BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION
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In the Matter of the Application of Xcel Energy and ITC Midwest LLC for a Certificate of Need for the Huntley-Wilmarth 345 kV Transmission Line Project	MPUC Docket No. E-002, ET6675/ CN-17-184 OAH Docket No. 82-2500-35157

EXCEPTIONS OF THE MINNESOTA DEPARTMENT OF COMMERCE, DIVISION OF ENERGY RESOURCES

June 6, 2019

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INTRODUCTION

The Minnesota Department of Commerce, Division of Energy Resources (DOC DER) appreciates the extensive and detailed work of the Administrative Law Judge (ALJ) related to the Application for a Certificate of Need (CN) for the Huntley-Wilmarth 345 kV Transmission Line Project (CN Application), filed by Northern States Power Company, d/b/a Xcel Energy, and ITC Midwest LLC (Applicants). DOC DER agrees with the ultimate conclusion of the ALJ's May 22, 2019 Findings of Fact, Conclusions of Law, and Recommendation (Report) that a CN be granted for the proposed Project. DOC DER, however, respectfully submits to the Minnesota Public Utilities Commission (Commission or MPUC) these exceptions, clarifications, and corrections to the Report.

EXCEPTIONS

I. THE COMMISSION SHOULD CLARIFY THE REPORT'S FINDINGS AND MAKE ADDITIONAL FINDINGS REGARDING THE APPLICANTS' FORECAST OF DEMAND.

DOC DER requests that the Commission make additional findings and clarifications to the Report's findings regarding Minn. R. 7849.0120(A)(1). While some information regarding the Applicants' forecast of demand for the type of energy to be supplied by the proposed Project is already contained in the ALJ Report, additional findings are necessary to make the Report's application of this rule criteria clearer and better reflect the record.

In briefing and proposed findings, both the Applicants and DOC DER explained how the Midcontinent Independent System Operator (MISO) develops the MISO Transmission Expansion Plan (MTEP) Reports each year to assess transmission needs in the MISO market and how the MTEP process identifies transmission needed to deliver energy reliably and efficiently

from generators to customers.[1] The annual MTEP process is thorough and considers load (demand) forecasts, generation forecasts, potential policy scenarios, and stakeholder input.[2] As part of its review, MISO examines congestion and considers needed improvements to meet forecasted energy requirements.[3] MISO engages stakeholders to develop a wide range of future scenarios, which form the basis for forecasts of resources and load that would be economical and consistent with policy (Futures).[4] The MTEP Futures consider various levels of several key variables—including the demand for electricity—with the goal of providing "bookends," or highest and lowest potentials, for future developments.[5]

For the five MTEP16 Futures, differing amounts of demand and energy growth were modeled, along with coal generation retirements and various policy and regulatory standards. The bookends for demand growth range from 0.2 percent, in the Low-Demand future, to 1.6 percent, in the High-Demand future, with the remaining futures modeled at 0.9 percent.[6] These demand and energy growth numbers are initially derived from local growth projections for load growth and projected out through various methods.[7] Therefore, the MTEP16 process adequately incorporated accurate load (demand) forecasts, and reflected that the outlook for both demand growth and generation could unfold in different ways, but nevertheless within plausible parameters that MISO roots in historical data and reasonable assumptions.

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[1] *See* DOC DER Initial Br. at 4–10; Applicants Initial Br. at 52–54; Applicants Proposed Findings at 47–57, 80–81; DOC DER Substitute Proposed Findings at 47–57, 81–82 .
[2] *See* XC-6 at 72–78, App. F at 98–100 (hereinafter CN Application) (discussing MISO's development of the MTEP16 Futures).
[3] *See* CN Application at 7.
[4] *See id.*
[5] Ex. DER-5 at 11 (Rakow Direct).
[6] *See* CN Application at 73, App. F at 98–99.
[7] *See* CN Application at 73–75.

