

Staff Briefing Papers

Meeting Date	May 17, 2018	Agenda Item *5	
Company	Minnesota Transmission Owners		
Docket No.	E999/M-17-377		
	In the Matter of the 2017 Minnesota Biennial Transmission Projects Report		
Issues	Should the Commission accept the 2017 Biennial Transmission Projects Report?		
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Relevant Documents

Date

2017 Biennial Transmission Projects Report	Nov. 1, 2017
DOC DER Completeness Comments	Nov. 14, 2017
2016 NERC Long-Term Reliability Assessment (LTRA) Report	Nov. 21, 2017
Communities United for Responsible Energy (CURE) Comments	Nov. 21, 2017
DOC DER Comments	Jan. 2, 2018
2017 NERC LRTA Report	Jan. 3, 2018
CURE Comments on the Merits of the Biennial Report	Jan. 16, 2018
CURE Reply Comments	March 1, 2018
MTO Reply Comments	March 1, 2018

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The attached materials are work papers of the Commission Staff. They are intended for use by the Public Utilities Commission and are based upon information already in the record unless noted otherwise.

I. Statement of the Issues

Should the Commission accept the 2017 Biennial Transmission Projects Report?

II. Background

A. Procedural History

On November 1, 2017 the Minnesota Transmission Owners (MTO) filed the 2017 Biennial Transmission Projects Report.

On November 14, 2017 the Department filed completeness comments on the Report.

On November 21, 2017 and January 3, 2018 MTO filed supplemental data.

On November 21, 2017, January 16 and March 1, 2018 CURE filed comments.

On January 2, 2018 Department filed comments.

On March 1, 2018 MTO filed reply comments.

B. Biennial Transmission Projects Report Overview

1. *History of Biennial Transmission Projects Reports*

In 2001, the Minnesota Legislature enacted Minn. Stat. § 216B.2425, requiring essentially all owners of electric transmission facilities within the state to file biennial reports on the state of their transmission systems. These reports, called biennial transmission projects reports, must identify: (a) any reasonably foreseeable future transmission inadequacies; (b) alternative means of addressing these inadequacies, and (c) the economic, environmental, and social issues associated with each alternative. Utilities may also use these biennial filings to request certification of high voltage transmission lines needed to remedy transmission inadequacies.

The statute requires TOs to report on the involvement of local government officials and other interested persons in identifying transmission inadequacies and analyzing alternative means of resolving them. It also requires TOs to report on the public input they have gathered on the transmission deficiencies identified.

The Legislature later amended the statute to require utilities to also file a report that examines what transmission infrastructure improvements would be necessary to meet the renewable energy objectives set forth in Minn. Stat. § 216B.1691.

2. *2015 Minnesota Biennial Transmission Projects Report*

The Commission's May 27, 2016 Order approving the 2015 Biennial Transmission Projects Report included provisions that pertained to the 2015 filing. The provisions include:

1. Acceptance of the 2015 biennial transmission projects report filed under Minn. Stat. § 216B.2425.
2. Extension of the variance it granted to Minn. Rules, part 7848.0900, to eliminate the obligation to hold the public meetings as described in the rule and to no longer require the alternative measure of a webinar presentation.
3. In the 2017 biennial transmission projects report, the MTO shall include content similar to the 2015 report, and shall include a discussion addressing Minn. Stat. § 216B.2425, subd. 2(c)(3).

C. 2017 Biennial Transmission Projects Report

Minnesota Transmission Owners¹

The 2017 Biennial Transmission Projects Report (2017 Report) was filed in accordance with Minn. Stat. § 216B.2425. The statute requires utilities that own or operate electric transmission facilities in Minnesota to file a report by November 1st, of each odd numbered year, on the status of the transmission system, including present and foreseeable inadequacies and potential solutions. The process is also intended as a method to inform the public of transmission issues in the state and to track the development of solutions.

