

**DRAFT Meeting Minutes  
NM (Northern MAPP) SPG Meeting**

**GRE Offices  
Maple Grove, Minnesota  
9:00 a.m. -- 2:00 p.m.  
July 24<sup>th</sup>, 2008**

**Attendees:**

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## 1. Introductions

The participants of the meeting introduced themselves. This meeting required MAPP NDA signatures for attendance in this meeting. All of the attendees listed above have signed the MAPP NDA. Mr. Steckelberg chaired the meeting.

## 2. Assign Minute Taker

Tami Anderson volunteered to take the meeting minutes.

## 3. Review Past Meeting Minutes

The draft minutes were reviewed from the May 20, 2008 meeting. Mr. Martino suggested one change to the minutes. Mr. Iverson moved to approve the May 20, 2008 Northern MAPP SPG meeting minutes as amended. The motion was seconded by Mr. Dahl and approved.

## 4. Review Agenda

The agenda was reviewed with no additions to the agenda.

## 5. General NM SPG Business

### 5.1. FERC Order 890 discussion

#### 5.1.1. Posting of NM SPG agenda and minutes (Steckelberg)

Chair Steckelberg discussed the rules for posting the spg agendas and spg minutes as documented in the spg guidelines. The spg guidelines state that the spg agendas and minutes are posted on the public MAPP website. Mr. Fredrickson stated that the new MAPP policy is to also post the draft minutes for all committees, subcommittees and working groups in MAPP on the public MAPP website.

#### 5.1.2. Biennial Report followup (Steckelberg)

Chair Steckelberg discussed the change in the planning zone meeting process as required for the MN Biennial Report by the PUC. For the MN Biennial Report public meeting process, the PUC stated that there will be replacement meetings instead of the planning zone meetings that were conducted in the past. The MRO group is working on the process for the new replacement meetings. The PUC also suggested that the MN

Biennial Report be presented at a SPG meeting. The next Biennial Report is due Nov 1<sup>st</sup>, 2009.

## **5.2. Coordination with MISO Subregional Planning Meeting – SPM West (all)**

Chair Steckelberg discussed the coordination between the NM SPG and the MISO SPM-West Subregional planning group. MISO does not plan on having another SPM-West meeting this year. Chair Steckelberg reminded the NM SPG members to be diligent about including all transmission projects on the agendas for the SPG meetings so that they are posted on the MAPP public website.

## **6. Transmission Studies**

### **6.1. MAPP TPSC 10-year Planning Report (Iverson)**

Mr. Iverson, DPC, presented an update on the MAPP TPSC 10-year Planning Report process. The Forms 1-3 information is complete. MISO has sent the updated MTEP forms to Mr. Iverson. The next step is to update the narratives to reflect the Forms 1-3 information.

August 1<sup>st</sup> – TO's Narrative first draft due  
August 7 – Conference Call to discuss Narrative  
August 15<sup>th</sup> – TO Narrative Final Due

Mr. Weiers inquired how to coordinate the CapX projects between the spgs. Mr. Iverson replied that CapX projects are to be coordinated by the Transmission Providers of the specific projects.

### **6.2. Langdon 2 Wind Generation Study (Bartel)**

Mr. Bartel, MPC, presented the Langdon 2 system impact study scope. The study proposal is for a 40.5 MW addition to the existing 159 MW wind-powered generation facility at Langdon. The project is located 9 miles SE from Landgdon, ND. The connection is at the Langdon, ND 115 kV bus. The project parallels with the existing project at high side – 115/34.5 kV transformer. The Landgdon – Devils Lake 115 kV line has a SPS for voltage stability limit of 120 MVA on the line. Also, there is a SPS temporary solution on the 230/115 kv Ramsey transformer. The long-term solution study for the Ramsey transformer is now underway. There are currently operating Guides in place for the Langdon Wind 1 installation. The study plan for the analysis of this study includes: contingency, constrained interface, dynamic stability and delivery study analysis.

The schedule for this study includes an ad hoc transmission committee kick off call already completed. Also, there will be an ad hoc transmission committee call for a “no objection” vote in Aug, 2008. The initial presentation will be at the DRS on Aug 26, 2008. A special call for review/approval will be

requested for Sept, 2008. The Langdon 2 wind generation is to go on-line in Sept. 2008.

The prior queued projects process was discussed. If a prior queued project goes on-line, then a restudy will need to be completed. The Interconnection study is posted publicly on the MPC website. There was a request to widen the footprint of the study area of contingency analysis for the system impact study. Mr. Bartel will take that request into consideration and discuss with the ad hoc transmission committee.