The proposed Project, however, is not driven by increases in demand but rather by the need to reduce congestion to provide increased efficiency by providing low-cost clean energy and reducing wind curtailments, to improve robustness of the transmission system, and broadly to accommodate the rapidly changing generation mix to include more renewable energy.[8] MISO identified the cause of the congestion to be remedied by the proposed Project as 1) existing generation capacity in northern Iowa (both wind and coal); 2) forecasted increases in wind generation capacity in Iowa in the next 15 years; and 3) expected coal retirements near the Twin Cities.[9] Because both existing capacity and coal retirements are known factors, in order to confirm the accuracy of the levels of wind generation included in the MTEP16 process, DOC DER witness Dr. Rakow forecasted the amount of wind capacity expected to be added in Minnesota and Iowa.[10] Dr. Rakow's wind modeling confirmed that the amounts of wind generation used as inputs in the MTEP16 were likely conservative.[11] The ALJ agreed.[12]

While the ALJ appropriately concluded that the Applicants' forecast of demand is sufficiently accurate to satisfy this CN criterion, the ALJ did not explain how demand forecasts are used in the MTEP process. Instead, the ALJ only made findings regarding Dr. Rakow's wind modeling that confirmed the reasonableness of the MTEP16's wind forecasts.[13] Dr. Rakow's wind modeling is not a demand forecast and no party advocated that it was or that it should stand in for the MTEP16 demand forecasts.[14] What the ALJ referred to as the Applicants' forecast of demand in finding no. 231 is unclear. Dr. Rakow's factual conclusion that the "type of energy"

[8] *See id.* at 6–8, 47–49.
[9] *Id.*, Appx. F at 110 (MTEP16 Report); Ex. DER-5 at 12–13 (Rakow Direct).
[10] Ex. DER-5 at 13 (Rakow Direct).
[11] *See* Ex. DER-5 at 23 (Rakow Direct).
[12] Report at 56–57 (Finding 231).
[13] *See id.* at 56–57 (Findings 231–232).
[14] *See* DOC DER Initial Br. at 4–10; Applicants Initial Br. at 52–54.

to be supplied by the proposed Project is "congestion relief," stated in finding no. 227 regarding the interpretation of Minn. R. 7849.0120(A)(1), was not advocated as a legal conclusion by any party. DOC DER and the Applicants advocated in briefing, consistent with the record, that the Applicants' forecast of demand is contained in the MTEP16 report.[15]

The ALJ's discussion of only Dr. Rakow's testimony in the Report's section on Minn. R. 7849.0120(A)(1) is insufficient to support a conclusion under that criterion and does not consider the accuracy of the Applicants' forecast of demand in the MTEP16 as required by the rule. More fact finding is needed to both clearly support a conclusion that this criterion is satisfied and to accurately reflect the parties' legal positions. To do so, DOC DER recommends the following additions and clarifications beginning before finding no. 227, and certain modifications to other findings, based on the record in this proceeding:[16]

> [New Finding] MISO's MTEP models include multiple future scenarios to study transmission needs under a variety of policy, economic, and social futures. Each future contains assumptions about demand and energy forecasts as well as assumptions for future fuel costs, environmental regulations, demand and energy levels, and available technology.[17]
>
> [New Finding] The demand and energy growth included in the MTEP Futures assumptions represent an aggregated average of the Local Balancing Areas (LBA) within MISO, meaning that the load growth input into the Futures models are based on local growth projections instead of a footprint-wide average being applied across the board.[18] This is intended to capture the local growth and area trends to better capture subregional differences and typically include both positive and negative growth rates.[19] These LBA values are aggregated into a Local Resource Zone level, then aggregated again to a MISO footprint level and represent a 10-year compound annual growth rate.[20]

[15] *See* DOC DER Initial Br. at 4–10; Applicants Initial Br. at 52–54.
[16] Many of these findings were proposed by the Applicants and agreed to by DOC DER.
[17] Ex. XC-6 at 72–73 (Certificate of Need Application) (eDocket No. 20181-139030-01).
[18] *Id.* at 74.
[19] *Id.* at 74–75.
[20] Ex. XC-6 at 75.

[New Finding] The demand and energy growth forecasts utilized by MISO are based on historical data, subject to stakeholder review,[21] and no party to this proceeding has challenged the accuracy of these forecasts. In addition, the demand and energy growth levels provide a reasonable range of outlooks in order to determine whether the Project is justified.

227. The "type of energy" that will be supplied by the Project is, according to DOC-DER economist and fact witness Dr. Steve Rakow, "congestion relief." and concluded that it would be most useful in this case to evaluate whether MISO's wind energy growth forecasts were appropriate.[] He distinguishes congestion relief by explaining that if customers' needs cannot be met, reliability issues exist; if customers' needs can be met, but only "in an uneconomic manner, an economic or congestion issue exists."[]

. . . .