The 2017 Report is a joint effort on the part of utilities that own transmission in the state and is the eighth report to be filed by the MTO. As mentioned, the major purpose of the biennial report is to identify and present near-term transmission inadequacies and to examine possible alternatives for addressing those inadequacies. An inadequacy is generally defined as a situation where existing transmission facilities are unable, in the current or foreseeable future, to consistently and reliably provide electric service in compliance with regulatory standards.

The transmission assets in the state are divided into six geographical regions or planning zones, a map of which is provided as page 21 of the 2017 Report. The 2017 Report identified 90 separate transmission inadequacies across the state, including 50 new ones identified in the

¹ The Minnesota Transmission Owners membership includes American Transmission Company, LLC, Dairyland Power Cooperative, East River Electric Power Cooperative, Great River Energy (GRE), Hutchinson Utilities Commission, ITC Midwest LLC (ITC), L&O Power Cooperative, Marshall Municipal Utilities, Minnesota Power (MP), Minnkota Power Cooperative, Missouri River Energy Services, Northern States Power Company, Otter Tail Power Company (OTP), Rochester Public Utilities, Southern Minnesota Municipal Power Agency, and Willmar Municipal Utilities. Among the above utilities, East River Electric Power Cooperative, L&O Power Cooperative, Marshall Municipal Utilities, Minnkota Power Cooperative and Rochester Public Utilities are not members of Midcontinent Independent System Operator (MISO); all the others are member of MISO. Northwestern Wisconsin Electric Company (NWECC) owns three miles of 69 kilovolt (kV) transmission line and a portion of a 230 kV substation in Minnesota, did not file a biennial transmission projects report. NWECC's last communication with the Commission was in 2009, and stated that it had no plans for the construction of transmission facilities in Minnesota in the reasonably foreseeable future.

2017 Biennial Report. The majority of these transmission inadequacies were identified by Midcontinent Independent System Operator (MISO) in the 2016 Transmission Expansion Plan (MTEP) Report. A smaller number of projects are proposed by non-MISO utilities or are distribution level projects typically not included in the MTEP report.

III. Parties' Comments

A. Minnesota Department of Commerce, Division of Energy Resources

On November 14, 2017, the Department filed completeness comments. In its comments, the Department stated that most of the required information is located either in the Report or in the referenced MTEP. However, the Department recommended the Commission find the Report complete upon submission of the Midwest Reliability Organization (MRO) section of the North American Electric Reliability Corporation most recent regional load and capability report of the Mid-Continent Area Power Pool (MAPP) or other appropriate regional reliability council. The Department claimed that the MRO section of the NERC Long-Term Reliability Assessment (LTRA) more closely complies with the statutory requirement² that a regional load and capability report be submitted.

On November 21, 2017 the MTO filed the Midwest Reliability Organization's (MRO) load and capability report found in the North American Electric Reliability Corporation's (NERC) 2016 Long-Term Reliability Assessment.

On January 2, 2018, the Department filed comments and analysis of the 2017 Biennial Transmission Projects Report, including recommendations.

On January 3, 2018 the MTO filed the 2017 NERC Long-Term Reliability Assessment.

The Department noted that the Northwestern Wisconsin Electric Company (NWECC) did not submit a biennial transmission plan. Given the limited nature of NWECC's Minnesota transmission system as referenced in footnote³, the Department had no comments regarding NWECC.

Transmission Inadequacies

The Department identified 10 transmission inadequacy areas where historical demand had been greater than the supply capability after a single transmission contingency occurs, and

² Minnesota Rules 7848.1300 B requires "a copy of the most recent regional load and capability report of the Mid-Continent Area Power Pool or other appropriate regional reliability council." MRO is the "appropriate regional reliability council" for Minnesota utilities.

³ On October 22, 2009 Northwestern Wisconsin Electric Company filed its *Transmission Projects Biennial Report (TPBR)*. The TPBR states "NWECC owns approximately three miles of 69kV transmission line and a portion of a 230kV substation."

provided a date by which reliability would be restored to each of these 10 areas based on MTO’s response to the Department Information Request No.1.⁴ Also, the Department identified the following six projects which require a certificate of need (CN).

