NTTG Stakeholder Meeting

Tuesday, April 8, 2008

Roll Call

Present: Kathy Anderson, Jamie Austin, Richard Campbell, Direlle Calica, Alan Davis, Christine Draper, Rich Bayless, Edison Elizeh, Marshall Empey, Bob Galgano, Darrell Gerrard, Ryan Flynn , Nathan Hardy, Sharon Helms, John Leland, Nate Sandvig, Ron Schellberg, Kip Sikes, Craig Silverstein, David Smith, Jim Tucker, Brian Weber, Steve Wallace, Darrell Zlomke

Phone/Web Conference: Dave Angell, Rebecca Berdahl, Phil Carver, John Cummings, Hilary Foote, Kevin Furey, Eric Egge, Doug Larson, Shaun Jensen, Anders Johnson, Jeff Miller, Jeff Newby, Robert Walker, Joni Zenger

Agenda:

9:30a- 10:00 a.m.	Registration
10:00 a.m. to 10:15 a.m.	Welcome and Standard of Conduct Review
10:15 a.m. to 12:00 noon	Presentation and Stakeholder Input: NTTG Planning Committee o 2007 NTTG Transmission Plan o 2008 NTTG Transmission Planning o Data Requirements o 2008 Q1 Data Collection o NTTG Study Plan Assumptions
12:00 to 1:00 p.m.	Lunch: On Own
1:00 p.m. to 3:00 p.m.	NTTG Planning Assumptions - continued
3:00 p.m. to 3:30 p.m.	Presentation and Stakeholder Input: NTTG Economic Study Request Process o Overview and Categorization o Discussion/vote

Presentation materials for the meeting are posted on the NTTG website at: Northern Tier Transmission Group.

Questions and Answers:

Data Requirements for Transmission Planning and 2008 Q1 Data Collection Update

Q: Edison Elizeh: As far as transmission resource data goes, are you going to allocate what load serving entities need to submit and what the Transmission Providers need to submit? Is it the responsibility of the merchant or transmission customer? What do they need to submit and what will be done with the data? What about the confidentiality concerned with that data? How will they represent that system?

A: Steven Wallace: Not only trying to coordinate amongst the sub-regions and WECC, but also between the transmission providers and the utilities that are engaged in integrated resource plans to provide more detailed load forecasting agents and more details on the loads that they serve. Other entities do integrated resource planning and load resource studies and can provide that type of data.

Q: Steve Wallace: Regarding the merchant function, are you talking about obligations to serve detail loads or commercial loads?

A: Edison Elizeh: Have provided 10 years of local resource data as a customer for transmission provider. May not be the same as what is provided under IRP and L&R or the same as what the Transmission Provider elected to use in the WECC base case development database. There are 3 difference reference points.

Q: What is the approach that will be taken to combine all data into one single set of data that all participants can agree to?

A: Kip Sikes: We are here to work through those assumptions. A part of each Transmission Providers attachment K process is to request load forecasts from each one of our customers, according to tariffs as well as transmission use, and long term point-to point requests. All the data we are rolling out may not be the same information as in the IRP or submitted through L&R WECC database case. Those are the assumptions we want to establish firmly today while respecting the confidentiality issues. As a Transmission Provider we want to make sure we are not revealing one customer's information.

Assumptions include understanding if we have the right numbers? If we don't, let's fix them. If there are subtle changes, that may not be a material difference relative to our transmission expansion planning process. The level of precision we are after is not necessarily down to the last megawatt.

Jamie Austin: You are correct in regards to the challenge of having the right data. TEPPC is addressing similar issues at the WECC level. The LRS committee and TEPPC focus groups are trying to consolidate the requests for data, while trying to map and define needs for the economic study.

Q: Edison Elizeh: at what voltage class do we need to cut it? Who should be in the position to determine that? Make sure to discuss different types of data. The aggregate numbers are the same. Need to go to full detail for the voltage class. Identifying the data set associated with each one of those elements would be quite helpful for us as a LSE.