### **6.3. Upper Midwest Wind Initiative/Young 2 deal (Sweezy/Bartel)**

Mr. Sweezy, MP, presented the first part of the Upper Midwest Initiative/Young 2 transition deal. Minnkota and MP have been partners since 1977 in the Square Butte project. The Square Butte project includes the Young 2 (455 MW) generator and the DC line +/- 250 kV which is the 465 mile line from Center, ND to Duluth MN (Young to Arrowhead 500 MW DC line). Considering the changes in the industry including renewable mandates, load growth, baseload needs, and the ample wind resources in ND, an Upper Midwest Wind Initiative/Young 2 transition deal has been developed between MP and Minnkota. The Details of the deal include:

- MP phases out of its take of Young 2 and MPC phases in its take of Young 2.
- MP buys the DC line from Square Butte and MP will develop the wind resources in ND.
- MP uses the DC line to transmit ND wind power to Duluth.
- MPC builds 345 kV line from Center to Red River Valley – connecting Young 2 to MPC's system.

By 2013, the HVDC line is to be primarily used as generator outlet for wind energy. MP is working with MISO on DC line tariff and administration issues. MP has interconnection requests in the Square Butte queue for 400 – 600 MW new wind generation. Wind generation system impact studies will be performed over next 1-2 years and will be closely coordinate with 345 kV transmission study. This deal Regulatory process – needs to be approved by MNPUC and FERC for approval of DC line purchase and the FERC needs to approve any tariff changes necessary to implement the project.

The schedule looking forward includes:

- Aug 1 – Definitive MP-MPC agreements and MN commission filings
- September 1 – filings to FERC
- Jan 1 2009 – closing.

The project fulfills two main goals:

- provides MP with economical renewables

- provides MPC with baseload generation.

Mr. Bartel, MPC, presented the AC Transmission Study. The MP wind generator interconnections necessitate new AC transmission for Young 2 as a secondary effect. MISO transmission interconnections are likely. The general performance was already studied for the MISO ND Group Study 1 (NORDAGS). The NORDAGS generation includes Young 3 (MISO project G581), Stanton (MISO project G531), Coyote (MISO project G607). The NORDAGS transmission includes the Center – Jamestown-Maple River 345 kV line is the preferred transmission line if Maple River-St Cloud 345 kV line is built or the Center – Jamestown – Prairie 345 kV line is the preferred transmission line if the Maple River – St Cloud 345 kV line is not built. The study scope was presented including proposed Young 2 connection points and the new AC line interconnection/termination points. The study and approval process will include an ad hoc committee or SPG vote of no objection and DRS approval of study report. The study is to start in September. The transmission line is anticipated to be in-service around 2013. The spg discussed the type (conductor) of 345 kV line that will be used and it was questioned whether there could be the opportunity to participate as a partner in building this 345 kV line.

#### **6.4. Ramsey Transformer Study (Weiers)**

Mr. Weiers and Ms Jayachandran, OTP, presented the Ramsey Transformer Study. This presentation was also given to MB SPG meeting last week. In early 2007, WAPA had several maintenance outage denied by MISO due to the next contingency (n-2) leaving the Devils Lake load pocket prone to voltage collapse. Therefore, WAPA initiated a study to identify a transmission plan to withstand n-2 conditions in the Devils Lake area. The Langdon Wind project (159 MW wind interconnection to Langdon 115 kV substation) required installation of a new 115 kV line between Langdon and Hensel which was energized in Dec. 2007. This alleviated load serving concerns since this new line brought another source into the Devils Lake area, however, it caused 230/115 kV Ramsey transformer loading concerns due to 115 kV through-flow for contingency of the Ramsey – Prairie 230 kV line. Ramsey has a temporary SPS installed to protect the transformer. Therefore, the Devils Lake load serving study is now a Ramsey transformer study with 2 objectives:

- Alleviate loading concerns on the Ramsey 230/115 kV transformer
- Reliably withstand n-2 conditions in the Devils Lake area.

The transmission improvements under consideration include:

- Replacement of the existing Ramsey transformer
- Addition of a second Ramsey 230/115 kV transformer
- Other transmission reinforcements

The study models were developed from a variety of the MAPP and NMORWG models with the loads from the transmission substations distributed down to

the underlying 41.6 kV and 69 kV. The initial study effort will focus on the >115 kV system. The generation assumptions were discussed. Sensitivity studies will be performed including adding the CapX 2020 projects into the 2016 cases only. An additional sensitivity is summer off-peak with Manitoba north flow pattern analysis. The plan for analysis includes a steady state analysis with contingencies includes monitoring the OTP and WAPA areas. The tentative schedule lists Sept 22<sup>nd</sup> as the date of release for the final report.

