**Meeting Summary**

**NorthWestern Energy Transmission Advisory Committee**

**September 18, 2014 (rev. #1)**

**Meeting Participants**

This Transmission Advisory Committee (TRANSAC) meeting was conducted at NorthWestern Energy’s offices in Butte and via teleconference and the internet site GoTo Meeting.com. Those participating in the meeting included:

**Name Organization**

At NWE Offices

Dan Wheeler Gaelectric

Mark Zora PPL Energy Plus (PPL)

Don Bauer NorthWestern Energy (NWE) Transmission &Distribution Planning

and Capacity West

Kathleen Bauer NWE Regional Transmission Planning

Chelsea Loomis NWE Regional Transmission Planning

Kelly Lovell NWE Regional Transmission Planning

Kim McClafferty NWE Regional Transmission Planning

Corrine Osborne NWE Regional Transmission Planning

Mark Mallard NWE Transmission & Distribution Planning and Capacity West

B.J. Schubert NWE Regional Transmission Planning

Shea Mattix NWE Transmission &Distribution Planning

and Capacity West

Gerald Mueller Consensus Associates

Via Telephone & Internet

John Leland Consultant for Northern Tier Transmission Group (NTTG)

Ken Neal NaturEner USA

Jon Williamson PPL

Frank Jarvenpaa Western Area Power Administration (WAPA)

Christopher Fecke-Stoudt KR Saline & Associates

**Standards of Conduct & Anti-Trust Policy**

Kelly Lovell began the meeting by reviewing NWE’s standards of conduct and safeguards and antitrust policy. These documents are available at the following web address.

http://www.oasis.oati.com/NWMT/NWMTdocs/01-Agenda-09-18-14-TRANSAC.doc

**Agenda**

The meeting participants reviewed and approved the following agenda:

* Administration
* Accept the June 19, 2014 Meeting Summary and the August 20, 2014 Conference Call Summary
* Review of the Action Item List
* WECC L&R Data Request
* Compliance Activities
* Generation Interconnection Update
* Regional & Bulk Electric System Updates
* Local Area Plan
* Business Practice and OASIS Update
* Base Case Development (Jim Hadley/Mark Mallard or Don Bauer)
* State of the System Study
* Economic Study Update
* Action Item List Review
* Suggested Meeting Dates for Future Meetings

**Administration**

June 19, 2014 Meeting Summary and the August 20, 2014 Conference Call Summary - The participants in this meeting made no changes to either summary.

Review of the Action Item List - Kelly Lovell reviewed one action item resulting from the June 19, 2014 meeting. The March 20, 2014 TRANSAC meeting summary was clarified pursuant to comments from PPL. See the following web address.

<http://www.oasis.oati.com/NWMT/NWMTdocs/02-Action_Items.xls>

Western Electricity Coordinating Council (WECC) Load and Resource Data Request - Kelly Lovell read report on the WECC load and resource data request prepared by Cathy Mathews. The report is available at the following address.

http://www.oasis.oati.com/NWMT/NWMTdocs/03-L\_\_R\_Data\_Request\_Update\_9\_18\_14.docx

Compliance Activities - Kelly Lovell also read Ms. Mathews’ report on the compliance activities. The report is available at the following address.

http://www.oasis.oati.com/NWMT/NWMTdocs/04-Compliance\_Update\_9\_18\_14.docx

Generation Interconnection Update - Corinne Osborne provided the update using a document found at the following web address.

http://www.oasis.oati.com/NWMT/NWMTdocs/05-TRANSAC-Interconnection\_Queue\_Update\_14-09.pdf

**Regional and Bulk Electric System Updates**

Chelsea Loomis, who has replaced John Leland as Manager of Regional Transmission Planning, provided the update. NTTG is conducting interregional transmission planning pursuant to its biennial planning cycle. Although the Federal Energy Regulatory Commission (FERC) has not yet responded to it, NTTG is proceeding as if its third Order 1000 filing has been accepted. The NTTG Technical Committee has conducted production cost modeling of the 2024 hourly loads to identify the five most critical hours. Data for these five were then fed into a power flow model to conduct a reliability analysis for the five cases. The Technical Committee is running single contingency (N-1) outages to identify and fix voltage problems for these cases. The Committee is also reviewing a public policy consideration study requested by Renewable Northwest in which Colstrip Units 1 and 2 are replaced by wind generation. NTTG will hold a stakeholder meeting in Bozeman from 12:30 p.m. to 3:30 p.m. on Tuesday, September 23.

*Comment by John Leland - Two of the four regional transmission planning groups, the California Independent System Operator (CAISO) and NTTG, have received a final Order 1000 order from FERC. The final order for Columbia Grid and West Connect is due today, so that all four groups will have final orders.*

*Question - Wasn’t the public policy study request from Renewable Northwest denied? How is the study being funded?*

Answer - A portion of the study request beyond the 2024 time frame was turned down. NTTG is conducting the study through 2024.

**Local Area Plan**

Business Practice and OASIS Update - Don Bauer reported on the results of August 20, 2014 conference call which considered proposed changes to NWE’s business practices regarding winter and emergency ratings for transmission line elements. As no comments were received during the call, the changes were adopted and posted on the NWE OASIS on August 21, 2014 and went into effect on August 26, 2014. Also, no comments were made during the call on the proposed process for modifying transmission planning documents, so these changes were adopted and posted on the OASIS on the same dates.

