**Regional Planning Group**

**Meeting Notes**

**September 18, 2019**

**Miscellaneous Updates:**

Jeff Billo (ERCOT) provided the following miscellaneous updates to the RPG at the start of the meeting.

1. ERCOT was requested that they check the Southern Cross DC Tie study for any stability limits at 1375 MW in addition to the thermal limit that was already identified. A stability limit was identified and study findings will be published as an addendum to the report that was posted to the MIS in May 2019.

Karan Joshi (Pattern Energy): Who should we direct questions regarding the SC DC Tie study to?

Jeff Billo (ERCOT): Fred Huang should be a good point of contact for these questions.

1. Protocols require that ERCOT revisit its financial assumptions for economic studies every year. No changes have been made to the assumptions and will remain the same as last year’s.
2. John Bernecker is the new Manager of the Transmission Planning Assessment team that handles the RTP and LTSA studies in ERCOT.

**2019 RTP Update and Sensitivity Studies**

John Bernecker updated the RPG with the status of the 2019 RTP studies and gave a brief description of the sensitivity studies that will be performed on the summer peak as well as off-peak cases, as outlined in the 2019 RTP study scope.

Jeff Billo (ERCOT): ERCOT considered a West Texas sensitivity study that would take into account potential load growth in the region. But since this is similar to the Delaware Basin special study, the sensitivity was dropped from this year’s analysis.

Walter Reid (Advanced Power Alliance): Did you do an economic analysis to address local congestion that may be caused by renewable addition?

John Bernecker and Jeff Billo (ERCOT): Not much work has been done in that area and ERCOT does not have enough information to share with the RPG at this point. May consider this in the future.

Brad Myers (AEP): Is the ‘No Wind No Hydro’ sensitivity a new addition to the studies performed in earlier years?

John Bernecker (ERCOT): No. It has been studied before.

Stakeholder: Has ERCOT looked into response of PUN generation during summer peak conditions?

John Bernecker (ERCOT): No detailed planning analysis has been performed based on historical behavior of PUNs. No new updates are available at this point. This has been looked at from an operations perspective in the past.

Jeff Billo (ERCOT): It may be worth checking with TSPs if they have looked at this while setting up SSWG cases.

**2020 LTSA Update**

Julie Jin provided a status update for the 2020 LTSA Current Trends scenario.

Resmi Surendran (Shell Energy): On slide 3, is the ancillary services (AS) price the average price?

Julie Jin (ERCOT): AS clearing prices are used. The input AS prices overwrite the AS prices calculated by the model. These AS prices are used to calculate AS revenue for generators, and affect the retirement decision for existing generators and capacity addition decision for new resources.

Resmi Surendran (Shell Energy): What are your assumptions for EV charging times?

Julie Jin (ERCOT): Please refer to the May RPG presentation for EV charging pattern assumptions.

Clayton Greer (Morgan Stanley): What is the theory behind solar cap expansion in LTSA?

Julie Jin (ERCOT): Not sufficient historical data is available for solar cap expansion. Future development patterns are used as indicators.

Stakeholder: On slide 4, what does the percentage indicate?

Julie Jin (ERCOT): It represents the percentage mix of annual generation.

**TNMP Ward Winkler County Transmission Improvement Project**

Priya Ramasubbu presented the results of ERCOT’s Independent Review of the Ward Winkler county transmission project and the final recommendation.

Walter Reid (Advanced Power Alliance): Did you consider 138-kV double circuits?

Priya Ramasubbu (ERCOT): No. A need for double circuit structures was not seen in the analysis.

Walter Reid (Advanced Power Alliance): Are new 138-kV towers needed?

Priya Ramasubbu (ERCOT): No new 138-kV structures are needed. TNMP built new towers a couple of years ago. The 69-kV circuits in place today are already 138-kV capable being operated as 69-kV.

Stakeholder: What is the expected in-service date of the project?

Priya Ramasubbu (ERCOT): All components of the project are expected to be energized by Dec 2020.

Stakeholder: Why is the congestion analysis conducted on year 2024 and not on 2020 or 2021?

Priya Ramasubbu (ERCOT): Congestion analysis is performed on cases that are a few years out to compare the long term performance of the project. Had congestion been seen in 2024, the analysis would have been performed on 2021.

**Nueces 69 kV Project Independent Review**

Aditi Upadhyay provided a status update for AEP’s Nueces 69-kV Reinforcement Project.