A: Kip Sikes: Go through study plan development. It is a work in progress. It deals with a lot of uncertainty. Establishing the assumptions we are going to use going forward is the most critical step in the planning process. Part of the attachment K process for NTTG is the data submittal in Q1of the biennial planning process. Some data is still trickling in that has not been rolled into the data we are going to discuss today, so some info will be incomplete, but will give us a strong sense of the type of information we have available to work with.

There are three primary data types: Loads, resources and transmission. As uncertain as load forecasts are, that information may be the most certain information that we work with in the entire planning process. That is the fundamental ground work we will walk through in establishing the load forecast, locations, timing, and all the data sets of assumptions that determine what resources are out there, not just to serve those loads from an LSE point of view, but what other development opportunities are there. Once you have those two elements of resource and load you balance that out and that defines what transmission is required to serve the loads with those resources. That is the planning process summed up.

The data coming in from the Transmission Provider's is still a work in progress. We will be following up through Q2 while working through the planning assumptions. The goal is to establish as many assumptions today and still be modifying that information through the 2nd quarter of the Biennial planning process. There will likely be a webinar or two within the next few months to continue to refine this information.

Q: Becky Wilson: PacifiCorp West control area loads decline in previous slide from 2008-2013. Is there an explanation for that?

A: The 2008 winter was not the same. The assumption about future weather may be used in 2013 forecasts, but it is uncertain.

That may be an issue to check PACW loads at a later time.

Q: Edison Elizeh: On resource side as far as the production cost goes, how is the cost of the units going to be captured in the production cost analysis as you do the economic congestions?

A: Jamie Austin: The items in the WECC database are ultimately in the account analysis. It is very current data from NREL that is done in increments for wind so you can model very detailed wind activity.

Edison Elizeh: The reserve is a major issue of long term peak. Contractually, from commercial perspective, as well regulatory jurisdictional perspective, does the model truly capture the way business is done today? What can we do collectively to bring it as close as possible to the open process? Input determines output. Garbage in, garbage out. One has to be really careful that the signal sent to the market is something than can be stood on and not be questioned.

Steven Wallace: Wind modeling is one of the biggest challenges that will happen during economic studies. Hydro-generation is a significant issue too. The reliability of wind tends to be lower. The power is really cheap once you've built your project. We need a policy decision about what capacity can be attributed to a wind plant.

Jamie Austin: in regards to reserves, we have reserves and it is an open, public process you are invited to sign off on the functions being used, margins, wind combination something that can be developed jointly.

Edison Elizeh: Found that the behavior of the wind in Oregon, Washington area is not the same as the Wyoming/ Utah area. It's different in the Idaho area too. The diversification definitely is there. NTTG should be more active in sub-regional wind groups. North Western, Rocky Mountain, Arizona, California all have one. Need to get a better understand of the modeling of the wind. If TEPPC is going to make such a decision they need to understand the NTTG position verses other sub regional plans and maybe copy the policy decisions Steve referred to. Right now it's every company on their own basis, going to aggregate or create data that represents all the participants then somehow the transparency of the individual company decision needs to come to one single method needs to be further discussed and decided on.

Rich Bayless: There is a meeting with West Connect in a week. It ties into the western renewable energy zone discussion which I will report on later when I give the TEPPC & WIRAB report. There are a lot of things going on regarding those.

Q: John Leland: Looking at the resources to date, it doesn't look like last years' resource plan for the fast track project. How is it being developed, just by submitted data or is there some place we are taking data from last year?

A: Steve Wallace: These are the data that has been submitted this year and received by March 31st last week.

Q: John Leland: How will it be integrated into data that was developed previously by NTTG?

A: Kip Sikes: Last years' data is old data. We need to work from a clean slate. If the data was always carried forward from previous studies, things may have changed and that may not be real anymore. It is important to work with fresh data for each cycle. That goes for all the transmission projects, resources as well as load forecasts. Depending on the economic down turn or load forecasting change, the data should be refreshed as frequently as possible. It does include interconnection queue requests as well as IRP and other information. If we are missing

data, let's find out what is missing and make sure it is included. This is the planning committee's task.