*Question* - *How will you set relays to implement the 25% higher ratings?*

Answer - We plan to set relays based on the winter ratings; we will not change them twice a year. Planning studies will identify line segments that might overload during the summer as a result of applying the winter ratings, and we will keep an eye on these segments. The Control Center is aware of the rating changes. We are not expecting problems as a result of the higher winter ratings.

Base Case Development and State of the System - Mark Mallard discussed these topics using the Power Point presentation entitled “Local Area Planning Update to TRANSAC - September 18, 2014.” This presentation can be found at the following web address.

http://www.oasis.oati.com/NWMT/NWMTdocs/06-StateofSystem-09-18-14.pptx

The Heavy Summer case includes 1783 MW of load in the NWE Balancing Area embedded in the WECC-approved summer base case. The Light Autumn case has 890 MW and the Light Summer case has 860 MW of load in the NWE Balancing Area. Both of these cases are embedded in the WECC-approved light summer case.

*Question - Are you looking at N-1-1 contingencies?*

Answer - We are running the double contingency cases (N-2) at the same time.

*Question - The location of the N-1-1 contingency might be different than that of the N-2. In anticipation of the Reliability Coordinator requirements, are you identifying the next critical contingency after N-1?*

Answer by Don Bauer - We are looking at an assortment of other double contingencies, but we are not modeling every N-1-1 and N-2 condition. In the Billings region alone, we have 30,000 combinations of double contingencies. Other contingency analysis done for planned outages may reveal issues of which we weren't previously aware.

*Comment by Frank Jarvenpaa - At WAPA, we are also trying to whittle down the contingencies in anticipation of the Reliability Coordinator requirements.*

*Question - When you run studies of N-1-1 contingencies, do you allow the system to reset after the N-1?*

Answer - That is our intent, yes.

*Comment by John Leland - Some entities in the West, interpret Reliability Coordinator requirements as not allowing the transmission system to reset in order to identify the most critical results.*

Response - This approach would identify potential cascading if the system does not have time to reset.

*Comment by Frank Jarvenpaa - At WAPA we are running both types of studies, i.e. allowing and not allowing the system to reset. For example, during ice storms an outage may not allow the system reset.*

*Question - Does the 125% emergency rating apply at all times?*

Answer - We plan to reset electromagnetic relays at the winter rating and leave them. We do not plan to reset them seasonally.

*Question - Are you reevaluating as a result of LIDAR work?*

Answer - Yes. Any changes will be reflected in the model.

*Question - Will the finalizing of the Bulk Electric System (BES) definition* *affect the modeling?*

Answer - No. Our planning already takes this into account. These changes are more related to WECC reporting.

*Question - Will the BAL-002 contingency reserve affect your studies?*

Answer - No.

*Question - Reserve requirements do not affect your studies?*

Answer - They do not affect studies; we assume the reserves are available. The control center (Grid Operations) is responsible for that.

*Comment by Don Bauer - Christopher Fecke-Stoudt submitted an alternative solution for the Columbus area in January. This alternative solution will be considered in the next study phase.*

*Question - In the slide summarizing the N-2 thermal issue results, you note that mitigation is planned for loss of the Missoula 4 - Hamilton Heights 161 “A” and “B” transmission lines which have a common corridor. What is the mitigation?*

Answer - We plan to convert the 69 kV “B” line from Missoula 4 to Hamilton to 161 kV. The conductors on the "A" line were upgraded when Highway 93 was rebuilt, so we will leave that line as is.

*Comment by Frank Jarvenpaa - WAPA is moving operation of the 69 kV system to the Missouri so we will need to integrate NWE data regarding it.*

Response by Don Bauer - We plan to visit with WAPA regarding the Hi-Line 69 kV line to alleviate the issues identified in the state of the system studies.

*Question - Do you plan to add a second transformer at the Clyde Park substation to mitigate the loss of the Clyde Park 161/50 kV auto transformer?*

Answer - No, we are looking at other solutions. The bank is made up from single phase units with a spare transformer on site that can be quickly switched in.

*Comment by Don Bauer - The Anaconda Mill Creek 161 kV bus outage is the worst problem we have identified on the system. The good news is that the mitigation should be completed in about two weeks.*

*Comment by Don Bauer - In summary, the results of the current state of the system studies completed to date show no new problems, and mitigation plans are developed for almost all of the problems already identified. We will now move to studies of the system 5, 10, and 15 years out. Current mitigation plans will be reviewed as well.*

**Economic Study Request**

B.J. Schubert presented this item. The study of congestion on NWE’s transmission system southbound out of Great Falls as requested by PPL is underway. The base cases are nearly ready, and study results will be presented at the next TRANSAC meeting.

**Action Item List Review**

This meeting identified no new action items.

**Next Meeting**s

The next meeting date is Thursday, December 18, 2014.

**Disclaimer**

Committee members provide advice to NWE as individual professionals; the advice they provide does not bind the agencies or organizations that the members serve.