July 21, 2020 RPG Meeting Notes

**Miscellaneous Updates**

Jeff Billo gave an update on the GIS Report that includes the generation interconnection. ERCOT has added a new flag that shows whether an economic study is needed or not.

Jeff Billo announced that ERCOT has been working with Argonne National Lab. Argonne National Lab approached ERCOT about doing a hurricane analysis study. They have a tool that they have developed that looks at historic hurricane information and how that might affect the grid. We have reached out to some of the affected TSPs. There are no study results to share at this point, but we just wanted to give stakeholders a heads up. When there are results to share, we will bring them to the group.

Clayton Greer (Morgan Stanley): Are you going to do anything with the hurricane data?

Jeff Billo (ERCOT): It is too early to tell; this is more of an extreme event analysis.

**Moffat-Hasse Voltage Conversion RPG Project – Study Scope**

Ben Richardson (ERCOT) presented the Moffat-Hasse Voltage Conversion Project Study Scope. This Tier 2 project is estimated at $55.23 million and has a proposed in-service date before winter peak 2024/2025.

No questions.

**Texas City Transmission Improvement RPG Project – Update**

Moinul Islam (ERCOT) gave a status update on ERCOT’s Independent Review of the Texas City Transmission Improvement Project. ERCOT will work with the TSP for feasibility and cost estimates for the short-listed Options 3, 4, 5 and 6 for 93 MW load associated with 63 MW cogeneration plant in Texas City.

No questions.

**Geomagnetic Disturbance Vulnerability Assessment – Study Scope**

Minnie Han (ERCOT) presented on the scope and process of the 2020 Benchmark GMDVA. A draft of the 2020 Benchmark GMDVA Scope and Process is posted to the July 2020 RPG meeting page.

Pushkar Chhajed: Will these cases be available to anyone who has access to the MIS? If so, where are they located on the MIS?

Minnie Han (ERCOT): These cases have not been posted to MIS yet. When they are, they will be posted to the following:

The GIC System model (GIC DC and AC models), the GIC System model with Category A outages, and Category A and B outages will be posted to the MIS Certified area for TSPs under Groups and Rules -> Transmission Service Provider Information.

The AC model, reactive power losses, preliminary and final Benchmark GMDVA results and CAPs will be posted to the MIS Secure Area under Grid -> Regional Planning.

**2020 RTP and 2020 LTSA Economic Analyses – Initial Results**

John Bernecker (ERCOT) presented the initial results for the 2020 RTP and 2020 LTSA Economic Analyses.

Sunil Dhakal: Why are we not adding solar generation from 2022 to 2025? It looks like there was no new solar added.

John Bernecker (ERCOT): There is no new generation of any type added from 2022 to 2025. The latest COD was in 2022 for generation meeting PG 6.9(1) requirements at the time of the case build.

Aarthi AKumar (LCG Consulting): Do you include demand response in these cases?

John Bernecker (ERCOT): We did not model any demand response at this point.

Raja (CNP): Are we saying that there would be more coal in 2025 than in 2022?

John Bernecker (ERCOT): On a capacity basis, no, but we did see an increase in coal generation output and we are continuing to dig into that. Some initial thoughts are that we have higher load and also, we see constraints when transferring power into load centers. It would not be surprising to see additional coal generation serving some of the increased load in those load centers.

Raja (CNP): On Slide 4, since Coast is not reflected in the charts, does that mean there was no curtailment of wind and solar?

John Bernecker (ERCOT): That is correct. The values were zero so I did not include them in the charts.

Walter Reid (APA): Remind me about how congestion rents relate to the economic test for new transmission?

John Bernecker (ERCOT): The economic criteria compares production cost savings to first-year revenue requirement. Congestion rents indicate where there is congestion, but the numbers themselves are not a direct indication of what production cost savings may be realized by transmission improvements intended to relieve the congestion.