Table 1: Schedule of Certificate of Need

Tracking Number	Project	Estimated Filing Date	Responsible Utility
2017-SE-N1	Huntley to Wilmarth 345 kV MEP Project	2018	Xcel and ITC Midwest
2007-NW-N3	Winger-Thief River Falls 230 kV	Aug. 2019	OTP
2015-NW-N1	Clearbrook West 115 kV-Bagley West 230 kV	Jan. 2022	OTP
2003-WC-N7	Panther Area	2021 – Need based on area load growth	GRE
2007-NE-N1	Duluth Area 230 kV	Early 2020s depending on future studies	MP
2015-NE-N12	Iron Range-Arrowhead 245 kV Project	No current need to construct the project	MP

The Department reviewed the MTO’s discussion for the projects listed in Table 1. The table shows that there are relatively few projects planned at this time that potentially require CNs where the timeline is not yet known.

The MTO also identified two additional projects that may require a Certificate of Need depending on the size, based on future load growth and storm damage. The MTO stated that they are currently evaluating these projects further. Table 2 below lists these projects:

Table 2: Projects Under Evaluation for Certificate of Need

Tracking Number	Project	Responsible Utility
2009-WC-N6	Elk River-Becker Area	GRE
2017-WC-N5	DS Line Rebuild Project	GRE

Transmission for Renewables

The report provides a section regarding the Minnesota’s Renewable Energy Standard (RES Report) in compliance with Minnesota Statutes §216B.2425, subd. 7. The RES Report is a joint effort separate from that of the MTO but containing many of the same utilities.⁵

⁴ As reported by MTO, six of the ten issues are expected to be resolved within the next two years (by end of calendar year 2019), the rest of them will be fixed by 2023.

⁵ The utilities sponsoring the RES Report are: Minnesota Power, Northern States Power Company, Otter

The RES Report shows that subject utilities currently have sufficient renewable generation capacity acquired to meet the Minnesota RES needs through 2025. According to the chart on page 147 of the Report, the Minnesota RES utilities also have enough capacity to meet the RES needs of other jurisdictions as well as Minnesota's RES needs through 2025. Thus it appears that significant additional transmission investment for the purposes of the RES is not required in the near future.

In an Order issued on May 18, 2012 the Commission directed the MTO to provide an update on the Corridor Upgrade Project. The Corridor Upgrade Project is an upgrade of the 230-kV line between the Hazel Creek Substation near Granite Falls, Minnesota, and the Blue Lake Substation in Shakopee, Minnesota to a double circuit 345-kV system. The Corridor Upgrade Project would provide significant new transmission capacity from the Dakotas, southwestern Minnesota and western Minnesota to the Twin Cities, at a cost estimated in 2009 to be approximately \$350 million. As a result of the May 12, 2014 Order approving the 2013 Biennial Transmission Projects Report, the Commission recognized that the schedule for the Corridor Upgrade Project has likely moved out beyond 2018 and did not require the utilities to report on the status of the project in the 2015 Report. The Commission similarly did not require the MTO to report on the status of the Corridor Upgrade Project in the 2017 Biennial Transmission Projects Report in its Order approving the 2015 Report.

The Department requested that the MTO provide in reply comments a discussion on the current status of the Corridor Upgrade Project, its schedule, and whether further discussion of the project would be useful in the next 2019 Biennial Transmission Report.

Solar Energy Standard

In 2013, the Minnesota Legislature established a solar energy standard (SES) for public utilities, effective by the end of 2020. Minn. Stat. § 216B.1691, subd. 2f, established a solar energy standard of 1.5 percent of a utility's retail sales by the end of 2020. That statute requires public utilities subject to the SES to report to the Commission on July 1, 2014, and each July thereafter, on progress in achieving the standard.

The Department noted that utilities subject to SES requirement are on pace to meet the 2020 and 2025 SES goals.

