

**Regional Planning Group
Meeting Notes
July 21, 2015**

Misc. Updates

Fred: PUC Panhandle Analysis Study Scope has been revised and reposted. Received additional feedback and comment and will be revising again.

Q: The 3604 MW, wind generation met the 6.9 criteria?

A: Correct

Q: Has that been changing?

A: No

Q: Explain first star, what is the scenario where scenario 3 would not be evaluated?

A: The focus for this study is to identify transmission solutions to accommodate 3604 MW wind generation capacity in Panhandle while satisfying the study criteria listed in the study scope. In the case that only synchronous condenser is identified as the need for 3604 MW, as an example, ERCOT will further identify the additional wind generation capacity that is required to justify the completion of Panhandle second circuit.

Q: For the synchronous condenser, what size and how many condensers are you putting in?

A: ERCOT will try to identify the minimum set and the study will consider to model each synchronous condenser in the range from 100 to 400 MVA. A more specific size and its electrical characteristics will be described in the study results.

Q: The way you've written, if 2 meets the needs of 3604 and you don't need synchronous condenser, you'll still do scenario 4?

A: Correct.

Q: It appears there is some synchronous switchable generation that may be synching to the grid in that area. Will ERCOT consider those generation projects that can provide system support?

A: The study will focus on high wind export conditions in Panhandle, and does not consider the contribution from the synchronous generation in the Panhandle area.

Update #2: The project with consultant to perform Panhandle PSCAD analysis. Currently in process of getting base case; then we will start the analysis.

Q: You're going to do study even if some Resource Entities or developers do not provide models to ERCOT, right?

A: Our intent is to plug in the actual models for existing projects. If we do not get a model for that project, we'll make some assumptions for what information we will use for that project.

Q: What's the timeline on PUC study?

A: Schedule to present results to RPG in August. Right now in process to do analysis.

Sun Wook: Financial Assumptions

Sun Wook presented on the financial assumptions used for economic planning. ERCOT will use 15% of a project's capital cost as the assumption for the first year annual revenue requirement.

Sandeep Borkar: 2015 LTSA Scenario Workshop Review

Sandeep summarized the July 13 and 14 scenario development workshop.

Q: How quickly do you need feedback?

A: I'll send out email at the end of July. That will give the stakeholders about 2 weeks.

Ken Donohoo: Oncor West Texas Update

Ken presented an update on Oncor's West Texas activities.

Q: Unocal Parker and South—SPS?

A: No, because this is a customer-owned station. Red is Oncor, green is customer-owned on the map.

Q: Slide on summary of how many improvements by year. Customer with no upgrade? Does that mean load is coming in but you have enough capacity?

A: Yes, or POI or Gen Interconnect, or Sharyland service.

Q: How do you think about that when planning a line?

A: What's our upgrade path if load continues to grow. We're not putting small wire in, we're using big wire. Did we size right, do we know load in 5 years? Not really. When do you get to solution? When you solve at 50% level? 90% level? Also dynamic problem—changing voltage under events.

Q: Have you run G-1-1 on these?

A: Yes we have. G-1, X-1, and A-1's. That's all in our criteria now.

Prabhu Gnanam: ERCOT West Texas Study Update

Prabhu provided an update on the West Texas Study including high level results.

Q: What are purple spots on the 2017 reliability criteria violations slide?

A: Voltage issues

Q: Did you mention timing on completion of forecast?

A: EVA will be getting started right away, expect them to be done end of 3rd quarter, early 4th.

Q: Go back to 2019 reliability criteria violations. You show loads to the north of Andrews county and north of overload 5. Are those ERCOT areas?

A: No. I think they end close to ERCOT footprint. This is a Powerworld map and we tried to show just the ERCOT area, but there may be some outside. The load represented is only from the ERCOT area.

Sun Wook Kang: 2015 RTP Update

Sun Wook presented an overview of RTP results.

Q: What is North Hill—Zia? Where is North Hill?

A: Sun Wook: North Hill is located near the existing Lon Hill substation, and Zia is located at the Lower Rio Grande Valley area. That is a new 345 kV line project bringing new 345 kV path into the valley area.

A: Sandeep: It is pretty similar to the project presented by AEP in the last RPG meeting.

A: Jeff: This is a placeholder project.

Q: Is this an upgrade to the South McAllan transformer?

A: The first auto has been recommended for 2 years, it has been represented from the previously approved RPG project (Cross Valley tap project); We are still waiting for the RPG submittal. The second auto was added as X-1 N-1 solution. (Sandeep)

Q: Explain case conditioning in 1st box. What does that consist of?

A: To start the study, we prepare a study base case, so for that case we start from SSWG case. In the SSWG case, as an example, many transmission projects that have not approved in the RPG are modeled. Those projects need to be removed to build a study base case.

Q: Slide 4 showing totals for projects: did you say that the ones that are previously identified are included in the 2015 RTP, for instance the 11, does that include the 2?

A: 11 included the 2.

Q: There's the ERCOT West Texas study going on and the RTP study going on. Is there a coordination of loads being used in West Texas or are the loads different?

A: The loads are different. The loads in 2015 RTP are lower than load levels being analyzed in West Texas study. We have had discussions with oil and gas customers where are trying to develop a process where they give us the loads. Part of this project is their understanding how our process works and we need to understand their industry and how it works. We would not like to have to do a West Texas study every year or every other year, so we'd like to use their loads for the forecasts.

Q: Will the reports come out together?

A: The West Texas study report will come out about two months before the RTP comes out.