Q: John Leland: Is there specific list of projects under construction?

Kip Sikes: As far as current resources under construction?

A: Steve Wallace: Data are for those resources that will be in service in 2013 & 2018, which are the time frames being analyzed for the reliability studies.

Q: The WECC has a database with projects under construction. These are in addition to projects that are in the TEPPC data base under construction.

A: Steve Wallace: No, that's a false conclusion. This is data that has been submitted to Northern Tier. There has not been a reconciliation process either in terms of double counting or if they match up with the data we are providing WECC. This is a study point we arrived at last Monday. Process wise this is a very important decision to make. Data to WECC L&R subcommittee or TEPPC will not be ignored. Still have to go through reconciliation process. This is an open process where people can bring information to us that weren't necessarily in other data sources to make sure we are inclusive.

John Leland: Comment on map in Montana. There is just on triangle representing wind. Take triangle and run it up to Canadian border.

Kip Sikes: There is a single depiction of a specific resource type on the map and it is not intended to precisely locate the center of that resource availability. There are some issues regarding confidentiality in terms of data submittal to protect. When we get into the detailed power flow analysis and modeling, resources will have to be assigned to these zones for specific process in the power flow cases as we're analyzing the transmission system. So there will be a lot more granularity in the data as we move forward. Trying to assess the potential and where it is generally located, then as we get down to defining the resource types and locations that's where we'll drive granularity into the models.

Steve Wallace: another issue with an ionic map is that even if you were to show the different resource icons at the locations of different resources within the states, it doesn't convey anything about the scale of each icon. It gives an idea of what the NTTG footprint is and where within the states of the foot print the different categories of the resources can be found.

Transmission

Kip Sikes: Just because a transmission project was in a plan at one time does not mean it gets an automatic entry into all future plans. If conditions have not changed, you might end up with the same conclusions and needs and projects. If conditions have materially changed with a refreshed data set you'll end up with different conclusions and different answers. This is an open stakeholder process and we will be looking at projects with a fresh set of eyes every 2 years.

Sub-regional planning

Rich Bayless: A lot of activity in this area. Like WIRAB and some of the state initiatives through the WGA. CREPC is getting into the picture. TEPPC is in middle of moving on the 2008 studies. Looking for ways to coordinate the planning between the sub regional groups and get data issues straightened out, along with clarifying roles of the sub regional planning groups and its responsibilities.

Regarding economic studies, they collected economic studies' request from sub regional groups and other individuals. Northern Tier had requests for three studies. Base cases were refined in 2007 to include a heavy solar case and a heavy wind case and couple other cases. Big events included in the Western Interstate Reliability Advisor Board. Put in a request to TEPPC for a sophisticated study looking at efficiencies and carbon reduction with renewables. TEPPC took study requests and created a way to prioritize and to get through them. Worked through committees to consolidate the best way possible. A study plan has been laid out in draft form on the website. There will be instructions on how that works. Northern Tier worked with Columbia Grid & other sub regional groups to consolidate requests that looked into additional wind and solar cases. These are being coordinated between sub regional groups and with TEPCC and other parties interested. A number of TP requests came to TEPPC also. Northern Lights, Sea Breeze, asked that the fast track be included in the evaluation. They are being staged so people can see the economic performance of these projects. Meetings are being conducted with sub regional groups to make sure database being used for evaluations is consistent.

Steve Wallace: The slot on the Mountain states intertie should be 16.

TransCanada: Northern Lights project is on map, but not on the transmission table.

Steve Wallace: It will be added. The submittal was just a map with now numeric values. Should have contacted you regarding that.

Kip Sikes: There was a narrow window from data submittals and due dates to data getting data compiled. The information is raw.

David Smith: More discrepancies between map and data.