Alex Lau: Why is the North-Houston interface limit modeled when it was not modeled in the 2018 and 2019 RTP? The limit modeled is lower than the pre-Houston import project.

John Bernecker (ERCOT): We select which stability limits to model based on both things we see in operations and current planning studies. We noticed that there has been some increase congestion and other issues in planning studies related to that transfer path, so we decided it was appropriate to model that interface in the RTP economic analysis.

Chenyan Guo (LST): Can you share the definition of West Texas Export interface? Are you referring to West-Central GTC?

John Bernecker (ERCOT): This is not the West-Central GTC; this is the interface and associated limits described in ERCOT’s July 9, 2020 presentation to ROS on the West Texas Stability Assessment.

John Snyder (Clearway): Are you making an assumption that GTCs that are not modeled will be resolved or will have reached their exit criteria by the study years?

John Bernecker (ERCOT): We only model GTCs with limits under N-1 conditions in our economic base cases. If outage sensitivity analysis is conducted, we may include additional GTCs with N-1-1 limits for that sensitivity analysis, as appropriate. We also may model interfaces and limits identified in planning studies in lieu of certain GTCs as in the case of the West Texas Export limit and the West to Central GTC.

Alexandra Miller: Is the P7-P7 limit on the West Texas Export interface limiting flows on other constraints and may prevent things passing? Or do you think that is the level that may be in operations at that time in the future if it is not fixed?

John Bernecker (ERCOT): We did not model that P7-P7 limit for that very reason. We modeled one of the limits that would be more reflective of the contingencies we are running in the case.

Steven Havermann (AEN): What is the limit of the 16 line West Texas Export Interface?

John Bernecker (ERCOT): The interface definitions and associated limits can be found in the 2020 RTP postings located on MIS secure.

Meng Liu: Are RAS modeled in the studies?

John Bernecker (ERCOT): Not initially because we may not see the need for RAS actions, or may identify a transmission improvement that meets the economic criteria and also resolves the congestion that the RAS actions may resolve. If congestion that RAS actions may resolve is observed and no associated transmission improvement that meets the economic criteria is identified, then the RAS actions may be included at a later date.

Karan Joshi (Pattern Energy): If West Texas Central GTC is modeled, how does the congestion on West Texas import change? Does ERCOT plan to include that as a sensitivity?

John Bernecker (ERCOT): No. Our view is that the West to Central GTC is a subset of the larger West Texas Export interface and that the West Texas Export interface is more appropriate for the planning horizon.

Raja (CNP): What is the limit used for the North-Houston interface?

John Bernecker (ERCOT): It is in the postings in the MIS Secure.

Alex Lau: The Panhandle Export limit is lowered significantly in the 2020 RTP. Is this due to the new dynamic stability being imposed? Also, the interface definition did not include the lines from White River-Abernathy and Ogallala-Abernathy that were included in the 2018 RTP.

John Bernecker (ERCOT): I can take further questions on specific interface definitions and their limits offline. Please feel free to send me an email.

David Turner (Lone Star): What solar dispatch was used in months 3 and 4?

John Bernecker (ERCOT): We use 8760-hour profiles for wind and solar resources based on the historical weather year selected for base analysis (2013 in the case of the 2020 RTP).

Aarthi AKumar (LCG Consulting): Is the Panhandle limit taking into account LPL integration?

John Bernecker (ERCOT): LP&L’s topology is included in the cases.

Ankit Pahwa: How were the individual transmission elements determined for the West Texas Export interface? What was the logic behind including series elements to the interface definition? How will the final shift factor from a generator will be calculated on the interface?

John Bernecker (ERCOT): That is a more appropriate question for our dynamic studies team, which performed the West Texas Stability Assessment discussed at ROS.

How are batteries dispatched in the LTSA?

John Bernecker (ERCOT): Additional parameters, such as the round-trip efficiency and energy-to-power ratio (reflective of duration) are input into the software. Batteries are then dispatched by the production cost software considering their energy limitations.