NORTHERN TIER TRANSMISSION GROUP

Description of Meeting:	**NTTG Planning Committee**
Meeting Date:	**October 8, 2014**
Meeting Notes Prepared By:	**Amy Wachsnicht**
Approved for Posting:	**November 12, 2014**

1. **Agenda:**
   a. Agenda Review
   b. Approve June 13, 2014 Meeting Notes
   c. Technical Workgroup Biennial Plan Update
   d. Public Policy Considerations
      i. Initial Assumptions Discussion
   e. Round Table/Other Business

2. **Discussions & Decisions:**

Decision: Approve June 13, 2014 Meeting Notes

- It was noted that quorum requirements were not met for Class 3, therefore approval of the June 13th meeting notes were deferred until the next Planning Committee meeting.

Discussion: Technical Workgroup Biennial Plan Update

- Of the projects submitted into the initial regional plan the Technical Workgroup (TWG) did not find any weaknesses on the system.
- The TWG will be adding in any alternative projects as well as remove any non committed transmissions facilities to create a change case.
  - The change case will be used for comparison of evaluating a more cost effective or efficient solution of the regional transmission plan.
- Next Steps:
  - The TWG will look for at potential un-sponsored projects
  - Look at cost metrics
    - Capital costs
    - Annual capital related costs
  - Alternative projects
    - Losses and reserves
  - Robustness testing of the draft regional plan
  - Cost allocation analysis for the sponsored project
  - Evaluate the Public Policy Consideration scenarios
    - First scenario identified as looking at the retirement of Colstrip 1 & 2 with the replacement of wind.
- At the stakeholder meeting it was presented that there were several violations on the system at that time; however since then the modeling had been corrected and is now showing zero violations.
- The TWG divided into smaller groups to look at the various economic metrics being utilized in determining what is the more efficient or cost effective projects.
- They are in the process of coming up with alternative projects to be compared with the uncommitted projects in the plan and developing a change case of those projects.
- There has been an initial look at a scenario case with the SWIP sponsored project in it. This will be used mainly for the economic metric and benefits of losses. Then it will be ran through the calculations for cost allocation.
- During the October 7th TWG meeting the group discussed three items that they felt needed more direction from the Planning Committee.
  - Gil Coulam requested an adjustment to the agenda to add discussion on the three items and try to get more clear direction from the Planning Committee.

        - The three items were:
            - When a project is committed. For example the Gateway West Project
            - The TWG workload as far as looking at the economic metrics.
                - The workgroup were thinking about only doing the economic metrics for the projects that have alternative project associated with them.
                - It was suggested by one of the TWG members that the workgroup may want to go through the exercise of doing the metrics for all of the projects submitted to NTTG to get experience for future cycles.
            - Looking at non committed projects, if they are removed from the case and there are no problems showing after the removal, what would the TWG do with the case? There is not a clear path laid out in the study plan.
                - Is the project removed from the draft regional plan this cycle and then revisited next cycle?

- **Committed Project:**
    - Attachment K defines a committed project as: *A Committed Project is defined in Section 20.1 as a project that has all permits and rights of way required for construction, as identified in the submitted development schedule, by the end of Quarter 1 of the current Regional Planning Cycle*.
    - Based on the definition of a Committed Project in Attachment K; Dave Angell indicated none of the projects submitted in the first cycle could be deemed as committed since the projects are not coming from a prior selection into the plan with a submitted development schedule.
        - Since a Committed Project is a defined term in Attachment K clarification needs to come from the Attachment K and not the Planning Committee.
    - Jamie Austin raised a concern regarding the Gateway West project. PacifiCorp does have a record of decision and by all intentions it is a committed project. However since Gateway West does not have all of it's permits and rights of way, based on the language in Attachment K, it can not be deemed committed. The language in Attachment K is also very broad and does not distinguish between federal or local permits.
    - Dave Angell indicated the funders who participated in the writing of Attachment K did discuss federal and local permitting, and the current language is where they landed on. If NTTG wants to go a different route that would require an Attachment K modification.
- **Economic Benefit metrics and the TWG workload:**
    - Jamie Austin noted this was a point she raised at the TWG meeting. She was questioning the need to evaluate and do a capital cost analysis on a project in the plan if there is not a competing project, since the purpose for doing the cost analysis is to determine which project is more efficient or cost effective.
        - It was thought that the Planning Committee should make that decision and not the TWG.
    - John Leland commented that this is the first time NTTG is going through this process and the metrics. At the time the Attachment K was written there was not a complete study set to refer to and could only go on the tools the transmission providers (TP) had. If NTTG waits and does not do the metrics now it is going to take some time to change the Attachment K before the next planning cycle as well as being in the same boat as far as not fleshing out the metrics to make a determination of finding an alternative way to look at losses or reserves.

