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February 20, 2018

VIA E-FILING

Mr. Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, MN 55101-2147

Re: In the Matter of Establishing an Estimate of the Costs of Future Carbon Dioxide
Regulation on Electricity Generation under Minn. Stat. § 216H.06
Docket Nos.: E999/DI-17-53 and E999/CI-07-1199

Dear Mr. Wolf:

Please find enclosed Minnesota Power's Comments in the above-referenced Dockets. Please contact me at the number provided above with any questions or concerns.

Yours truly,

A handwritten signature in cursive script that reads 'Lori Hoyum'.

Lori Hoyum

LH:sr
Attach.

**STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION**

In the Matter of Establishing an Estimate
of the Costs of Future Carbon Dioxide
Regulation on Electricity Generation
Under Minn. Stat. § 216H.06

Docket No. E999/CI-17-53
E999/CI-07-1199

**MINNESOTA POWER'S
COMMENTS**

Minnesota Power (or “the Company”) files these Comments in response to the Minnesota Public Utilities Commission (“Commission”) January 23, 2018 Notice of Comment Period (“Notice”) in Docket No. E999/DI-17-53, and Docket No. E-999/CI-07-1199. The Notice identified the topics open for comment, as well as information requested from the utilities that filed Initial Comments on September 22, 2017, in Docket No. E999/DI-17-53. Minnesota Power provides the following responses to the topics open for comment and requested information.

- **Should the Commission adopt the Agencies’ recommendations?**

On January 19, 2018, Minnesota Pollution Control Agency and the Minnesota Department of Commerce, Division of Energy Resources (collectively “the Agencies”), submitted to the Commission the Agencies’ Analysis and Recommendations regarding the 2018 update to the range of costs estimates for the future cost of carbon dioxide (“CO₂”) regulation on electricity generation, as required by Minn. Stat. § 216H.06. The Agencies recommended that the Commission establish the range of likely costs of CO₂ regulation at \$5 to \$25 per ton of CO₂ emitted, to be used in electric resource acquisition proceedings for planning year 2025 and beyond. Minnesota Power recommends that the Commission should not adopt the Agencies’ recommendations due to its misalignment with what the current carbon market is forecasting for the likely range of future costs for CO₂ regulation and the timeframe for its implementation.

- **If not, what CO₂ values should the Commission set for the range of costs of future carbon dioxide regulation on electricity generation?**

Minnesota Power continues to support using third-party vendor forecast data that Minnesota utilities use for resource planning purposes (such as IHS or Wood Mackenzie) to develop an updated range of costs of future CO₂ regulation. Averaging data from different independent forecasts has a good probability for resulting in a range that best reflects the estimated cost without disclosing proprietary information. Averaging of data from different vendors also avoids premature favoring of a single vendor estimate in advance of there being a resolute future CO₂ regulation cost. The cost of future CO₂ regulation can be updated periodically as third-party vendors revise their forecasts to reflect on-going regulatory changes at the federal or state level, such as the proposed rescission of the Clean Power Plan and prospective III(d) replacement rule.

Based on proprietary industry resources, as well as the anticipated lead-time required for implementation of a federal regulation for CO₂, application of a CO₂ regulation is not anticipated before 2026.

- **In setting the likely range of costs of future CO₂ regulation, should the Commission consider a state- or regional-level cost of compliance as opposed to a national-level cost of compliance (such as the national CO₂ price developed by Synapse Energy Economics, Inc. in its March 2016 forecast)?**

Minnesota Power purchases up-to-date third-party vendor forecast data that accounts for current national and global impacts of climate and carbon policy and regulation. The Synapse Energy Economics forecast of national CO₂ pricing has not been updated since March 2016. Electric utilities' facilities dispatch to regional power markets such as the Midcontinent Independent System Operator (MISO), which in turn, is connected to other ISOs (independent system operators) nationally. Consequently, national-level future cost of CO₂ compliance is appropriate.

