Summary of Joint Commenters* 1/6/21 NOGRR215 Comments

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Managing an Open Access Grid is Challenging

- Generation and load can come and go with short notice
- Transmission planning, design, and permitting by their nature have longer lead times
- Remedial Action Schemes (RASs) have been reliably used for over two decades to manage this timing mismatch
  - In most cases, their use is temporary until new transmission upgrades can be designed, permitted, and constructed
  - However, in a few cases, such as the East DC tie integration, they have been long-term, because the cost / benefit metrics of new transmission required can not meet the economic hurdles

Managing an Open Access Grid is Challenging

- Unfortunately, NOGRR215 seeks to eliminate the continued use of RASs to manage this inherent timing mismatch, based on the stated Business Case concerns that:
  - The continued use of RASs is incenting new Generation Resources to locate "*in areas where the Resource would need to be curtailed on a near constant basis to maintain the reliability of the transmission grid in the immediate area",* and
  - *"It is expected that the number of such RAS proposals will continue to significantly increase, based on the locations and unit sizes being considered in the interconnection process".*
- By specifically including a broader view of this two-decade period, rather than just the past few years, our comments show that these stated concerns are not materially different from the Generation Resource integration challenges that ERCOT has faced from the outset of deregulation

Broader Historical View – Observations #1 & #2

1. ERCOT has a history of reliable RAS operation:
   - ERCOT has only reported two RAS mis-operations in the past 10 years
   - PRC-015, PRC-016, and PRC-017 became effective in April 2017 and increased the likelihood of reliable RAS operation, going forward
2. Examples where RASs have saved consumers money over the years
   - 2004 and 2005 IMM State of the Market Report excerpts show:
     - The RASs in the Northeast **completely eliminated the congestion** that they were designed to eliminate
     - **Resulting in annualized congestion savings of ~$45M/year,** at a one-time cost of <$1M, ~6 months implementation
   - The RAS implemented on the Permian Basin CTs in 2013,
     - Resolved congestion on Permian exit lines caused by Delaware Basin load growth
     - Allowing this generation (only dispatchable resource) to again counterflow the Odessa area constraints associated with the Delaware Basin Load growth

Broader Historical View – Observations #3 & #4

3. RAS requests are correlated to “rapid changes to the system”, until transmission upgrades can catch up:
   - This is most often associated with new generation additions
   - Occasionally associated with rapid load changes, such as the Delaware Basin Load growth and the Alcoa smelter retirement (~510 MW shift all at once)
   - During periods of significant generation expansion → growth in RAS count expected
   - Current pace of generation expansion is at the highest level in two decades
   - Thus, the recent increase in RAS request should not be unexpected
4. The CREZ system build-out has provided an anomalous ~8-year period:
   - RAS requests were artificially low, due to available CREZ transmission capacity
   - With CREZ fully subscribed, RAS requests will return to pre-CREZ historical norms

Broader Historical View – Observation #5

5. ERCOT has historically managed substantially more RASs / AMPs than are currently in place or have recently been requested
   - There are only 7 RAS / AMPs currently in operation, of which 6 are of the nature that would be eliminated on a go forward basis, by the adoption of NOGRR215
   - These 7 RASs represent a low point for the number of active RASs / AMPs
   - Based on ERCOT's incomplete list of 37 RASs / AMPs in use since 2004:
     - The avg. # of active RASs / AMPs has been 15 and the maximum has been 25.
     - Adjusting for known missing RASs / AMPs from ERCOT's list, the maximum number of active RASs / AMPs was in the 27 to 30 range during the Q2 to Q3 2010 time frame (i.e. pre CREZ)
   - Thus, even if ERCOT were to approve all 6 recently requested RASs, it would only increase the total number of RASs / AMPs, back up to a level less than the *average* level of 15 historically active RASs / AMPs at any one time

Broader Historical View – Observation #6

6. ERCOT has historically managed significant concentrations of electrically and geographically close RASs without any unintended RAS / RAS interaction.
   - A stated concern used to justify the need for NOGRR215 is that the overall concentration RASs in a limited geographical / electrical area has reached unmanageable levels
   - ERCOT has historically managed as many as 10 RASs / AMPs simultaneously within the same geographic / electrical area of the system (e.g. the NE portion of ERCOT), with four at Valley switchyard and four at Monticello switchyard at one time
   - Thus, even if ERCOT were to approve all 6 recently requested RASs and they were all located in the West, which is dramatically bigger than Northeast ERCOT, the total amount of geographic / electrical concentration would still be within historical levels
   - The ability to successfully manage this type of local area RAS concentration, is a largely a measure of careful design by the Transmission Service Provider (TSP) and review by ERCOT during the development and approval phase

Broader Historical View – Observation #7

7. ERCOT has historically managed congestion on stability constraints, even those that were Interconnection Reliability Operating Limits (IROLs)

   - A stated concern used to justify the need for NOGRR215 is that approval of some of the recently requested RASs, will result in increased intervals of congestion on downstream Generic Transmission Constraints (GTCs) associated with voltage and dynamic stability limits and due to the uncertainty of calculating accurate Generic Transmission Limits (GTLs) associated with these GTCs, this is undesirable
   - We show that ERCOT has historically managed similar stability-based flow constraints associated with the voltage stability limits associated with Houston imports, without ever seeking to limit RAS approval as a mitigating factor
   - There is widespread stakeholder agreement of the need for ERCOT to apply an appropriate level of safety margin to the GTLs associated with GTCs; however, once that safety margin has been applied, ERCOT must be comfortable operating up against those GTLs

Broader Historical View – Observation #8

8. Limiting the use of RASs as envisioned by NOGRR215 will subject the market to years and years of unnecessary congestion while transmission upgrades are developed, considered for approval per criteria, and implemented where justified
   - The average number of years that a RAS / AMP has remained in place, is 6.5 years.
   - The P25 number of years that a RAS / AMP has remained in place is 4.5 years.
   - The P75 number of years that a RAS / AMP has remained in place is 8.0 years
   - The max and minimum number of years that a RAS / AMP has remained in place is 14.25 years and 2.25 years, respectively
   - Thus, even proposals to limit the maximum duration of an individual RAS on the system to 4 to 5 years, would dramatically curtail the among of congestion relief that these have historically provided.

Broader Historical View – Observation #9

- RAS usage is a critical “tool in the tool kit” for ERCOT to help ensure resource adequacy which is a key Reliability Indicator identified by NERC
- NERC’s 2020 State of Reliability Report published in July 2020 discusses ERCOT’s 2019 performance in this area as follows:
  - “In 2019, the reserve margin assessment reported for Texas RE-ERCOT assessment area was determined by the ERO’s reliability assessment process to be “inadequate” for the 2019 summer peak in comparison to the ERCOT Reference Margin Level of 13.75%”
  - It reported the “Amount Needed to Meet Reference Margin Level: 3,802 MW”
- Removing or diminishing the ability to use RAS technology to benefit resource adequacy does not help improve the likelihood of meeting and continuing to meet this measure going forward

Conclusion

- For all the reasons outlined above and discussed in detail within the Supporting Detailed Discussion section of our comments, we believe:
  - That NOGRR215 is not narrowly tailored to address demonstrably new reliability issues and
  - Does not preserve historic levels of reliable open access.
- As such, we believe that no changes are currently warranted to ERCOT's binding documents (e.g. Protocols, Planning Guides, Operating Guides, etc.), so that historic levels of reliability and open access are preserved