

Attendance: 23 attendees and 17 webinar/telephone participants

I. Introductions by Terry Ray, PacifiCorp

Terry opened the meeting at 11 am MT. He discussed PacifiCorp's involvement in the projects and went through the Standards of Conduct developed by the Northern Tier Transmission Group.

[Slide 2]

Terry introduced Bob Smith from APS, and indicated Bob would go through the agenda and introduce the participants.

II. Bob Smith, Arizona Public Service

Bob expressed his appreciation for the attendees' participation and interest in the projects. Bob indicated he is the Project Manager for the Transwest Express Project (TWE) for APS and that TWE has been going on for 2 years. He noted that the October 17 meeting was the kickoff meeting for the official WECC process.

Bob acknowledged the partners in the project: PacifiCorp, National Grid (NG) and the Wyoming Infrastructure Authority (WIA), and noted that APS was honored to be partnering with them and moving forward with the projects.

Bob asked the audience to ask clarifying questions as they went through the presentation and to ask (more expansive) questions afterward. Participants in the room introduced themselves and a roll call was done on the phone. (See attendance document)

[Slide 3]

III. David Smith, National Grid

David welcomed the group and made introductions. He noted that the partners are seeking input from stakeholders and were looking forward to having a dialogue with them.

[Slide 4]

Welcome and Introductions:

APS, PacifiCorp, National Grid, and the WIA in accordance with the WECC Regional Planning Review Process, the NTTG and SWAT planning processes, and FERC Order 890, request stakeholder feedback on the TransWest Express and Gateway South projects.

David went through each company partnering the project.

[Slides 5-8]

David discussed the co-development agreement and noted that PacifiCorp approached APS as representatives of TWE about a co-development partnership and took the initial steps to look at transmission. The partnership allows the group to work with other utilities to get a scale and scope of the projects needed.

[Slides 9-10]

David discussed the regional needs and how the projects would meet those. The projects would provide a prudent, reliable system and reinforce the Wasatch Front. David indicated the AC/DC combination would provide reliability and 3rd party access to the transmission, improve resource diversity, enhance wholesale markets, and provide access to renewable energy in Wyoming.

[Slides 11-12]

David completed his presentation and asked for questions. He then introduced Peter Krzykos from APS and turned over the presentation to him.

Questions and Answers

Jim Tucker: Do you believe both projects will be built?

Dave Smith: Yes. We expect both projects to be built: 3000 MW for Transwest and 3000 MW for Gateway South. Both projects will be moved forward, although not on the same timeline.

Jim Byrne: Is the Frontier project the basis for these projects?

Dave Smith: Not specifically. These projects meet some of the same goals and provide some of the same benefits, but don't feed exclusively into California.

Bob Smith: These projects look a whole lot like Frontier.

Jim Byrne: Is there an active Frontier Project?

Dave Smith: I'm not certain what plans the group working on the project have.

Bob Smith: At the last stakeholder conference call meeting regarding Phase II of the Frontier Project, Darrell Gerard spoke a lot about PacifiCorp transmission plans. Bob said he knows of no activity regarding the Frontier Project since that call.

IV. Peter Krzykos, APS

Peter indicated he would summarize the projects and conclude with the development status. Peter addressed the need for the projects and noted that most of the population growth is in the western US, and particularly in the southwest.

[Slides 13-14]

Arizona is growing the fastest and its need for new summer generating capacity is expected to increase to 8000 MW by 2025. In the next 20 years the load and requirements to meet them almost doubles. Peter added that the state RPS requirements are set at 15% by 2025.

Peter discussed the stakeholder participation process that has occurred. He noted that prior meetings had been held already.

[Slide 15]

Peter then moved on to discuss the map and the project alternatives in the feasibility study process. Peter indicated that basically five alternatives were studied – the map depicts three of these 500 kV lines from Dave Johnston down into the Phoenix area. Peter noted the most cost

effective option is the DC line from Wyoming to Arizona – but all alternatives were feasible and met the needs of the study.

[Slide 16]

Peter discussed where the project is now. It starts from Dave Johnston DC terminal and leads into Gateway West then Gateway South on to the Las Vegas line.

[Slide 17]

Peter noted the parties who have expressed interest in moving power over the project lines.

[Slide 18]

Questions and Answers

Jim Tucker: Where would terminals be located?

Peter: In Wyoming and Phoenix and maybe Las Vegas.

Jim Tucker: What is the purpose of going this direction? Are synergies the reason behind the reference case?

Peter: We have determined there are more synergies that would occur with this option.