### **6.5. Manitoba 300 MW Wind near Letellier (Hilmi)**

Hilmi, MH, gave an update on the Manitoba wind study for 300 MW of wind generation near Letellier. An Ad-hoc group is being organized and the results of the Letellier wind study will be presented to the ad-hoc group. Transmission Owners and MISO staff are the participants of these ad hoc groups.

The generation developers present at the spg meeting requested that the scope of these types of projects be presented at the SPG meetings to give an opportunity to the developers to comment on the projects. Chair Steckelberg reminded the developers that MISO will need to be involved in this type of request since these projects are MISO projects.

There was also a request that the information for the studies be posted before the meetings in order to adequately prepare for the meetings. Chair Steckelberg stated that to the extent possible, presenters should try to send out material beforehand. He also stated, in a lot of cases this information may not be available until right before the meeting takes place.

### **6.6. North Mankato Load Serving Study (Vermuri)**

Mr. Vermuri, XCEL, presented the North Mankato Load Serving Study. This is a load serving study with the major loads including the cities of LeSueur and St. Peter. There are only two strong sources from Willmarth. Overloads and low voltage problems are being caused due to 69 kV contingencies. Five critical contingencies were discussed. Alternatives were discussed for this study. Option 2 was the preferred alternative after the economic analysis was conducted. Option 2 includes a future 115 kV line from St. Thomas - Helena. The concerns include the SPS to trip the Helena – St Thomas line for the loss of Helena – Willmarth or Helena – Blue Lake 345 kV lines. Option 2 also includes the rebuild of the LeCenter – St. Thomas 69 kV line. The in-service date for this project depends on the in-service date of Helena 345 kV substation. The project schedules have to be coordinated with the SW MN – Twin Cities 345 kV line.

### **6.7. TPSC Economic Planning Study (Iverson)**

Mr. Iverson, DPC, presented an update on the TPSC Economic Planning Study. The TPSC will complete one economic planning study in 2008. For

that study, the TPSC has tentatively selected a consultant to assist in completing the economic planning study. Presently, the TPSC is working with the consultant on the study scope. MRES has proposed an economic study of constraints in W. Nebraska. The goal is to be prepared for the 2009 required economic planning study analysis.

### **6.8. MISO RGO Study (Steckelberg)**

Mr. Steckelberg, GRE, gave an update on the MISO RGO Study. The progress to date on the MISO RGO study has included a Renewable Portfolio Standard (RPS) data survey, gathering wind data and siting the wind generation. The RPS Survey results included requested data from the members and then detail wind resource was incorporated into the modeling. The study has identified wind capacity by state for initial site selection and annual wind generation profile development – on an hour-by-hour basis. The study participants have requested MISO develop additional renewable sites. An economic analysis will be studied after the sites have been developed. Jarred Miland and Jason Schmidt are the MISO contacts.

### **6.9. GRE Long Range Plan Update (Kempf)**

Mr. Kempf, GRE, presented the GRE Long Range Plan and Capital Spending Plan 2009 – 2013. The summer and winter annual load growth was examined as a basis for the analysis in the models. The Long Range Plan is a load serving study with the purpose of defining the expected transmission system required to serve the member cooperatives projected load growth through 2031. The study years for the models include 2011, 2021, and 2031. The Long Range Plan projected 2031 load was over double the current GRE load. In this analysis, the CapX projects are not included in the models.

In the capital spending plan, the total financial forecast is 65.5 million for transmission projects through 2013. The major transmission projects will be prioritized. For the distribution projects through 2013, there are 23 major projects including 58 miles of 69 kV and 47 miles of 115 kV and there are 48 minor projects. For the generation projects, GRE transmission is responsible for 50% including Elk River Generation and PVS (Pleasant Valley Substation) which is expected to expand for Wind outlet. GRE expects multiple windfarm installations and new interconnections with the potential impact unknown. For the transmission line projects, there are 147 bulk transmission projects. The total transmission area projects summary includes 777 miles of transmission line, 56 bulk substations, and 412 miles of new corridor. The total financial forecast for all projects (172 projects) is \$487.9 million for 2009 - 2013.