Mitigation Costs

In its comments, the Department concluded that due to the significant additions in infrastructure that are expected in the near term and in the future, additional measures are necessary to help ensure that the costs charged to ratepayers for upgrades to the electric

Tail Power Company, Dairyland Power Cooperative, Basin Electric Power Cooperative, East River Electric Power Cooperative, Great River Energy, L&O Power Cooperative, Minnkota Power Cooperative, Central Minnesota Municipal Power Agency, Minnesota Municipal Power Agency, Southern Minnesota Municipal Power Agency, Western Minnesota Municipal Power Agency/Missouri River Energy Services, and Heartland Consumers Power District (jointly, the RES Utilities).

system are reasonable. Further, it is important to ensure that decisions made by a utility in response to local governments and others reasonably consider the cost implications of various responses and that the costs of upgrades are allocated appropriately to ratepayers, based on ratemaking principles such as cost-causation, cost minimization, and administrative feasibility.

When utilities install infrastructure in an area, there are always mitigation measures involved. As long as the costs of such measures are reasonable, prudent, and relatively small in size, it is generally appropriate to allow the costs to be borne by all ratepayers. However, when a mitigation measure is not needed for electrical purposes and is significant in size, it is important to consider whether the costs should be allocated to the entire rate base or to a smaller group of customers, based on the entity requesting such enhancement or optional mitigation. The Department asserted that the application of the cost-causation principle is important because, if optional mitigation costs are consistently allocated to the entire rate base, the incentive to prudently control costs throughout the permitting processes is reduced.

Recommendations

The Department recommended that the Commission approve the 2017 Report, but recommended the Commission require Otter Tail Power Company, Minnesota Power, and Xcel Energy to provide the following information in future rate requests to recover the costs of new energy facilities:

- a summary of all mitigation measures that have been added at any step in the permitting process,
- the general reason for the mitigation measure, including whether the measure was requested or required,
- the entity requesting or requiring the mitigation, and
- the cost of the mitigation measure.

B. Public Comments from Communities United for Responsible Energy (CURE)

In comments submitted on November 21, 2017, January 16, 2018, and March 1, 2018 CURE indicated that they have participated in the Commission's energy planning dockets since the mid-1990s. CURE was involved in the legislation and Commission rulemaking for the Transmission Planning Projects Report, including participation in the subcommittee that helped design the zonal meeting requirements to address the context and spirit of the statutory requirement under Minn. Stat. §216B.2425 subd. 2c4.

Responding to the completeness questions, CURE had commented on the "devolution of the planning meeting requirement" and asserted that the report is incomplete and the planning process undermined by this devolution. CURE also commented that the State Transmission and Distribution Plan requirements of statute and state policy are incomplete without a vital, well designed zonal public planning meeting process. Finally, CURE commented that the Distribution Modernization Report and Distribution System Hosting Capacity Report under Minn. Stat. §216B.2425 need to be reintegrated into a statewide integrated transmission and distribution planning process in order to facilitate access and the active involvement and investment of all

stakeholders. In CURE's view, this should be a parallel process to Integrated Resource Planning (IRP).

CURE had proposed to redesign the MTO zonal planning map and instead to adopt the Clean Energy Resource Team's (CERTS) statewide organizing zones.

In subsequent comments submitted on January 16, 2018, CURE advocated for the reactivation of the Zonal Public Meetings to embark on integrated state transmission and distribution planning and to realign zonal public meetings with initiatives around the state. The balance of the comments appear to be addressed mainly to the two separate dockets: 17-776, Xcel's 2017 Biennial Grid Modernization Report and docket# 17-777 Xcel's Distribution System Hosting Capacity that are specific to Xcel Energy and which the Commission decided to process separately in its May 27, 2016 Order accepting the 2015 Transmission Projects Report in Dkt. No. 15-439.

In final comments submitted on March 1, 2018, CURE argued that three dockets - Biennial Transmission Projects Report (17-377), Grid Modernization (17-776), and Hosting Capacity (17-777) are interconnected and are all key to public partner engagement in Grid Modernization and integrated system planning.