Change Line 7 Sigurd to Crystal is shown as 345 kV with a rating of 1500. It seems like it might be incorrect.

One of the problems in that particular line is whether it is 345 kV or 500 kV as noted in national grid study. PacifiCorp needs 345 kV.

Darrell Gerrard: Sees errors and will get them fixed.

Q: Edison Elizeh: On the map, what is the dash line verses the solid?

A: Steve Wallace: The dash lines are the ones in the data submittal also ones with numbers next to them shown in the data table. The solid lines are other projects in the portfolio for which data was not submitted. Report on data submitted to NTTG as of march 31st.

Q: Edison Elizeh: Does that imply that there are four - 500 kV lines from Wyoming to Mona?

A: Steve Wallace: The data that was submitted described the 500 kV lines going through Jim Bridger while Gateway South has been shown in the past as 345 kV. Our regional plan shows that double circuit going to Jim Bridger. After regional planning work, we got good feedback and moved it further east … the line labeled 10 is redundant.

Q Edison Elizeh: Is additional data going to be submitted?

A: Steve Wallace: Have showed the load on the McNary line, but there is the Columbia Yakima line that we haven't got the details for.

Q: Edison Elizeh: PacifiCorp Transmission will be submitting those?

A: Kip Sikes: That will go away. That's the one we had previously in the first fast track report. It has been replaced by Walla-Walla McNary

Study Plan: Load Assumptions
John Leland: Heavy loads and light loads describe different boundaries. That may be important for planning considerations.

Eric Egge: same situation in North East Wyoming area. Light loads are typically the stress condition.

Q: Kip Sikes- Resource rich or surplus areas in an export condition may need to consider a light load condition to expose the maximum transmission capacity for export. Does summer peak verses winter peak variance capture that? Do we need to look at scaling back summer or winter loads to a different load condition load to capture that? Wind and hydro may have different maximum production seasonality's.

A: John Leland - Under winter and summer conditions wouldn't get the export out of the state, in the light load you may see stresses in Montana and elsewhere. Depends on what level of study you are looking at.

Kip Sikes: Use peak load conditions for winter/ summer and allow the planners running the studies discretion as to whether the load should be scaled back for the seasons to receive the appropriate stress level. Document those decisions moving forward rather than trying to establish them right now.

Move forward with the bi-directional rating process, remembering that there are some one directional ratings. Have to work through them in Phase 1 & 2 of WECC. There will be some constraints. There are two control areas where the summer peaks are good to look at. Suggest doing summer and winter scenarios.

Point-to-point transmission user forecasts

Q: Kip Sikes: Are there any other data or assumptions that we need to make about expected or anticipated use of the transmission system to consider in the expansion plan?
A: No answer.

Steve Wallace: From National Grid for TransWest Express project, the expectation is that loads outside of the NTTG footprint would be met by TransWest Express project, not sure what you are capturing in the NTTG study.

Kip Sikes: Starting with loads as they determine the need then what loads will fulfill those needs.

Q: Steve Wallace: What are you looking to study on a sub regional basis and how will you coordinate with the other sub regions?

A: Kip Sikes: Want to make sure we don't double count anything. There is an uncertainty around where the resources are going to be to serve the loads.

Q: Hilary Foote: As a wind developer, we don't typically submit transmissions requests and we don't have internal expertise to manage those types of transmission projects. How are these resource areas being treated in the evaluation process?

A: Kip Sikes: There is a load, resource and transmission connection. The development of resources may not be determined by a merchant until a power purchase agreement is negotiated and signed. A load may not know where its resources are going to come from; likewise, a resource may not know which load its' going to serve.

Q: Kip Sikes: Are there any questions or comments on transmission use forecast or point-to-point forecast to be included in the assumptions?

A: None.

Q: Kip Sikes: What is the load that we want to use? Any comments?

A: None.

