NORTHERN TIER TRANSMISSION GROUP

Description of Meeting:	**NTTG Planning Committee**
Meeting Date:	**November 12, 2014**
Meeting Notes Prepared By:	**Amy Wachsnicht**
Approved for Posting:	**December 10, 2014**

1. Agenda:

a. Approval of Past Meeting Notes
   i. June 13, 2014 Meeting Notes
   ii. October 8, 2014 Meeting Notes

b. NTTG Draft Regional Transmission Plan Update
   i. Reliability Evaluation of Initial Plan with the removal of Uncommitted Projects
   ii. Alternative Project Evaluation
   iii. Metrics
      1. Capital Costs
      2. Losses
      3. Reserves
   iv. Public Policy Considerations Study Plan

c. Round Table/Other Business

2. Discussions & Decisions:

Decision: Approval of Past Meeting Notes

- June 13, 2014 Meeting Notes
  - With a motion by Jamie Austin & second by Don Johnson the meeting notes were approved as is for posting.
- October 8, 2014 Meeting Notes
  - Johanna Bell informed the committee that she was not present during the October 8th Planning Committee meeting, however the attendee list showed she was present. She requested that be corrected prior to approving the notes.
  - With a motion by Dan Wheeler and a second by Jerry Maio the meeting notes were approved for posting as modified during the meeting.

Discussion: NTTG Draft Regional Transmission Plan Update

- Reliability Evaluation of Initial Plan with the removal of Uncommitted Projects
  - Since the last Planning Committee meeting the Technical Workgroup (TWG) completed work on demonstrating the reliability of the initial regional plan and there were no violations on the base cases.
  - The TWG then looked at any potential unsponsored projects and the effects of removing the non-committed projects.
    - In looking through the list of projects submitted in Q1, the TWG identified 2 non-committed project, Boardman To Hemmingway (B2H) and Energy Gateway (EGW).
  - The studies currently in process represent cases where the TWG removed a non-committed project, added an alternative project or both.
    - A change case is either the removing a non-committed project without replacing it or removing a non-committed project and replacing it with another project.
  - Jamie Austin clarified that the definition of a committed project under Attachment K states that the project needs to have all its permits and is approved. In terms of the EGW, PacifiCorp has a record of decision for Gateway West but they are still waiting to hear from BLM making the EGW project uncommitted.

- **Question:** Curt Winterfeld – That was helpful that when you are referring to EGW, what legs or portion of the EGW project you were referring to.
  - **Answer:** Jamie Austin - Here the uncommitted is Gateway West and Gateway South because PacifiCorp deemed that as a single project and including B2H.
- Initial Regional Plan with removal of B2H
  - Acceptable performance however it does not meet the Idaho Power needs for ATC and resource contracts.
  - Gil Coulam indicated that this brought up the question in the TWG of is there a need to find an alternative project if it the results showed acceptable performance with or without B2H.
    - The TWG is also looking at the economic metrics to determine the benefits.
- Initial Regional Plan with the inclusion of Southwest Intertie Project (SWIP) North
  - Acceptable performance with no identifiable difference,
  - The TWG will look at the economic metrics to determine the benefits of this project.
- Initial Regional Plan without B2H and EGW
  - There are 10 performance violations in the export case, but acceptable performances in the other 4 core cases.
    - This shows a need for a project in that areas to make sure we meet reliability needs in the 2024 timeframe.
  - PacifiCorp is doing some sensitivity studies looking at additional load and resources to show the impact of EGW under those scenarios and will draft a report to present to the TWG.
- Initial Regional Plan without B2H and SWIPN added
  - Shows an acceptable performance
  - The TWG will be looking at the economic metrics to determine and evaluate the initial regional plan.
    - There are concerns that it doesn't meet the IPCO needs without the B2H
- Initial Regional Plan without B2H & EGW but with SWIP North added
  - Since SWIP North is north to south and EGW & B2H east to west it does not solve the violations in the export cases.
  - The removal of B2H and EGW does not meet the needs of Idaho Power or PacifiCorp.
  - Will be evaluating what those needs are and putting in our report
- Technical Workgroup's Next steps
  - Determine if the Change Case with the SWIP North project is more efficient or cost-effective than the Initial Regional Plan
  - Determine if there are any other Alternative Projects to replace B2H or replace B2H and EGW
  - Complete studies and economic metrics on Change Cases with any Alternative Projects
  - Write up draft report of Draft Regional Plan with the goal of having it available for next month.
- **Question:** Dave Angell – When you say studied cases are those the several hours and different configurations?
  - **Answer:** Gil Coulam – It would be the Initial Regional Plan and we do the metrics on those then we will do the metrics on the non-committed project and on the alternative project that were used in these cases.
- Quarter 5 Activities
  - Review potential external impacts of the Draft Regional Plan projects
  - Evaluate the robustness of Draft Regional Transmission Plan