- There is an obligation in Attachment K to work to develop the metrics, however it does not have to be done in Quarter 4 and can be done throughout the 8 quarter cycle.
  - Since there is no process and procedures in place, this is a good opportunity to flesh them out.
- If there is are no Alternative Projects identified then the issue of applying the metrics is not relevant, it only becomes an issue when there are Alternative Projects identified.
- Sharon Helms asked if the TWG had a timeline and process identified for finalizing the determination of Alternative Projects.
  - Gil Coulam indicated that there was not a specific date as the TWG wanted clear direction on the interoperation of alternative projects and committed projects. The members will come back to the next TWG meeting with their input and thoughts about what an alternative project might be.
- Dave Angell asked if the group was looking at the Integrated Resource Plans as well to identify any possible alternatives.
  - Gil Coulam confirmed.
- Jamie Austin commented that since Gateway West was deemed as non-committed how extensive of an analysis should be ran. The study plan indicates only powerflow analysis and NTTG will not run stability analysis. To come up with an alternative to Gateway West and Gateway South, which is one package, stability analysis would have to be run.
- Craig Quist commented if only powerflow is run, the analysis is not a complete analysis and if projects are identified or not identified it should be noted as such.
- Dave Angell indicated that NTTG will not be running stability analysis but through production cost and powerflow analysis if there are alternatives that appear to satisfy production cost and powerflow reliability cases, those tools will then be used to determine metrics that will determined if the project is more efficient or cost effective.
- Gil Coulam asked for direction from the Planning Committee on how the TWG should come up with un-sponsored projects. Are they "dreamt up" by the members of the TWG, from stakeholders or the Planning Committee?
  - Dave Angell answered that it is the expert's knowledge of the power system to come up with a creative solution. It could also come through stakeholders or the Planning Committee.
    - The expectation is that the TWG will move through these alternative projects this month and be working toward the next steps.
- Philip Augustin asked, if after all the analysis no alternative projects were identified, what is the process for moving forward, there is no clear direction in the study plan.
  - Dave Angell responded that if the TWG looked at everything and have a history and knowledge of the system and the projects in the plan are the optimal projects, then based on what the transmission provider submitted and if they meet the need, document it. The evaluation of the TWG would be that the committee did not see or determine any additional alternative projects that meet this need.

- **Removal of uncommitted projects and there are no violations**
  - The study plan says the change cases can be where the TWG removes an uncommitted project. Gil indicated that he had removed Gateway South from the case and in doing so there were no violations.
    - Jamie Austin commented that Gateway South is designed to be a backup of 500 MW for Gateway West and is reliability related. Gateway West and South is one project as a whole and not two separate projects. This is why no violations were observed when Gateway South was removed.
  - Dave Angell indicated that NTTG would need to follow the direction of the project sponsor to determine how the project is defined. However if there is a project and

the case solves satisfactorily without the project, then the project is more than what the regional plan needs for that particular date and time.
    - Whatever the outcome is at the end of the planning cycle NTTG will need to have excellent documentation on how it got there and the effort it took to get there.
        - If it is not a complete study because not doing the stability testing then say that, if it due to the limitations then say that.
    - The TWG will do their best to come up with alternative projects.