Q: John Leland: Is everyone using the same path forecast that they submitted? E.g. did everyone provide the same type of forecast that was in the response? Was the forecast on average assumptions, whether it was weather or economic assumptions? Different people use different things in terms of the forecast and transmission planning. Some use a one in two others use one in ten. Did everyone provide the same forecast with which to start?

Q: Kip Sikes: From Idaho Powers' perspective, the assumption on load forecast is not required as part of the data submittal. Maybe that is a clarifying point we can use going forward. If so, what adjustments might need to be made to existing data provided?

Jamie Austin: TEPPC is using one in two for loads, and is inconsistent with some Transmission Provider's who use different assumptions for forecasts. Some use one in five or one in ten. It would be good to develop consistent criteria for use by TEPPC as well.

John Leland: If you do one in two type forecast, assume it's the weather conditions that you are talking about. Behind that, last summer saw one in fifty weather condition and if you are running your transmission system getting great capacity out of it and all of the sudden one in two is already capturing what you need to maintain your reliability. Tentatively, if you do your one in two, you have to have your reserve or backups to deal with that. One in two isn't quite adequate for reliability planning on transmission so you need to do a one in ten or even a one in twenty.

Kip Sikes: From a transmission perspective, the consequence for using too high a load forecast means you might have more available transmission capacity for a little longer window. The consequence of being short is not good from a reliability stand point. If you overstate the load requirements, what you are doing is effecting when or how long available transmission capacity might be available or at least extending your construction options. You can always defer construction if the loads don't materialize, thereby making your plan have more shelf life.

John Leland: if you do a one in twenty today it might be a one in two 5 years from now because of the load run.

Kip Sikes: That stems from the planning horizon recognizing our obligations to developing a ten year expansion plan. To do effective job on ten year plan need to consider a 15 yr load horizon that accounts for other needs being fulfilled and providing future flexibility that can be scaled back based on considerations for in-service dates for proposed projects that are at least looking over the horizon.

John Leland: The scenarios can be used to test the effect of a one in two or a one in something else.

Kip Sikes: We can create a base case load forecast that has higher load sensitivity with escalated loads that factor in extreme weather conditions or unanticipated growth. Look at two different load scenarios; an expected one to build base plan around and then a higher one to see if it materially changes the projects that would be required. That would be part of the deliverable of the transmission plan.

Q: Kip Sikes: Would that address everyone's considerations and concerns?

A: Hearing no objections, the planning assumption will be to take the load forecast that we get and create a base case scenario and assume a sensitivity case for extreme weather or higher growth rate or over the horizon. The Planning committee will vote on the percent overreach of the load forecast.

Demand response:

Q: Kip Sikes: If there aren't any other things to consider, how would load be considered in the expansion plan?

A: Jamie Austin: It depends on the program. We can be passive or reactive. Load rates can be modeled.

Edison Elizeh: It depends on how the load is going to be modeled. Have certain loads that are comfortable and are considered reserves.

Kip Sikes: When we talk about reserves it is a different category than the basic load shaping program that is designed to mitigate peaks on the system. It can only be called upon under certain conditions.

Edison Elizeh: There are other programs that are resource driven that are a direct reduction of load itself.

Q: Kip Sikes: If they are a reserve or a reliability response or program, they should be in a different category from expansion or capacity planning and in a program that is designed to shape load instead of building transmission or resource. Is that a fair statement?

A: Edison Elizeh: Yes. Does the model have the capability to track and capture the hours, time and usage of that?

Q: Kip Sikes: I don't think so. We are blending the economic studies verses the capacity studies.

Steven Wallace: Need to make a decision about interruptible loads

Edison Elizeh: Need to make conservation assumptions to make sure the load will be served (e.g. wind maybe zero and need to balance market.)

Steve Wallace: Regarding loads, the firm loads are those that you are obligated to serve in reasonable conditions. All interruptible loads are in the expansion program.

Ron Schellberg: If you have interrupted response load, it depends on the contract. What is a reasonable demand to be planning for from a reliability perspective?