        - Perform Cost Allocation analysis for Sponsored Projects (SWIP North Project)
        - Evaluate Public Policy Consideration scenarios
    - **Question:** John Leland – Cost allocation analysis, would that be if the project is selected into the draft regional plan?
        - **Answer:** Gil Coulam– That is the way I understand it. The TWG will have to determine if it should be a part of the Draft Regional Transmission Plan and if so we move forward with the cost allocation analysis.
    - **Question:** Fred Heutte – to follow up on the previous discussion about EGW. I realize you are down the line on this but it is a good question to discuss on how it should be evaluated. And I certainly think that looking at all the pieces, all segments of EGW is one part of it that should be in there. But wondering how to evaluate, that there are quite a bit of different segments being proposed and it would be useful to have a good look at whether inclusion or non-inclusion of those segments in some fashion might be helpful in the analysis.
        - **Answer:** Jamie Austin – I don't know what you mean by that because there are alternative to the sections in the routing. Is that what you are referencing? Or is it more related to what a specific segment delivers?
    - **Comment:** Fred Heutte – More of the latter. Gateway South and Gateway West, it is all related and that is why I think the company rightly put them all into the EGW label or package. But Gateway West and Gateway South are really quite different and Gateway West has a Western and Eastern segment. Even though they are a part of one big project they have somewhat different characteristics.
        - **Answer:** Jamie Austin – Gateway South the purpose of it is to, when we went through the rating process of Gateway West, Gateway South is necessary to obtain a full rating on Gateway West. This is why they are interdependent and you cannot break those to up. As far as PacifiCorp is concerned those are a single project.
    - **Comment:** Fred Heutte – In your own IRP process in 2013 there were several alternatives looked at for all the difference scenarios in that IRP involving all or none or several of the segments. I just want to point this out because this is a really big project with really important characteristics and it will be really expensive and have a big impact. It is evident that there are some definite advantages to the project, but I think we need to look at it more than just a take it or leave it or all of it or none of it. Again, we do recognize this process is fairly down the track but I wanted to note that concern.
        - **Answer:** Gil Coulam – We talked about this as a workgroup and how we should evaluate it and if we should do it by each piece or not and PAC felt strongly that they are so closely tied together that it should be all or nothing.
    - **Comment:** Fred Heutte – We are not on the workgroup, outside NGO's like us and not allowed to be as far as I know, and I raised this issue during the compliance filing process. That's okay but when the analysis starts to come out, that is the opportunity we have to weigh in so that's what I am doing.
- Metrics
    - **Capital Costs Metric**
        - As noted earlier, at this point in time with respect to projects, NTTG has projects in the initial regional plan that are uncommitted. There is also a sponsored project submitted for cost allocation.
        - The TWG will also look to see if there are any alternative projects to compare to see if there is a better project that makes the plan more efficient or cost effective.
        - First step in the process is to validate the projects capital costs.

- These costs generally would come from the sponsor in Q1 or they could be estimated using the WECC TEPPC transmission capital cost calculator.
- NTTG would then compare the sponsor's costs (if provided) to the TEPPC capital cost calculator results.
- If the costs are outside of a ±20% bandwidth, NTTG will consult with the project sponsor.

