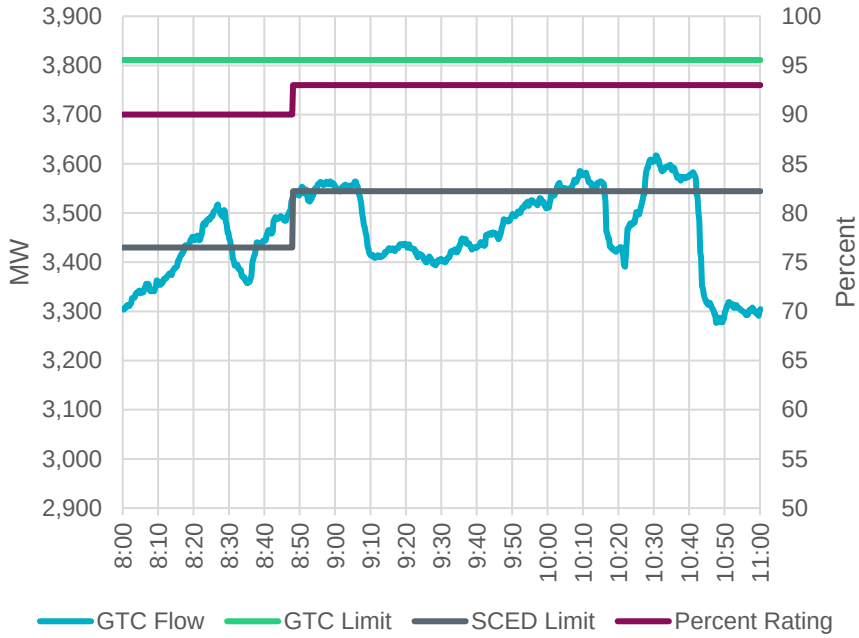
Panhandle GTC Performance

January 31, 2024



- Binding SCED intervals:
  - 18:20-00:00
- SCED Discount Factor:
  - 85%

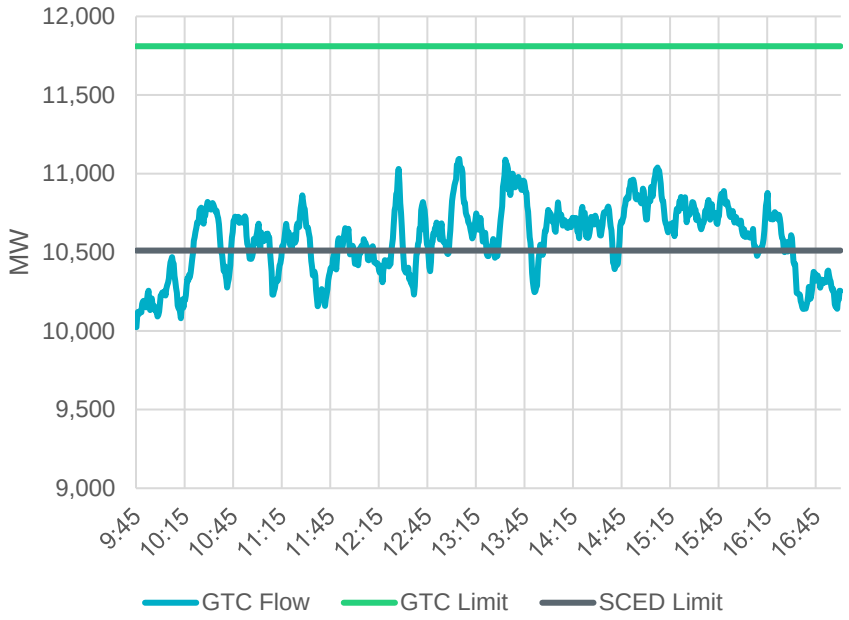
June 18, 2024



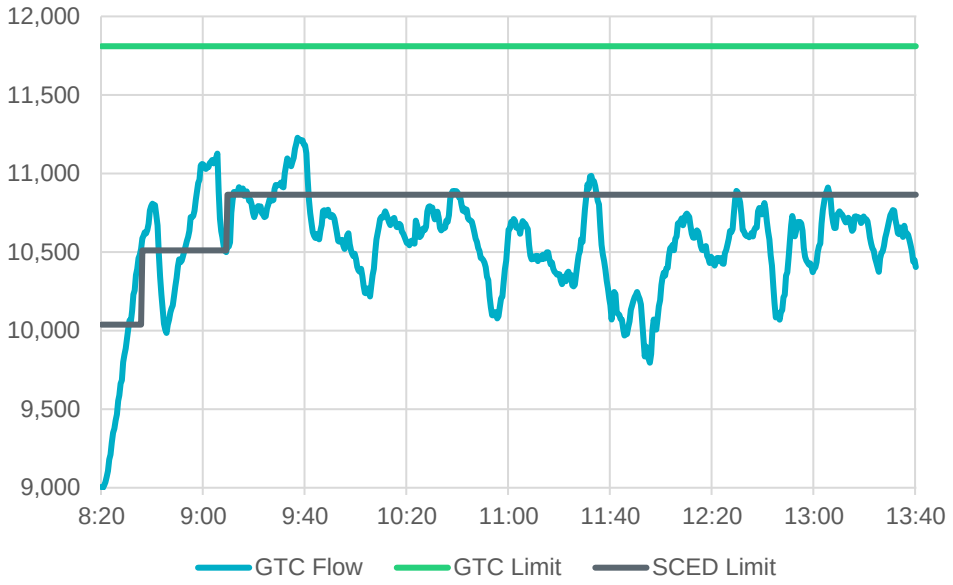
- Binding SCED intervals:
  - 08:25-08:30, 08:45-09:00, 10:10, 10:21-10:35
- SCED Discount Factor:
  - 90%, 93%