231. The Administrative Law Judge finds that the Applicants' forecast of demand for electricity as used in the MTEP process and incorporated into the MTEP16 Futures ~~for the type of energy that would be supplied by the proposed facility~~ is sufficiently accurate to satisfy the rule criterion. ~~reasonable and~~ Moreover, the MTEP16 Futures levels of wind generation are likely conservative because the increase in wind generation projects in the area to be served by the Project has been significantly larger than MISO anticipated in every MTEP16 future scenario but one.[] The Administrative Law Judge recommends that the Commission find that Applicants' energy demand forecast is sufficiently accurate to demonstrate the need for the Project as required by Minn. R. 7849.0120(A)(1); Minn. Stat. § 216B.243, subd. 3(1).

232. Although MISO necessarily had to forecast demand to confirm the need for the Project, the cause of the significantly positive ~~Project's~~ benefit-to-cost ratio of the Project ~~is significantly positive~~ is because the impetus to build the 345 kV line is to relieve congestion rather than to meet increased future load. Adding to the need for the Project is the retirement of significant coal generation. MTEP16 assumes retirement of at least 12.6 GW in all ~~in two of the~~ five future scenarios.[] Beyond relieving congestion, the Project will reduce curtailments of wind generation and so give end users greater access to low- cost energy while improving the robustness of the regional transmission system.[]

[21] *Id.* at 74.

II. THE REPORT DID NOT INCLUDE FINDINGS REGARDING THE APPLICANTS' EXTERNALITIES ANALYSIS IN ASSESSING THE IMPACT ON THE NATURAL ENVIRONMENT OF THE 345 KV LINE VERSUS THE 161 KV ALTERNATIVE AS REQUIRED BY THE COMMISSION'S CN ORDER IN DOCKET NO. 12-1053.

The Report in findings nos. 271 to 275 analyzed the criteria for Minn. R. 7849.0120(B)(3), which considers the "effects of the proposed facility upon the natural and socioeconomic environments compared to the effects of reasonable alternatives."[22] While the parties analyzed the difference in environmental costs for carbon dioxide (CO_2), sulfur dioxide (SO_2), and nitrogen oxides (NO_x), between the 161 kV and 345 kV alternatives (Externalities Analysis), the Report instead focused on the environmental impacts of various routing alternatives.[23] Although the Report includes some discussion of the Externalities Analysis in its discussion of Minn. R. 7849.0120(C)(2), DOC DER recommends that the Commission adopt additional findings regarding the Applicants' Externalities Analysis to better support the finding that the 161 kV alternative was not a more reasonable and prudent alternative to the proposed 345 kV line.

The Commission, in a prior docket, ordered ITC Midwest to "work with the Department to develop a spreadsheet . . . ITC can use to calculate the cost of alternatives, including the Commission's CO_2 internal cost and externality values, in future certificate of need proceedings."[24] In this matter, the Applicants developed a spreadsheet to evaluate environmental externalities of the proposed 345 kV Project and the 161 kV alternative, which is included in Appendix I to the CN Application.[25] The Externalities Analysis compares the changes in the

[22] Minn. R. 7849.0120(B)(3) (2017).
[23] *See* Report at 67–68 (Findings 272–275).
[24] *In re Application of ITC Midwest LLC for a Certificate of Need for the Minn. – Iowa 345 kV Transmission Line Project in Jackson, Martin, and Faribault Ctys.*, MPUC Docket No. ET-6675/CN-12-1053, Order Granting Certificate of Need with Conditions at 10 (Nov. 25, 2014).
[25] *See* XC-18 at 2–3 (Abing Direct); CN Application, App. I.

emissions of SO_2, NO_x, and CO_2, resulting from changes in electricity generation induced by the proposed Project and the 161 kV alternative.[26] Using the externalities values approved by the Commission,[27] the Applicants' witness Mr. Abing concluded that "the 345 kV Project provides greater estimated avoided emissions reductions for SO_2, NO_x, and CO_2 than the 161 kV alternative."[28] DOC DER witness Mr. Landi concluded that the Applicants' externalities analysis appropriately used the Commission's externality values and cost of CO_2 regulation values and employed reasonable methodology.[29]