C. MTO Reply Comments

Corridor Update Project

In Its reply comments, MTO responded to the Department's request for an update on the Corridor Project. MTO responded that they had provided updates on this project in every Biennial Transmission Report starting with 2011 Report (section 8.5), 2013 Report (section 8.7), and the 2015 Report. In the 2015 Report, Xcel Energy last reported that the project is not presently under development and is not expected to be needed until well after 2018. The transmission system has changed significantly since the original study was done and the study results are no longer valid since the transmission system has developed differently than it was assumed in the original study. At a minimum, a restudy will be needed if a project driver is identified. Xcel is currently participating along with other stakeholders in the MISO Generation Interconnection process and the yearly MTEP study and as a result they don't see a need for further discussion of the Corridor Upgrade Project in the 2019 Biennial Report.

Mitigation Costs

Responding to the comments regarding Xcel Energy, Otter Tail Power, and Minnesota Power to provide information on mitigation costs for future projects, the utilities responded that they have no objection to providing such information in future rate recovery requests for new energy facilities. Consistent with its past responses, the utilities continue to maintain that it would be inappropriate for the Commission to order submission of such information in the Biennial Report docket.

Communities United for Responsible Energy

With regard to the public participation comments provided by CURE recommending the Commission reinstitute the transmission planning zonal public meetings, MTO stated that there is no evidence supporting the idea that public meetings in at least six locations across the state to talk generally about transmission planning would be any better attended in 2018 than they were ten years ago. Besides the comments from CURE, MTO had not received any complaints about the lack of these public meetings. MTO stated that renewal of the public meetings obligation would be an expensive, time-consuming, and ultimately ineffective approach to garnering increase public participation. It has been the consistent experience of the MTO utilities that the public is not interested in transmission planning in a general sense, but rather elects to get involved in meetings with utilities only when specific projects and possible routes are identified in their area.

The MTO opposes this idea and urged the Commission to continue the variance from this obligation. The reasons offered by the Commission in its May 27, 2016 Order granting the variance are still applicable.

With regard to the Integrated Planning for Transmission and Distribution, the MTO stated they are willing to explore this suggestion with the Commission and Department staffs and other interested stakeholders, but it would be inappropriate to order MTO to implement certain measures in Docket No. E9999/M-17-377 or in future biennial reports. The MTO asserted that this type of integrated planning is already occurring in the state, for example in the Grid Modernization docket no. E999/CI-15-556. MTO utilities are also engaged in a planning process that considers a broad range of options, including distributed generation and other non-transmission alternatives. The focus of utility planning has always been to seek the least cost plan to address the reliability needs of the system and as technologies continue to mature, new and different alternatives can and will be considered in the transmission planning process to determine if they can address long-term reliability issues as effectively and efficiently as traditional solutions.

MTO reminded that the primary focus of the Biennial Transmission Projects Report is transmission planning; therefore, the projects and alternatives identified are primarily transmission. In addition to the Biennial report docket, there are other dockets before the Commission where some of the issues raised by CURE are addressed. The Grid Modernization Report submitted by Xcel Energy is one such docket. PUC Docket No. E002/M-17-776. Xcel Energy's Distribution System/Hosting Capacity Report is another. PUC Docket No. E002/M-17-777.

In conclusion, the MTO indicated they are willing to meet with any group or organization that would like information about a utility's ongoing planning activities. The MTO requested that the Commission take action and issue an order on the 2017 Biennial Report consistent with past Commission action.

IV. Staff Analysis

Commission staff has reviewed the entire record in this docket, including the 2017 Report, the Department's comments on completeness and substance, the comments from CURE and the reply comments from the MTO.

Transmission Inadequacies

Commission staff believes the additional information submitted by the MTO in response to the Department's request for additional information regarding the projected inadequacies in the transmission system.

Transmission for Renewables

Staff agrees with the Department and RES utilities that those utilities subject to the Minnesota RES have acquired sufficient renewable capacity to meet the State's RES and SES requirements through 2025.

Mitigation Costs in Future Rate Cases

Staff notes that the Commission considered the issue of mitigation costs in future certificate of need proposals in the Order accepting the 2013 Report⁶ and agreed with the Department's comments that mitigation-cost information is useful in evaluating the costs of such mitigation measures, but the Commission did not require the transmission owners to include this information in future Biennial Transmission Projects Reports. Therefore, in accordance with the 2013 Order, staff recommends that the Commission make a similar finding in the Order on the 2017 Report.