## **7. Transmission Projects**

## **7.1. XCEL Energy Projects**

### **7.1.1. North Mankato**

Mr. Vermuri, XCEL, reported on the North Mankato study in the transmission studies Section 6.6 of these minutes.

### **7.1.2. Douglas County**

Mr. Vermuri, XCEL, reported on the Douglas County study. Mr. Vermuri stated that there are low voltages in the region for the loss of the Douglas Co. transformer. The plan is to install a 2<sup>nd</sup> Douglas Co. 115/69 kV transformer with an in-service date in 2011.

### **7.1.3. Monticello**

Mr. Vermuri, XCEL, reported on the Monticello transformer upgrade study. The loss of Sherco – Benton 345 kV line overloads the Monticello 345/230 kV transformer. The plan is to upgrade the existing transformer to 550 MVA in 2011.

### **7.1.4. South Minneapolis**

Mr. Standing, XCEL, presented the South Minneapolis Electric Reliability Project (SMERP) study. Mr. Standing stated 4 options were studied. The preferred option includes a new 345 kV line in-service in approximately 2013-2020 from the New Hwy 280 345/115 kV substation to the New Hiawatha substation.

### **7.1.5. Cannon Falls**

Mr. Espeseth, XCEL, reported on the Cannon Falls Area Upgrades. Mr. Espeseth stated that the loss of either Cannon falls transformer overloads the other transformer. The plan is to add a 115/69 kV 112 MVA transformer at Colville substation, reroute Cannon Falls-Byllesby 69 kV line to Colville-Byllesby, and replace the bus tie breaker with a breaker ring bus at Cannon Falls. The in-service date is 6/1/2012.

### **7.1.6. Sioux Falls Area Upgrade**

Mr. Standing, XCEL, reported on the Sioux Falls Area Upgrades. The plan is to add a second 112 MVA transformer at Lawrence with an in-service date of 12/1/2012. Also, to split the double circuit 115 kV line from Split Rock-Cherry Creek /West Sioux Falls with an in-service date of 6/1/2011. These upgrades solve the low voltage and transformer overload problems.

## **7.2. Other Projects**

### **7.2.1 Mapleton – Cassleton 115 kV line**

Mr. Weiers, OTP, gave an update on a new 115 kV line that Otter Tail Power Company is constructing from Mapleton to Casselton to serve a new ethanol plant in Casselton. This new line is being double circuited with an existing 41.6 kV transmission line in the area. The ethanol plant is projected to be a 25 MVA load and be in commercial operation by December of 2008. The 115 kV transmission line is expected to be in-service by October 1, 2008. Following the completion of the Mapleton - Casselton 115 kV line, Otter Tail Power Company is planning to extend the 115 kV line from Casselton to Buffalo to provide looped transmission service to the ethanol plant. The Casselton - Buffalo section of the line is hoping to be completed by October 1, 2009. The ethanol plant at Casselton expects to reach an ultimate load level of 45 MVA in the next few years.

### **7.2.2 Alexandria Light and Power – Nokomis Substation Breakers**

Mr. Dahl, MRES, stated that the planned new breaker at the Alexandria Nokomis Substation are in-place and will likely be in-service in August this year. The 25 MVAR capacitor bank at the Alexandria Switching Station is in-service already.

[The Nokomis breaker will allow for the Alexandria system to be operated as a loop, and along with the 25 MVAR capacitor bank reduces the impact of critical contingencies of Grant County - Elbow Lake 115 kV and Alexandria Switching Station - Alexandria Poleyard substation 115 kV in particular on Alexandria area voltages].

### **7.2.3 Boswell - Bemidji**

Mr. VanHouse, MP, gave an update on the Boswell – Bemidji project. For the Boswell – Bemidji project, the public scoping process starts the week of Aug. 11<sup>th</sup>.

### **7.2.4 CapX**

Mr. Dahl, MRES, gave an update on the CapX project. Mr. Dahl stated that CapX public hearings are ongoing as part of the Minnesota Certificate of Need (CON) process, and that the project participants and interveners are cross examining based on pre-filed testimony.

There has also been numerous public meetings for the CapX project prior to the hearings. Mr. Dahl also mentioned that the CON application (available on [www.capx2020.com](http://www.capx2020.com)) contains a schedule for in-service date of the three 345 kV projects.

## **8. Next Meetings**

The next SPG meeting is set for September 18-19 in Duluth. The meeting will start around 12:30 – 1:00 pm on September 18<sup>th</sup>.