Discussion: Public Policy Considerations

- Chelsea Loomis and Kim McClafferty with NorthWestern Energy are leading the effort in the assumption analysis and developing a study plan.
- Technically the ATR issues is a dynamic issue and NTTG is doing a powerflow study state for the analysis. For the 5 base cases, action will be seen if there is an outage on the 500kV system coming from Colstrip to Path 8. In the instance where there is overload as a result of a line going out, Chelsea and Kim worked with Eric Bahr, an internal analyst at NorthWestern. Eric has done some analysis and done some algorithms to mimic the ATR, and had a fairly good understanding, and able to incorporate the megawatt value.
- The discussion yesterday in the TWG was on how to model the wind. There were some suggestions:
    - The request for the study was to do 716MW removal of Colstrip 1 & 2 units and then put in 716 MW of wind at Broadview. Not the same location, but electrically they are close enough to be an interesting study.
        - The question is how the ATR would respond now that two units are off line and replaced with wind.
- Another discussion item was using 1790 of wind and then dispatching it at 40% which would equal the 716. Part of the study request for that replacement said 40% capacity factor.
    - If there is an overload on the system NTTG would trip the wind units West of Broadview. If there is an overload on Colstrip to Broadview there would be a consideration to trip one of the larger units.
- Chelsea Loomis pointed out that there are not 716 MW of Colstrip 1 & 2 unless the auxiliary load was added on top of the 330, when it should have been subtracted.
    - She suggested that it be more reasonable to do 660 because that is the total between the 2 units.
- **Comment: Bill Pascoe** –I think the gross name plate rating of those two units is 358. Maybe RNP pulled the 716 number from someplace specific and that is what we want to replace, but suspect the request is really to replace the net generation of the 2 units.
    - **Answer: Chelsea Loomis** – The 660 would be the max output on the Gen Bus. We would have to look at the auxiliary load for those 2 busses but it would be less than the 660.
- **Comment: Bill Pascoe** – I think the idea is to replace the same amount of power that Colstrip wanted to put into the grid with the same amount of wind. Whether to use 660 of wind turbines or to use a bigger number, maybe the intent was 100% of 660. But I am interpreting things and don't want to speak for Cameron if he meant something different.
    - Typically because of the ATR and the dynamic nature of the Colstrip system, you would do a dynamic study on them; but as I understand that is not what the group is intending to do. Instead a powerflow program will be used as the study tool with some parallel logic from Eric as far as what the ATR might select to trip.
        - **Answer: Chelsea Loomis** – Yes, it is in our study plan to do powerflow only and no dynamics
- **Comment: Bill Pascoe** – The folks at Absaroka, have decided that we want to support this study and Absaroka will retain Chuck Stiggers to help with this process anyway he can as far as reviewing the study assumptions and results, and participating in the TWG analysis.
    - **Answer: Dave Angell** – What I hearing you say is that you would like to submit Chuck Stiggers as a member of the TWG?