Phone questions: Would this be a new circuit from southern Nevada to Phoenix?

Peter: This new line is a continuation of a DC line going into Phoenix and maybe Las Vegas.

Phone question: Will the line entail a conversion?

Peter: One possibility of increasing capacity from southern Nevada to Phoenix is DC conversion of the Mead-Phoenix line.

Jim Tucker: Would there be any remedial actions required from line loss from the DC line?

Peter: There will be benefits of the two lines. We're in the early stage of analysis, although we anticipate that the joint 500 kV lines should technically help each other and have less of an impact in an N-1 contingency.

Jim Tucker: What are the contingency plans for the loss of the Gateway line?

Peter: My understanding is that it includes ramping up to 50% of the power- ramping up to 750 MW if a circuit is lost.

Jim Tucker: Have you looked at a contingency for losing both AC and DC lines in a corridor?

Peter: We haven't looked at a contingency plan for that yet. It's outside the requirements of what the WECC path rating calls for.

V. Craig Quist, PacifiCorp

Craig described the Gateway South Project. He noted that PacifiCorp has identified significant load growth by 2022 – at least 2500 MWs. He said there is a load pocket by St. George which will also grow by an additional 500 MWs. In May 2007, PacifiCorp announced plans to develop \$4B in transmission expansion. As part of that announcement PacifiCorp and Idaho Power announced their partnership on developing Gateway West. Gateway West would move from Dave Johnston to Captain Jack and the Mid C. Craig noted that PacifiCorp has had many point-point requests for transmission.

[Slide 19]

Craig noted that there have been several stakeholder meetings to seek input on the projects.

[Slide 20]

Craig went through the reference case. He indicated it would be necessary to reinforce the system instead of expanding Dave Johnston. The project would carry 3000 MWs.

[Slide 21]

Questions and Answers

Jim Byrne: Can you characterize the point to point requests? Are they wishes and dreams?

Craig: Yes, yes, and yes. All the requests are posted on the OASIS. Some are from PacifiCorp entities, others are from outside PacifiCorp and we can't share those publicly.

Jim Tucker: Do you expect any [AC] terminals [on the Gateway South circuits] between Dave Johnston and Mona?

Craig: Right now it's roughly a 400-mile length – we may have to build a substation. A lot of it depends on what requests we get – right now we are only studying it as point-to-point.

Jim Tucker: So you're not planning on hooking up the system midway?

Craig: Yes – yes there would be something midway. It's anticipated by the areas on the map, but the actual construction may differ slightly.

Jim Tucker: Please point out Jim Bridger. Have you looked at a single corridor for Gateway West and Gateway South?

Craig: Jim Bridger is in the Gateway West path – Gateway South does not go through Bridger.

Rick Campbell: Is there a reason you wouldn't share corridors?

Craig: Probably because of setbacks. We are going to have to string more 345 kV line through the area.

Edison Elizah: Have you had any discussion with Nevada Power regarding capacity?

Craig: Yes. Dave Smith and I visited with them to discuss the project and they have no problem with what we are looking at for capacity.

Edison Elizeh: Have you looked at Crystal to Mead?

Craig: Yes. We have recently held a meeting with SRP.

Phone: Will you be able to get power out of Crystal?

Craig: Yes, with additional work built at Crystal or a new substation.

VI. David Smith, National Grid

David discussed the potential design solutions for the two projects. David noted that with co-development of the larger project the partners can improve reliability and capacity beyond what could be achieved by the projects separately. Currently system studies are being conducted and stakeholder input sought. David noted that the partners are looking to firm up the access to the Las Vegas market, which would be ranging from 4500 MWs to 7500 MWs – exporting 3000 MWs to Gateway South and 3000 MWs for Transwest. A range of options are being looked at.

[Slide 22]

David discussed the needs assumptions for both projects: sinks and sources **[Slide 23]**. The sinks are located in Utah, Phoenix and Las Vegas and we have included ten –year expected growth demands. Economics indicate it best to build the DC line as large as possible and fill it.

David then discussed the projects that complement both Transwest and Gateway. Energy flows from Phoenix into Southern CA. Gateway West is a very important circuit for reliability of the Wasatch Front. Expanding capacity is seen on the EOR 9300.

[Slide 25]

The timeline was reviewed. David noted that the schedule requires moving through regional planning. Two reports are forthcoming: the report to the Review group by the end of 2007 for each project. Regional planning on both projects is expected to be completed in January 2008. The partners plan to initiate the WECC Phase I Rating Process in December. The Phase I process is expected to be completed in July 2008.