West Texas Export GTC Performance

March 25, 2024



July 30, 2024

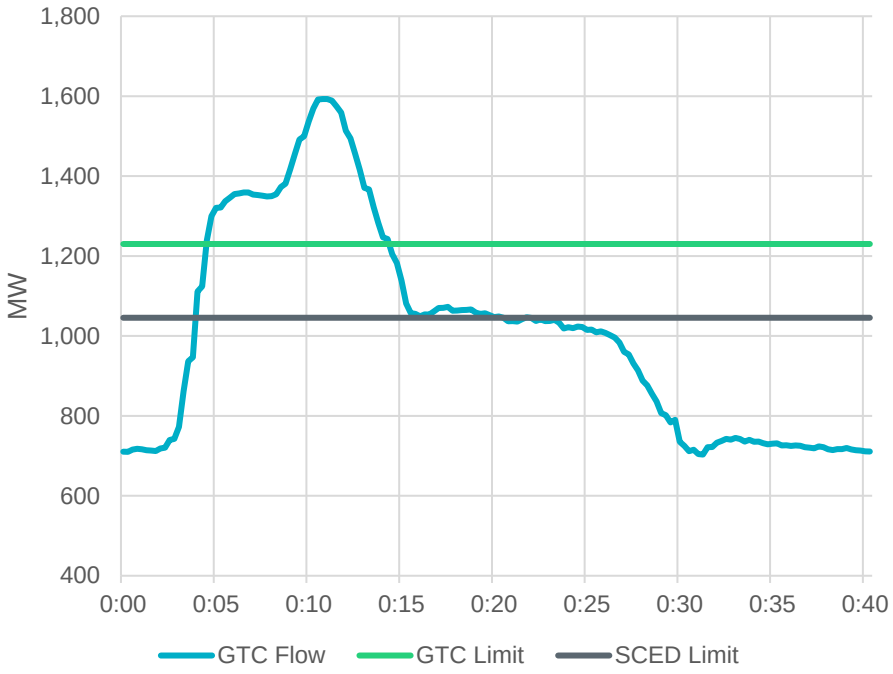


- Binding SCED intervals:
  - 10:00-16:35
- SCED Discount Factor :
  - 89%

- Binding SCED intervals:
  - 08:35-13:20
- SCED Discount Factor :
  - 92%

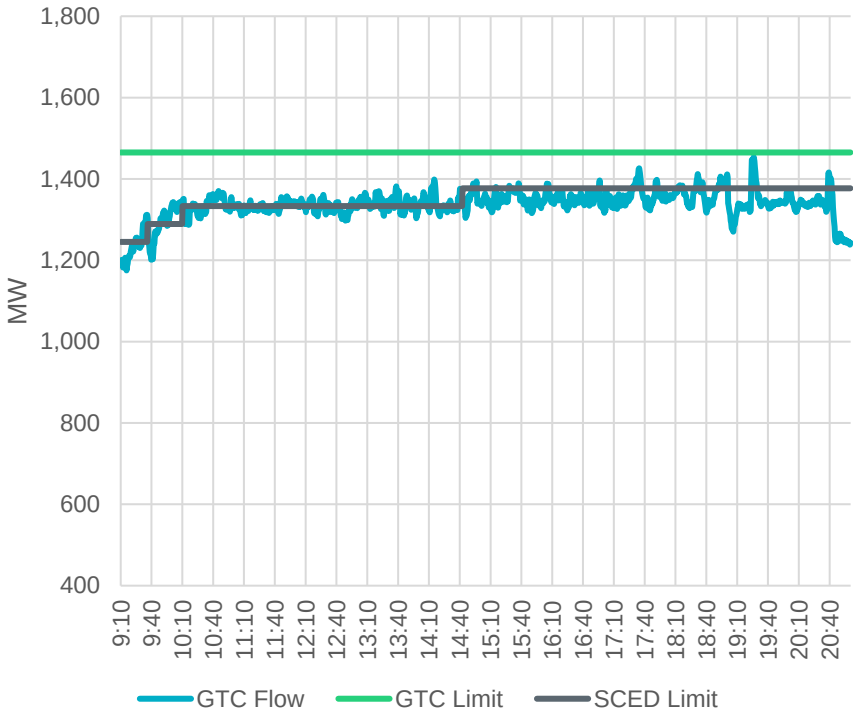
North Edinburg to Lobo GTC Performance

February 14, 2024



- Binding SCED Intervals:
  - 00:10, 00:20
- SCED Discount Factor :
  - 85%