▪ Once the project cost is verified or calculated (if not received) then NTTG will calculate the annual capital related costs using the WECC TEPPC model.
- Once there is a stream of dollars, NTTG will then take the total present values of the annual capital related costs

▪ The TWG looked at several WECC TEPPC models and found two that work best for NTTG and are sufficient in what NTTG is trying to accomplish.
▪ The TWG is collecting data for the transmission capital cost calculator, once that is complete then the workgroup will verify the projects capital costs and develop the annual capital related costs.

- **Question:** Fred Heutte – Are you using a 40 year economic lifetime in general for the analysis?
  - **Answer:** John Leland – I think that is what we will probably use at this point.
- **Question:** Fred Heutte – That seems reasonable, I am just not aware of what is used across the regions in different states and planning processes but that sounds a like a reasonably good value. What discount rate or other factors are you using to do present value analysis?
  - **Answer:** John Leland – I don't have a discount rate on the top of my head right now but it will be the weighted cost of capital.
- **Question:** Fred Heutte – My concern there is that it is handled differently in different states and I am not knowledgeable about what the variations are but I know they are out there. I think a little bit of attention there and I am not really sure how WECC does this but I think it would be useful in the report, and I think you will, to specify the value that the workgroup is using.
  - **Answer:** John Leland – We plan to put that in there.
- **Losses Metric**
  - The TWG developed an energy loss metric where they are trying to quantify the benefit of various transmission projects by the amount of losses they would produce for the system.
  - The workgroup looked at each of the 5 core cases, evaluating a project in the case and then out of the case looking at the difference between the two. Any reduction in losses is considered a benefit of the project.
  - The TWG will then take the loss difference for each of the 5 cases develop an average loss value. The average loss value would then be taken by 8760 hours to a MW year then multiplying it by a nodal energy price to come up with the annualize benefit.
- **Question:** Curt Winterfeld – So when you're looking at the losses with and without the project are those losses within the NTTG footprint or are they WECC wide?
  - **Answer:** Mitch Colburn – We are looking at within the NTTG footprint but then parsing that further into the different TP's.
- **Question:** Curt Winterfeld – so you are looking at it within the NTTG footprint and then by provider but you are not considering change in losses outside the NTTG footprint?
  - **Answer:** Mitch – Correct.
- **Question:** Fred Heutte – When you say losses are you referring to physical losses like unscheduled load type losses or are you referring to a loss of load type of analysis?
  - **Answer:** Mitch – Resistive losses like power loss.

        - Done evaluations on the core cases and with SWIP cases
    - B2H Project Results
        - The average loss for the NTTG footprint was 3.788 MW
        - For this project it is showing a net benefit in PacifiCorp and Idaho Power.
    - Gateway & B2H Combined Results
        - The loss reduction is quite a bit higher at 36.964 MW
        - PacifiCorp, NorthWestern and Idaho Power are all net beneficiaries
    - SWIP Results
        - There is a negative benefit for the NTTG footprint of -1.758 MW.
        - The TWG is discussing this result and trying to rationalize that to increase in flow through the NTTG footprint and that translates to an increase in resistive losses.
    - **Question:** Curt Winterfeld – On these slides in which you do the calculation for the overall footprint and then you allocate the benefit, your slides say by transmission provider, I would correct and say by balancing authority. Deseret is a transmission provider and you are not showing that because I think you are aggregating that by BA not by TP.
        - **Answer:** Mitch Colburn – Correct.
    - Next Steps
        - The TWG will evaluate the results to make sure the calculations are consistent.
        - Determine a location al marginal price.
        - Taking an annual value and bringing that back to a net present value.
            - The TWG is discussing if they should stay with a single year of benefits or do they need to assume multiple years in the future.
    - **Reserves Metric**
        - The reserve metric is an incremental change in load and generation assessment for the footprint.
        - In NTTG's original filing the metric was considering 4 zones. After looking at the projects, NTTG may be changing the zonal configuration.
            - In the original filing, NTTG had Boise, Montana, the Northwest Portland area and Salt Lake.
        - In order to properly do this assessment the TWG may need to add a Wyoming zone to capture benefits from the Gateway West and Gateway South projects. There should also be discussions on if the TWG will need to have an external zone to capture any benefits that may occur from a SWIP project.
        - The reserve calculation assumed a simple cycle, 170 MW class generator as a foundation for the generation capacity costs in the original example that was used in the filing process. That value was $610/kW. That has been updated to $800 to reflect more recent simple cycle construction costs.
        - It is suggested to modify the calculation to recognize the change in reserve requirement in the WECC region. Originally it was a generation based requirement now it is split 50% load and 50% generation.
            - The change in methodology as well will be captured as well.
- Public Policy Considerations Study Plan
    - A draft plan has been developed and was sent to the TWG and Chuck Stigers for initial review.
    - The idea is to retire Colstrip plants 1 & 2 and replace with 610 MW of wind.
        - The 2 plants have a combined capacity of 660MW with 50 MW of auxiliary load and so there is net 610 to the system.
    - All 610 MW will be sunk entirely out to the NorthWestern System on Path 8.