Finding no. 271 states: "None of the feasible alternatives completely relieve the problem of grid congestion in southern Minnesota and northern Iowa, and constructing a 161 kV line instead of a 345 kV line has largely the same negative environmental impacts."[30] DOC DER clarifies that while the Draft Environmental Impact Statement (DEIS) reasoned that the human and environmental impacts of the physical line and structures would be similar for the 161 kV and 345 kV alternatives, the effects on the natural environment due to associated externalities from the two line sizes would be different.[31] Therefore, DOC DER recommends that the Commission adopt the following clarification of finding no. 271 and make an additional finding immediately following to further support a Commission conclusion that a more reasonable and prudent alternative to the proposed Project has not been demonstrated on the record considering the effects on the natural environment compared to the effects of reasonable alternatives:

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[26] Ex. DER-3 at 31 (Landi Direct).
[27] *See In re Further Investigation into Environmental and Socioeconomic Costs Under Minn. Stat. § 216B.2422, subd. 3*, MPUC Docket No. E-999/CI-14-643, Order Updating Environmental Cost Values (Jan. 3, 2018).
[28] Ex. XC-18 at 6 (Abing Direct).
[29] Ex. DER-3 at 40–41 (Landi Direct).
[30] Report at 67 (Finding 271).
[31] *See* DEIS at 4-19

271. None of the feasible alternatives completely relieve the problem of grid congestion in southern Minnesota and northern Iowa, and a 161 kV line instead of the 345 kV line has largely the same negative environmental impacts arising from the physical construction and operation of a large high-voltage transmission line.[]

[New Finding] The Applicants presented an analysis of socioeconomic costs and benefits (externalities analysis), which included the environmental impact of changes to electricity generation resulting from the Project and from the 161 kV alternative. This environmental impact compares the changes in the emissions of CO_2, SO_2, and NO_X, which result from changes in electricity generation from electrical generating units (EGUs) in MISO Local Resource Zones 1, 2, and 3 that are induced by the Project and the 161 kV alternative. The Applicants concluded, and the DOC-DER concurred, that the Project provides greater reductions in both CO_2 and NO_X emission costs compared to the 161 kV alternative.[32]

III. FOR PURPOSES OF SETTING A CAP FOR COSTS IN THIS PROCEEDING, DOC DER CONTINUES TO RECOMMEND THAT THE COMMISSION USE PROJECT COST ESTIMATES BASED ON 2016 DOLLARS.

DOC DER appreciates the ALJ's recommendation that the Commission protect Minnesota ratepayers' interests in this proceeding by capping costs to be included in Xcel's Transmission Cost Recovery (TCR) rider for the proposed Project based on the cost estimate determined in this matter.[33] As to the cost estimate, DOC DER also appreciates that the ALJ agreed with DOC DER's recommendation "that the Commission should approve costs as stated only in 2016 dollars."[34] While it is clear from the language of finding no. 167 that the ALJ meant to disregard the Applicants' cost estimates escalated to the years that the dollars are anticipated to actually be spent, the Report nonetheless includes escalated costs in finding no. 165; as such, the Commission should not consider these figures for the purpose of setting a cost cap in this proceeding. As explained in DOC DER's reply brief, TCR rider recovery for projects—including Xcel's—have been capped at a cost estimate escalated by an approved

[32] Ex. XC-18 at 6 (Abing Direct); Ex. DER-3 at 40–41 (Landi Direct).
[33] Report at 34–40 (Findings 164–177).
[34] Report at 37 (Finding 167).

inflation index at the time the Commission approves a project as eligible for rider recovery, based on what is known at that future time about both inflation and the actual in-service date.[35] That is, rather than estimating in a CN proceeding what both future inflation and the actual in-service date may be, a cost cap should be based on the dollars determined in the CN proceeding and then escalated in the future rider proceeding into the appropriate dollars for the particular year a project is determined to be eligible for TCR rider recovery.

To achieve that effect, DOC DER recommends deleting the column indicating the Applicants' estimated cost figures escalated to the anticipated spend year in Table 3 of finding no. 165. In addition, DOC DER makes a small correction to Table 3 of finding no. 165, as noted below.[36]

Table 3: Cost Estimates for Applicants' Recommended Route Configurations

Route Alternative	Cost (Millions) (2016$)[277]	~~Cost (Millions) (Escalated to anticipated year spend $)[278]~~
Purple-BB-L Route *Purple Route Modified to Use Segment Alternatives BB and L Double-Circuit* *Monopole Design*	$140.1	~~$155.8~~

[35] *See, e.g.*, *In re Xcel Energy's Petition for Approval of 2012 Transmission Cost Recovery (TCR), Project Eligibility, TCR Rate Factors, and 2011 True-up*, MPUC Docket No. E-002/M-12-50, Order Approving 2012 TCR Project Eligibility and Rider, Capping Costs, and Modifying 2011 Tracker Report at 4 (Feb. 7, 2014) (capping the CapX – Bemidji Project cost cap at an escalated amount of $74 million in 2012 dollars, from $66.2 million, once determined to be eligible for TCR rider recovery).