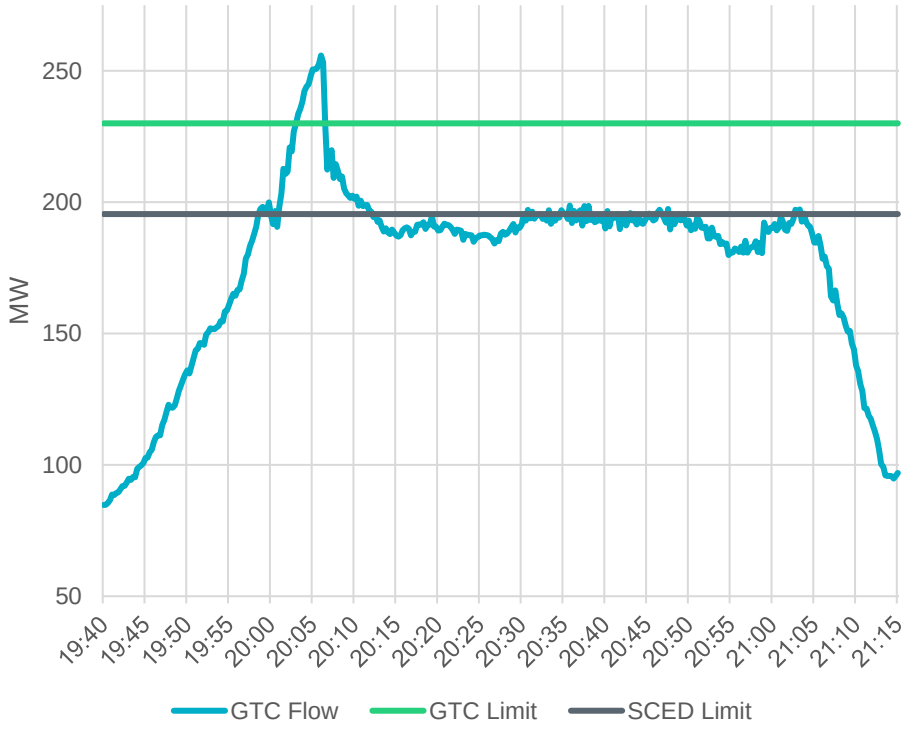
June 29, 2024



- Binding SCED Intervals:
  - 09:25–20:00, 20:05-20:35
- SCED Discount Factor:
  - 85%, 88%, 91%, 94%

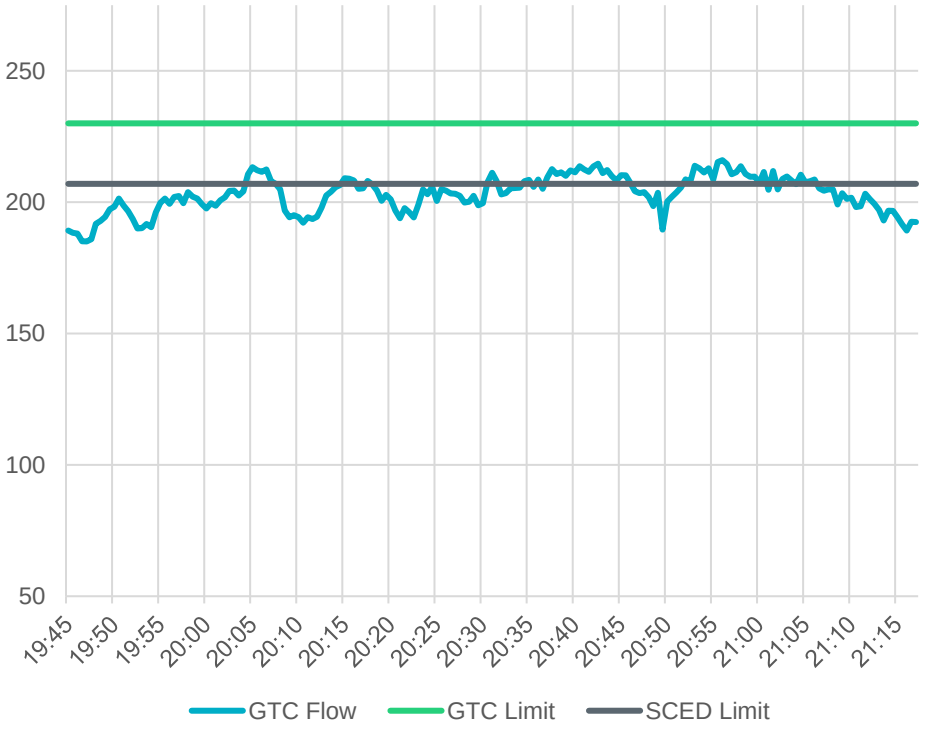
Zapata Starr GTC Performance

April 18, 2024



- Binding SCED Intervals:
  - 20:05-21:00
- SCED Discount Factor:
  - 85%

August 26, 2024



- Binding SCED Intervals:
  - 20:00-20:05, 20:15-21:00
- SCED Discount Factor:
  - 90%

Summary

- SCR819 prevents IRR run off and provides greater certainty in managing the GTC flow.
  - When SCED curtails (or holds) resources, GTC flow remains closer to the GTC limit after the SCR819 implementation.

- ERCOT needs more experience on better managing the GTC flow spikes that are resulted from the constraint oscillating between binding and non-binding.

- After further testing and analysis, ERCOT will work on operator training and guidelines on best practices.