- **Comment: Bill Pascoe** – Yes for this study at least.
    - **Answer: Dave Angell** – we will take that into consideration
- **Comment: Chelsea Loomis** – I have full confidence in myself and Kim that we will be able to run the study and understand the results. Perhaps we can just pull Chuck in as we need him.
    - **Answer: Bill Pascoe** – I am not trying to suggest having Chuck doing any of the study work, I think he can help.
- **Comment: Cameron Yourkowski** – I'd like to confirm Bill's description of our request. I certainly stand corrected at 660 and making the assumption for wind to match that is a good amendment. On the capacity factor on transmission study, trying a stress case scenario for 660 for 100% output would be the appropriate way to study that.
    - One question for Chelsea Loomis. You talked about in the study process tripping wind as a response to an outage. Would you educate me on the mechanics on how that would work and if there are any special requirements for doing that?
        - **Answer: Chelsea Loomis** – I wasn't focused on the function. I assumed if the project comes to fruition and the analysis results indicate a positive outcome that would result in some sort of direct transfer trip of any outage on the transmission system. Or west of Broadview since the wind is located at Broadview.
            - The decision to trip or not will come from the analysis and whether or not we see overloads and if we do, we will need to see some actions.
- **Comment: Cameron Yourkowski** – Does the capability to trip wind require special equipment?
    - **Answer: Chelsea Loomis** – it would be a relay with a direct transfer system.
- **Comment: Dan Wheeler** – Would agree since you are just arbitrarily tripping some load and doing PF studies, the design of the ATR and future expansion of it what would be something that is not relative to what you are doing in the study, since you are only tripping for overloads at this time and do not have the dynamic capability of studying the system.
    - **Answer: Chelsea Loomis** – that is correct.
    - **Comment: Dave Angell** – I would not say arbitrarily
- **Comment: Dan Wheeler** – This will be decided based upon the line outages and the information coming from Eric Bahr with his knowledge of how the ATR has responded in similar situations.
    - **Comment: Dave Angell** – Thank you for that
- **Comment: Chelsea Loomis** – To give clarification, Eric did a very extensive study with different line loadings and different exports on path 8, ranging from very minimal to very extensive. The algorithm would trip different units seeing if he would come up with almost a mirror image of what the ATR would do in a dynamic response.
- **Comment: Cameron Yourkowski** – I want to test my understanding of the conversation. Are you saying this study that is limited to powerflow will look at outage scenarios and whether or not tripping new generation is sufficient to address any overloading concerns before it would have an impact on the ATR? If it was found there was an impact on the ATR then adjustments would be made there?
    - **Answer: Chelsea Loomis** – To actively investigate that it is a dynamic study, we are doing a high-level overview using our best knowledge of the system to see if that replacement would cause an overload and if those occur between Broadview and Colstrip, I would be more comfortable tripping a unit at Broadview because of the predominantly flow west.
        - To say definitely we are looking in to the ATR and how it affects the ATR, no I am not comfortable in answering that in the affirmative.
- **Comment: Dave Angell** – Write up your study plan, the intent or scope of the study, and the study limits describing that it will not be doing dynamics and timing of the ATR.

- **Comment: Chelsea Loomis** – I have a question for Cameron; the auxiliary load between Colstrip 1 & 2 totals approx. 50 MW. Did you want to change your request to 610 MW or keep it at the 660?
    - **Answer: Cameron Yourkowski** – Whatever is the max usage of voltage between the two units will be fine.
    - **Comment: Chelsea Loomis** – I would suggest the 610.
- Dave Angell requested that since this is a change to the original request, Cameron Yourkowski submit an updated study request sheet reducing the output to 610 from, the 716.
- **Comment: Dan Wheeler** – There are some instances where the ATR will choose one large unit and one small unit to trip. Would you consider modeling the wind generation being interconnected at Broadview as two 305 MW projects so the ATR would have the option tripping one of the Colstrip units and one of the wind units instead of all the wind units west of Broadview?
    - **Answer: Chelsea Loomis** – That is a good question Dan. I'm thinking number wise the large units are in the upwards of 800 MW, and if we had to trip one small and one large we would consider modeling them as two 305 MW units so we could incorporate that. That is a great suggestion.

Discussion: Round Table/Other Business

- The next NTTG quarterly stakeholder meeting is tentatively scheduled for December 11th in Salt Lake City, UT.
    - The goal is to present the draft plan and the Cost Allocation Committee will try to have the cost allocation scenarios being used.
- The next Planning Committee meeting is scheduled for November 12th.

3. Assignments:

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

Next Meeting: The next Northern Tier Planning Committee Meeting is scheduled for November 12th 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	Chelsea Loomis, NorthWestern	Tracy Rolstad, Avista Corp
Philip Augustin, Portland General	Craig Quist, Vice Chair, PacifiCorp	
Membership Class 2		
Marshall Empey, UAMPS	Rhett Hurless, Absaroka Energy	Dan Wheeler, Gaelectric
Membership Class 3		
Bob Decker, MT PSC		

Other NTTG Members & Guests		
Jamie Austin, PacifiCorp	John Leland, NTTG	Bill Pascoe, Pascoe Energy Consulting
Gil Coulam, NTTG	Kim McClafferty, NorthWestern	Amy Wachsnicht, NTTG
Sharon Helms, NTTG	Kishore Patel, PacifiCorp	Cameron Yourkowski, Renewable Northwest Project