

Regional Planning Group (RPG) Meeting Notes
May 20, 2014

Agenda

- Welcome and Antitrust
- Introductions
- Miscellaneous Updates
- Sharyland Panhandle Project
- 2014 LTSA Update
- 2014 RTP Update

Miscellaneous Updates

PLWG Generation deliverability subgroup first meeting Jun 3rd
Stakeholder comments: discussion what generation is in the base cases

Sharyland Panhandle Project

Not submitting project for RPG approval at this time

Performed study to determine WGR impacts:

- no stability concerns for 3,263 MW (expected Panhandle WG by 2015)
- synchronous condenser optimal amount and location can be determined by further analysis

Q&A: How are operating stability limits determined?

- PREZ study
- Sharyland study
- Operations real-time study

Q&A: How are SC proposals going to be handled?

- ERCOT evaluates project proposals on SCs including costs
- Leaves bid-handling to TSPs

Export capability from the Panhandle:

Two scenarios:

1. WGRs meeting Section 6.9 of Planning Guide (3,263 MW)
2. WGRs meeting Section 6.9 of Planning Guide + IAs with COD of 2014/2015 (4,545 MW)

Preliminary study conclusions:

- Steady-state analysis of voltage security showed no limitations
- Composite short circuit ratio used to determine SC capacity levels
 - Q&A: Industry experience as bench-marks? Not applicable to present study due to extent of WG and complexities of the system
- Dynamic assessment – evaluated 2nd circuit on SU Loop and SC options

No concerns with 3,263 MW, 200 MVA of SCs

Looking into impact of large synchronous condensers

SCs have been quoted at 12 month lead-time

Sharyland will work with ERCOT to look at SCR as actual installations develop

Q&A:

- Are these system issues or WG-site issues? Resource integration group in contact with WG developers to address control systems
- HVRT not considered applicable in the study
- Tres Amigas project impacts? Addressed in the grid-integration study for Tres Amigas
- How does ERCOT address interconnecting DC ties? Connecting TSP does reliability analysis; any projects go through RPG review; PGRRs have stalled regarding DC interconnections
- Proposed synchronous generator impacts? Still investigating; see reduction in SC requirements for composite short circuit ratio study; not analyzed in dynamic assessment
- Larger conductor impact? Not investigated, but should be. Panhandle treated as a super-node, so limited impact if the large conductor is within the super-node.
- Cost estimate on new SCs? PREZ study has estimates.
- Shareholder comment: start at ROS with proposal rather than DWG

- What WG dispatch assumptions? %100 around the loop, %90 outside. ERCOT uses %95.
- Does ERCOT have plans to reevaluate stability limits? Yes, as part of RPG project review and as turbines come online.

ERCOT Internal Review: Leander Round Rock Project

Tier 1 project

Project need: load growth in west Williamson County

PEC identified two new substations including Parmer Lane substation by 2019

O&A: *Model different S-N and N-S transfers?* NW and SE case were used along with other sensitivity analyses. *Modelling high transfers affects the flows in those lines which are not in the SSWG cases.*

Thirteen options investigated with the Parmer substation.

- 2019 reliability – no violations
- 2022 reliability – none of the 13 options were secure under contingency
- Option 11 determined to be the best project

Recommendation: Construct new Parmer 138 kV substation, new 138 kV single circuit line from Leander and Round Rock to new Parmer line.

Next Step: TAC endorsement

2014 LTSA Update

Overview: 10 scenarios for LTSA

Stakeholder feedback selected the following scenarios as important:

- Stringent environmental
- High economic growth
- High efficiency/DG
- High gas price
- Global recession

Current Trend Scenario – present conditions continue

Assumptions for current trend scenario presented

O&A:

- Where was the solar generation cited? Next process is to cite the solar generation; these are generalized into areas
- Industry trends of solar citing? No, but looking ahead would like to do this as solar is cited
- Solar cost trends? Brattle Group cooperation determined trend of 4% decrease in solar costs
- Reserve margin – this is a result of the model's economic dispatch
- Does unserved energy indicate reliable deliverability of energy?
- It was discussed about the solar generation growth, reserve margin,
- Outage related, lack of capacity, no transmission constraints
- Production Tax Credit added back into the model – 4,229 MW of new wind built
- Solar costs from some report? Those were mostly DGs and will be further developed in another scenario
- Able to run these? Yes, desire is to run generation expansion analysis for all of these scenarios and see which ones show most disparities
- Natural gas prices can be high in Texas and still allow LNG exports if the world price is higher? Export capability will drive the differential between the Texas price and the world price. The assumption was changed to match the story given in the scenario description.
- Aren't EE and DR considered in the official load forecast? The official forecast reflects current EE and DR, but doesn't reflect technological improvements that may occur in the next 10-15 years.
- Some scenarios discussed changes in EE and DR. How will those change based on this adjustment? Calvin has some factors that he can use to model the more aggressive EE and DR scenarios.

Any further comments should be sent to ERCOT by the end of the week.