Clayton Greer (Morgan Stanley): Are the relevant 69-kV lines going to be converted to 138-kV?

Aditi Upadhyay (ERCOT): No. Only rebuild options are being considered.

Bryan Sams (Calpine): What is the timing of the identified thermal overloads? Are they seen only during summer peak conditions?

Aditi Upadhyay (ERCOT): The ERCOT review considered only summer peak conditions.

**Lower Rio Grande Valley Independent Review**

MD Moinul Islam gave an update on the LRGV study.

Bryan Sams (Calpine): Is the 405 MW LNG load confirmed? In other words, will ERCOT’s review hinge on the status of the load?

Sun Wook Kang (ERCOT): Since the load is not currently confirmed, this ERCOT Independent Review will not make a final project recommendation. This study is conducted as a proactive measure to review all feasible project options.

Bryan Sams (Calpine): Do you see the same thermal overloads with and without the 405 MW LNG load addition?

Moinul Islam and Sun Wook (ERCOT): No, we do not see the overloads without the LNG load addition.

Bryan Sams (Calpine): Are the multiple possible locations of the LNG terminals being considered?

Sun Wook Kang (ERCOT): The 840 MW sensitivity covers the effect of multiple locations of interconnection.

Karan Joshi (Pattern Energy): What is the status of financial security that needs to be obtained for the 405 MW of potential LNG load?

Doug Evans (STEC): STEC is actively working with the LNG load to work out contracts, financial agreements, and CCN procedures. The earliest date at which the details can be finalized is June 2020, but can vary due to a number of factors.

Karan Joshi (Pattern Energy): When the LNG provides firm commitment, would it be fair to assume that ERCOT will not need to perform any further analyses to provide its final recommendation?

Sun Wook Kang (ERCOT): Yes, as long as there are no major topological changes before then that might affect the study area.

Melissa Brinson (Exxon Mobil): Was a sensitivity analysis performed with lower LNG load levels to identify the threshold for thermal overloads?

Moinul Islam (ERCOT): We did not test load levels below 405 MW.

Brad Myers (AEP): Do you have anything to share from a stability perspective?

Moinul Islam (ERCOT): No issues were seen at 405 MW LNG load. We may see unsolved contingencies for the additional 840 MW of LNG load.

Karan Joshi (Pattern Energy): Does the potential 840 MW of LNG load have any signed agreements with AEP?

Brad Myers (AEP): We are in a similar position as STEC in regard to interconnection/commitment status of the LNG load.

**Delaware Basin Study Update**

Ying Li gave a status update on the Delaware Basin study. ERCOT is currently conducting G-1 N-1 analysis.

Clayton Greer (Morgan Stanley): Is ERCOT going to propose upgrades on slide 5 (additional upgrades to address N-1 issues) regardless of what option is finally recommended?

Ying Li (ERCOT): Yes, although it doesn’t mean that the upgrades will need to be built right away.

Clayton Greer (Morgan Stanley): How was the G-1 condition for Permian Basin modeled?

Ying Li (ERCOT): Based on historical data, all 5 units were taken out of service.

Mina Turner (AEP): While considering planned outage of SVCs, it may be beneficial to treat them similar to outages of 345-kV transformers, i.e., they do not have backups and cannot be replaced immediately.

Christina Minchew (WETT): What is the impact of incremental load levels? Was the impact of intermediate load levels studied?

Sun Wook Kang (ERCOT): The load at ~5372 MW is nearly double of what is modeled in the RTP studies. We don’t know which conceptual loads will pop up first. We just modeled the area load provided by TSPs to conduct this study. So, intermediate load levels were not studied.

Christina Minchew (WETT): Some of the routing seems diverse across options. Did you look at other factors while considering options?

Ying Li (ERCOT): We also looked at the LTSA study and checked for additional benefits like both import as well as export capabilities.

Doug Evans (STEC): Are you going to provide cost estimates for all 9 options in the report?

Sun Wook Kang (ERCOT): We will study G1N1, X1N1 and N1N1. Once we finish the study and have some solid idea of transmission upgrades, we will need cost estimates, probably for some of the options, not all of the 9 options. We plan to put the estimates in the report.

Walter Reid (Advanced Power Alliance): Have you looked into the potential for renewable addition that each option allows?

Sun Wook Kang (ERCOT): This is not part of the scope document for this study and will not be addressed at this time.

Jeff Billo (ERCOT): This type of economic analysis demands a significant number of assumptions. At this point, we will stick with the addition of generators that meet 6.9 requirements.