Kip Sikes: An explicit demand response program could be considered to require less transmission on the path if there is a mitigation plan in place and all uninterruptible loads are in the capacity plan.

Q: Kip Sikes: Is there anyone studying loads 5 years from now? Can transmission be built in that time unless it's already in motion? Should we look 10 years out?

A: Jamie Austin: Horizon is close to existing systems if you want to benchmark…10 years out.

Kip Sikes: Need to get the flows on the paths to get the contract obligations and schedule constraints within the model.

Seasonality

Q: Kip Sikes: Are there seasonal variations that need to be accommodated in transmission capacity base upon resource type? Are there resources that need to be considered, that run beyond winter and summer peak conditions?

A: Kip Sikes: Hearing, no answer, we will stay with the winter and summer capabilities.

Q: Kip Sikes: What is an appropriate capacity factor for wind at peak capacity? Zero has been used once. Is there a different number?

A: Mark Stokes: We use 5%.

Q: Kip Sikes: Is there any push back on 0% or 5%?

Q: John Leland: What are we trying to assess? Are we trying to find the loads to move the wind out of the area? When you talk about 0% or 5% you are talking about resource adequacy, not resource capacity.

Q: Jamie Austin: Are we talking capacity analysis? If so, wouldn't we use the full 100%?

A: Darrell Gerrard: There are multiple questions. One is, from a resource adequacy what happens if it is at 0%? Another is what is the average energy production? Another is at 100% do you have enough capacity to export that generation?

John Leland: All valid questions, but with transmission expansion, need to deal with if there is a lot of wind or intermittent resources.

Kip Sikes: For wind resources, we may want to consider three capacity considerations. 1) Study as a scenario at zero capacity; 2) Average energy from a capacity stand point; and 3) 100% of the nameplate capacity and determine if that materially affects the required transmission in the plan. Is that a reasonable approach for that resource type?

Hearing no rejection, that is how we will handle wind.

Jim Tucker: It seems that the nameplate may be more capacity under the most wind power. You don't want transmission for generation that is not there.

John Leland: Was not thinking that the entire footprint would be 100%. Need to consider regional diversity as the purpose is to analyze where the system needs improvement.

Q: Jamie Austin: Are we going to duplicate in effort what other utilities are already doing in figuring what resources to add to IRP's?

A: Kip Sikes: Need to start the foundation of integrated resource plans developed by load serving entities or other resource forecast.

Economic Congestion Studies

Brian Weber: Review of Order 890. The purpose is to allow customers to upgrade their investment and to inform customers of the value of their projects

Q: Did NTTG submit any requests of congestions studies to WECC?

A: Yes.

Q: Edison Elizeh: What criteria were used for that?

A: Rich Bayless: NTTG submitted three requests based on fast track transmission projects identified in the fast track plan and impacts based on three different load resource scenarios. Asked for a 2007 high wind and high solar case that TEPPC ran and also planning for a normal resource case if it wasn't high wind or solar. They combined the portfolios.

Q: Edison Elizeh: What defines an economic congestion study?

A: Brian Weber: In the order 890 language it is to inform the customers of the value of their projects.

Q: John Cummings: Is there going to be discussion on the study requests?

A: Brian Weber: Yes, a little later.

Brian Weber, Chair of the Transmission Use Committee reviewed the Committee's classification methodology and recommendations.

Q: John Cummings: Is there an appeal process on this? I think you are misinterpreting what we're asking for. Just want to know what it would cost to deliver from Mill Creek to Mid Point then MC vs. Mill Creek to Mid C.

A: Brian Weber: Have to make sure to stick to the process.

Q: John Cummings: Because it does not fit under the economic congestion criteria does that move it to another committee to look at?

A: Brian Weber: Under NTTG, it does not meet the criteria for an economic congestion study.

Q: John Cummings: Do the procedures have an appeal process?

A: Brian Weber: The Planning Committee has a dispute resolution process, but Transmission Use does not have an appeal process.