The 2017 Biennial Report

In reply comments, MTO asked the Commission to make certain determinations regarding the 2017 Report and to direct the transmission owners to include similar content to the 2017 Report in the 2019 Report. MTO highlighted the fact that the 2017 Report does not include any requests for certification from any party and as such, the Commission should not certify any projects using the 2017 Report as the means of approval.

Summary of CURE comments

While CURE, like other stakeholders in the Commission's grid modernization proceeding (and related dockets) advocate for a fully integrated resource and distribution planning process, staff does not believe we are at that point currently, or in the immediate near future. Largely, staff agrees that the process should be closely related, and have similar inputs, but due to the methods of planning within our Minnesota-utilities, a fully integrated process is not yet ripe.

⁶ Docket 13-402; Commission Order *Accepting Report, Granting Variance, and Setting Additional Requirements* on May 12, 2014.

Discussions in the grid modernization dockets are furthering that process. However, staff does believe there are ways to advance the grid modernization efforts in the state now, using existing Minnesota-statutes. The Biennial Transmission Projects Report is an option to assist in that effort.

Minn. Stat. 216B.2425, Subd. 2, (c) requires that the Biennial Transmission Project report identify the alternative means of addressing each inadequacy listed and identify the economic, environmental, and social issues associated with each alternative. Staff believes that the identification of alternatives in past reports has become more limited than initially intended. Staff believes that it is likely that the utilities are putting forth the most cost effective alternative however, the background on how that was determined (or the analysis behind determining there were no other alternatives) has become very limited. Staff believes the Commission could require additional filing metrics relating to this item to get a better understanding of the cost differential and technical limitation of other types of system or non-wires alternatives to resolve a transmission need. If the Commission has interest in proposing such a condition, staff could help draft specific terms for consideration.

Public Participation

In the May 27, 2016 *Order Accepting the 2015 Biennial Transmission Projects Report* the Commission extended the variance it had previously granted to Minn. Rules, part 7849.0900, to eliminate the obligation to hold the public meetings described therein. Similar to the May 27, 2016 Order, staff recommends the Commission extend this rule variance for the 2019 Biennial Transmission Projects Report to not require public meetings or to require the MTO to hold a webinar as an alternative to the public meetings.

Staff notes that the criteria for granting a rule variance are set out in Minnesota Rule 7829.3200 which specifies three criteria:

- A. enforcement of the rule would impose an excessive burden upon the applicant or others affected by the rule;
- B. granting the variance would not adversely affect the public interest; and
- C. granting the variance would not conflict with standards imposed by law. Staff believes that the criteria are met as follows:
 1. enforcement of the rule would require TOs to spend money unnecessarily and would divert the time and attention of several engineers and other experts to participate in meetings that have traditionally, not been well attended;
 2. given the consistent lack of interest in transmission planning, granting the variance does not conflict with the public interest; and
 3. staff is unaware of any standards imposed by law that would conflict with the variance.

V. Decision Options

1. 2017 Biennial Transmission Projects Report
 - a. Accept the 2017 Projects Report.
 - b. Reject the 2017 Projects Report.
 - c. Take some other action.

2. Mitigation Measures Reporting Requirements
 - a. Encourage the Department to collect information on mitigation costs in future certificate of need applications for energy projects, including transmission projects.
 - b. Take no action at this time.

3. 2019 Biennial Transmission Projects Report
 - a. Extend the variance to the public participation requirements of Minn. Rule 7848.0900 and decline to require a webinar presentation on the projects Report as an alternative measure.
 - b. Require MTO to file the 2019 Report with the content similar to 2017 Report.
 - c. Additionally, require MTO to include in the 2019 Report the requirements addressed in Minn. Stat. § 216B.2425 Subd 2. (c)(3).
 - d. Require some other action.

Staff Recommendation: 1a, 2a, and 3a, b & c