- **Are there other issues or concerns related to this matter?**

At this time Minnesota Power has not identified any new issues or concerns related to this matter. The Company would like to reinforce its position from its September 2017

Comments that there is no reason for the Commission to re-assess its decision to apply only the regulatory cost value or the externality value, but not both to emissions in a given planning year. The current legislation provides a mechanism for accounting for the impact of CO₂ emissions when making resource planning decisions. Externality values will be applied until such time a CO₂ regulation is implemented. Once a CO₂ regulation is implemented, it will account for the impact of CO₂ emissions when making resource planning decisions. Nothing has occurred that would warrant duplicate accounting through application of a regulatory cost value and an externality value for the impact of CO₂ emissions in the resource planning process. The Company strongly believes that the regulatory cost value and externality values should be used to inform a resource decision, but a resource decision should not be made based solely on the regulatory cost value and externality values.

- **In the initial comment period, utilities referenced third party forecasting services as a basis to set CO₂ Values in this case. Did any utility retain a third party vendor to produce a utility-specific and/or national compliance cost for the EPA Clean Power Plan? Is any utility aware of compliance cost estimates that could inform a state- or regional- regulatory scope?**

Minnesota Power contracted with a third-party vendor (IHS Markit) forecasting service to purchase an independent power markets forecast, which includes an outlook on carbon pricing for a national program (i.e. similar to the EPA Clean Power Plan). This forecast is used for resource planning purposes. The IHS Markit forecast includes carbon compliance cost for California/Ontario and the RGGI states, but it doesn't include one specific to Minnesota or the upper Midwest since a specific carbon program doesn't exist for the State or region. Although, the estimate for a national program from various independent forecasts (i.e. IHS Markit, ABB or Wood Mackenzie) could be used to inform the Commission on the potential range of carbon compliance cost, similar to how SO₂ (sulfur dioxide) allowances are handled today in resource planning.

- **Using an average of 2010-2012 operations as a baseline, and using the most recently approved integrated resource plan (IRP) for forward-looking projections, please provide the utility’s total emissions reductions and carbon-intensity on the utility’s system. Please provide projections through the last year of the utility’s most recently approved IRP.**

Included in Appendix A is Minnesota Power’s average CO₂ emissions from 2010-2012 and the projected CO₂ emissions from the 2015 Integrated Resource Plan (“IRP”), Minnesota Power’s most recently approved IRP. Minnesota Power recently filed the EnergyForward Resource package that included a power purchase agreement (“PPA”) for 250 MW of wind generation, a PPA for 10 MW of solar generation, and affiliated interest agreements for approximately 250 MW of dispatchable natural gas capacity from a combined cycle unit.. The 2015 IRP did include additional combined cycle generation and solar, but not the 250 MW of additional wind. If the 250 MW wind PPA is approved by the Commission the projected CO₂ emissions will be lower than what is shown in Appendix A.

Minnesota Power appreciates the opportunity to provided comments in above-referenced Docket.

Dated: February 20, 2018

Respectfully submitted,



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Minnesota Power Appendix A: Carbon Emission Reductions

	2010-2012 Average	2018	2019	2020	2021	2022	2023	2024
Annual Tons	11,128,692	9,467,750	9,377,720	9,070,157	8,725,532	8,831,038	8,820,850	8,284,597
Carbon Intensity (Tons/MWh)	1.03	0.78	0.77	0.74	0.71	0.71	0.71	0.66

	2025	2026	2027	2027	2028	2029	2030
Annual Tons	7,967,182	7,986,974	7,967,581	7,967,581	7,989,368	8,000,679	8,178,415
Carbon Intensity (Tons/MWh)	0.64	0.64	0.63	0.63	0.63	0.64	0.64

STATE OF MINNESOTA)
) ss
COUNTY OF ST. LOUIS)

AFFIDAVIT OF SERVICE VIA
ELECTRONIC FILING

Susan Romans of the City of Duluth, County of St. Louis, State of Minnesota, says that on the **20th** day of **February, 2018**, she served Minnesota Power's Comments in **Docket Nos. E999/CI-17-53 and E999/CI-07-1199** on the Minnesota Public Utilities Commission and the Energy Resources Division of the Minnesota Department of Commerce via electronic filing. The persons on E-Docket's Official Service List for this Docket were served as requested.



Susan Romans

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