        - Any overloads on the system the TWG will study the impacts of tripping the wind first, tripping a Colstrip unit first or tripping a combination if necessary and report on the results.
    - The TWG plan to take N-1 on the 500 kV system as well as creditable N-2 on the 500 kV system.
    - The goal is to have an official draft study plan by the end of the month so it is ready for the Steering and Planning Committee meetings in December.
- **Question:** Curt Winterfeld – In terms of the decision about the type and location of the substitute resources. Was that something that the TWG developed? Was that something that was taken from some other source? Was that a request from the stakeholder?
    - **Answer:** Chelsea Loomis – That was the request of the stakeholder.
- **Question:** Bill Hosie – Were you talking about replacing the Boardman units or the Colstrip units?
    - **Answer:** Chelsea Loomis – The Colstrip units here in Montana. There are 4 Colstrip units, the study plan is to retire the smaller two which is the first two units. The other two units which are the larger units will stay on line.
        - We are only doing a powerflow only study, we don't have the correct dynamic state in order to properly simulate a dynamic response. Because of that we are not going to be able to thoroughly understand the possible response of the Acceleration Trend Relay (ATR)If we see a scenario where tripping a Colstrip unit does alleviate an overload we will build that into our AUX file and will be running this on all 5 cases the TWG has prepared.

Discussion: Round Table/Other Business

- The next NTTG stakeholder meeting is being held on December 18th in Salt Lake City, UT at the Radisson Hotel.
    - The hope is to have the draft regional transmission plan completed and reviewed during the stakeholder meeting before it is sent out for stakeholder review and comment.
- The next NTTG Planning Committee meeting is on December 10th. Depending on the necessity, it is possible that meeting will be cancelled with the Planning activities being discussed at the stakeholder meeting.
    - The necessity of the December 10th meeting will be decided at a later date.

3. Assignments:

Item #	Assignment	Owner	Target Date	Status
1.				
2.				
3.				
4.				

Next Meeting: The next Northern Tier Planning Committee Meeting is scheduled for December 10th at 1PM Pacific.

- Dial: **(626) 425-3121**
- Access Code: **432-608-245**

Attendees:

NTTG Planning Committee Member Representatives		
Membership Class 1		
Dave Angell, Chair, Idaho Power	Don Johnson, Portland General	Curt Winterfeld, Deseret
Jamie Austin, PacifiCorp	Chelsea Loomis, NorthWestern	
Bill Hosie, TransCanada	Scott Waples, Avista Corp	

Membership Class 2		
Marshall Empey, UAMPS	Rhett Hurless, Absaroka Energy	Dan Wheeler, Gaelectric

Membership Class 3		
Johanna Bell, ID PUC	Jerry Maio, UT PSC	David Walker, WY PSC
Bob Decker, MT PSC		

Other NTTG Members & Guests		
Mitch Colburn, Idaho Power	John Leland, NTTG	Ron Schellberg, Idaho Power
Gil Coulam, NTTG	Kim McClafferty, NorthWestern	Amy Wachsnicht, NTTG
Sharon Helms, NTTG	Bill Pascoe, Absaroka Energy	Cameron Yourkowski, Renewable Northwest Project
Fred Heutte, NW Energy Coalition	Kishore Patel, PacifiCorp	