David completed the presentation and asked for additional questions. He indicated meetings will be held in Cheyenne on November 7 and in Phoenix on December 5. It was noted at the end of the meeting that an Engineering Work Group representing the co-development partners had been formed and email addresses were provided for the representatives.

Arizona Public Service:

Peter Krzykos, *Supervisor of Transmission Planning*, peter.krzykos@aps.com

PacifiCorp:

Craig Quist, *Manager of Transmission Development & Planning*, craig.quist@pacificorp.com

National Grid:

David Smith, *Project Manager, Business Development*, david.smith@us.ngrid.com

Wyoming Infrastructure Authority:

Loyd Drain, *Development Director*, Loydd@WYIA.org

Questions and Answers / Stakeholder Forum

Jim Byrne: Is another consideration a DC terminal in Salt Lake?

Dave: The DC terminals are expensive – we're not focusing on DC as an economic solution because of the relatively short distance and cost.

Edison Elizeh: Why is the low capacity for southwest Utah 3,000 MW?

Dave: We are using 3000 MW for both the highest and lowest number.

Edison Elizeh: Will the AC project more likely come first?

Peter: Yes

Edison Elizaeh: On your TWE project, what is the termination point in Phoenix? If I am going to Pinnacle Peak can I really put more power from Pinnacle Peak to Palo Verde?

Peter: It's [near] Pinnacle Peak. Yes. That area will be reinforced with another 500 kV line.

Bob Smith: Somewhere further north outside of the city. Improvements will have to be made to the 345 kV lines.

Peter: This will happen 20-30 miles away from Pinnacle Peak for the converter station. It's too built up in the area of Pinnacle Peak for a converter station there.

Edison Elizeh: Some other projects have been announced. It is critical for customers to have that information. It would help us to know what is happening. Those paths will come from a higher point. That will be good to know.

Marshall Empey: Will the 345 circuit for Path C be a separate process?

Craig: Yes. Preliminary studies are underway and we are hoping to form a work group. Path C cuts through Wyoming into Southern Utah. We know what it's capable of. We'll keep you informed.

Jim Byrne: Regarding the double 500 and 345 circuits, are those going from Populus to terminal?

Craig: We aren't going to bring to Northern Utah 500 kV into the terminal. A double circuit 345 will make its way to terminal. That will increase import capability by potentially 3000 to 4000 MW. The double circuit 345 is already there. We will be going south to a 500 kV line, with two double lines into Salt Lake.

Jim Byrne: Why not have a continuous double circuit into Utah?

Craig: That it is not feasible.

Jim Byrne: Will the AC line have to be phase shifted?

Craig: Yes. The AC line will have to be phase shifted.

Jim Byrne: Will the High Plains Express to the East require phase shifting?

Craig: Yes. It is in preliminary stages and if it was to get built it would [most likely] require phase shifters.

Dave Angell: Are both AC and DC lines being looked at?

Craig: Yes

Dave Angell: Will there be a terminal into Las Vegas?

Craig: Yes. We are looking at two terminals: Phoenix and Las Vegas and Wyoming to Phoenix.

David Angell: Will you operate in three-terminal mode?

Craig: That is one option.

Phone: Do you see additional improvement to support other lines? It would appear that additional reinforcements would be needed at Dave Johnston and Aeolus.

Craig: Yes. We are already looking at 230 kV circuits to be part of another network. West of Aeolus we have one 500 kV and one 230 kV in the initial plans for load service in southern WY. We will have to get into the studies. We may need a separate 230 kV for load service.

Phone: Regarding the loss of DC terminal: would you anticipate loss on that line?

Peter: Yes. Two AC lines would help with that. The two projects will complement each other in outage situations.

Dave Angell: Will both the AC and DC lines be rated north to south/southwest?

Peter: They are rated both directions.

Jim Byrne: Where is Miners compared to Aeolus? How does this connect to TOT 3?

Craig: We have one project – Black Hills – that would cut down through Dave Johnston. We are going to model sensitivities. We will look at a “with and without” scenario – don’t expect much to occur between those two lines.

Edison Elizeh: Miners isn’t a part of TOT 3.

Craig: Potentially the cross-over would be at Aeolus. We are doing some studies.

Jim Byrne: Developers would like to have the option of selling power onto that line in either direction.

Edison Elizeh: Will the next stakeholder meetings cover the same topics or the progress you are making?

Dave: We plan to provide a similar overview of the projects and also describe the progress being made in developing the project definition.