[36] Report at 36–37 (Finding No. 165) (footnotes omitted).

Green Route *Single-Circuit* *Monopole* *Design*	$121.3	~~$134.9~~
Red-Q Route *Red Route Modified to Use Segment Alternative Q Double-Circuit Monopole Design*	$141.2	~~$157.1~~
Blue-CC-Q Route *Blue Route Modified to Use Segment Alternative Q Double- Circuit Monopole Design*	$138.6	~~$154.1~~

Purple-E-AA1-Red-Q Route *Purple-E-Red Route Modified to Use Segment Alternative Q and Alignment AlternativeAA1 Double-Circuit Monopole Design*	~~$159.7~~ $160.2[37]	~~$178.2~~

IV. CORRECTIONS AND CLARIFICATIONS

DOC DER recommends either corrections or clarifications to the following miscellaneous findings and footnotes in the Report:

> FN 198 [Footnote to Finding 124] *Id.* at 4, 27-29. MISO notes "the large amount of wind capacity and low-cost coal generation in northern Iowa." Ex. MISO-1 at Schedule 1 at 100 (Zhou Direct). Because some of the generation in northern Iowa is coal, it seems reasonable to assume that the Project will enhance the deliverability of this nonrenewable generation as well as new wind generation. The Commission may query whether some of the environmental benefits from expanded wind generation enabled by the Project are not offset as a result of the stimulus the Project will also afford to coal generation. However, there is no evidence in the record of generation interconnection agreements being sought by new coal

[37] The Applicants made this correction to the cost for the Purple-E-AA1-Red-Q Route following the submission of their initial brief and proposed findings. *See* Filing Letter and Errata for the Applicants Post-Hearing Briefs and Findings of Fact (Apr. 3, 2019) (eDocket No. 20194-151666-02).

generators in the Project area in contrast to the large numbers of wind generation projects documented by the Applicants, Dr. Rakow, and Mr. Goggin. DOC-EERA documents the very low cost of wind generation relative to coal generation. Ex. EERA-13 at Table 4-1 (Draft EIS) (showing coal at an average cost of $119.1 per MW is a much more expensive generation source than wind at an average cost of $48 per MW). Instead of increased coal generation, each of the future scenarios developed by MISO in MTEP16 assumes at least 12.6 GW in coal generation retirements. Ex. MISO-1 at Schedule 1 at 88-89 (Zhou Direct). As of August 1, 2018, the MISO interconnection queue contained 536 interconnection requests, with over 85 percent of the requests being for renewable generation. ~~Ex. DER-5 at 20 (Rakow Direct).~~Ex. XC-24 at 7 (Siebenaler Direct). The Administrative Law Judge concludes that the Project will facilitate much larger increases in wind generation than in coal generation, but to the extent the Project permits increases in coal generation, a portion of the Project's environmental benefits may be thereby offset.

FN 335 [Footnote to Finding 194] Ex. DER-1 at ~~7~~ 9 (Johnson Direct).

FN 384 [Footnote to Finding 232] ~~Ex. DER-5 at 9 (Rakow Direct).~~ Ex. XC-6 at Appendix F at 99-100 (MISO Transmission Expansion Plan 2016).

244. One way the DOC-DER measures the benefits of the Project to electric consumers in Minnesota is by considering the incidence of the adjusted production cost (APC) savings: 65 percent of the APC Savings occur in local resource zone 3, 34.5 percent in local resource zone 1, and 0.5 percent in local resource zone 4.[] Most of Minnesota's electric utilities are in local resource zone ~~3~~1, with the remainder in local resource zone ~~1~~3.[]

CONCLUSION

For the reasons stated above, and consistent with its testimony and post-trial briefs in this matter, DOC DER respectfully requests that the Commission adopt the Report together with the exceptions, clarifications, and corrections identified herein.

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