

February 11, 2021

Mr. Will Seuffert
Executive Secretary
Minnesota Public Utilities Commission
121 Seventh Place East, Suite 350
St. Paul, Minnesota 55101

RE: **Comments of the Deputy Commissioner, Minnesota Department of Commerce, Division of Energy Resources**

Docket No. 19-368

Dear Mr. Seuffert,

Minnesota Public Utilities Commission (Commission) has issued a Notice of Comment Period seeking comments on the 2020-2034 Upper Mid-West Integrated Resource Plan (IRP) Docket from Xcel Energy (19-368). Minnesota Department of Commerce (Department) has completed the analysis for a variety of scenarios per the direction of Commission, and the Energy Regulation Planning (ERP) group from the Department will be filing their comments summarizing the analysis independently according to the parameters established by the Commission. This letter is to represent additional practical and policy concerns and considerations regarding the IRP that fall outside the parameters of the ERP group analysis.

The first concern is regarding the extension of the Monticello Nuclear Power Plant. This 671 MW plant operational since 1971, is responsible for nearly a quarter of carbon-free electricity in the state of Minnesota. Given the age of this plant, there are significant investments required to ensure continued operations.ⁱ It is theoretically possible to replace this asset with lower cost renewable and natural gas power. However, there are significant uncertainties associated with these replacements, namely lifecycle greenhouse gas emissions for natural gas and the feasibility of significant transmission construction required to connect utility scale renewable energy to the grid. Considering these risks to carbon-free electricity in the state, I recommend that the Commission favor the extension for Monticello Nuclear Power Plant, contingent upon approval from the Nuclear Regulatory Commission.

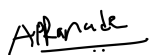
The second concern is regarding the methane emissions from natural gas production. Recently, new estimates of lifecycle emissions for natural gas in Minnesota have been released from Center for Energy and Environment (CEE)ⁱⁱ, putting the lifecycle emissions at 138 lbs/mmmbtu, significantly higher than the combustion only value (118 lbs/mmmbtu) used by Xcel Energy and others. These

higher emission estimates from CEE are relatively conservative, based primarily on leakage and do not account for flaring during production that may lead to higher emissions. There are other studiesⁱⁱⁱ quantifying the impact of fugitive methane on increasing the lifecycle emissions for natural gas. The potentially higher emissions factor will make it significantly more difficult to meet the greenhouse gas emission targets set in the Next Generation Energy for 2050, or Walz administration's proposed target of 100% carbon free electricity by 2040.

The third concern is the significant increase in transmission expenditure required to connect non-dispatchable sources of energy. It will likely take another initiative like Capex 2020 that created 800 miles of new transmission in the state with \$2 billion of investments between 2004 to 2017 in Minnesota and neighboring states. Given the difficulties in transmission cost allocation across multiple entities and states, this level of assumed transmission expenditure presents a significant risk.

The IRP as presented and the analytic parameters set forth as part of these proceedings, do not fully consider the natural gas lifecycle emissions cost and uncertainties associated with the transmission build, and so may not meet the state's greenhouse emission targets. To fully consider these impacts, I recommend that the Commission favor an extension of the Monticello Nuclear Power Plant and review lifecycle emissions associated with natural gas power generation.

Sincerely,

A handwritten signature in black ink, appearing to read 'Aditya Ranade'.

Aditya Ranade
Deputy Commissioner

ⁱ "Independent Investigation of Cost Overruns and Cost Estimates for Xcel Energy's Monticello and Prairie Island Nuclear Power Plants (Report)" prepared by Global Energy & Water Consulting, LLC (Global) a consultant retained by the Department of Commerce, filed with PUC on Dec 23, 2020

ⁱⁱ Center for Energy and Environment, "IT ALL ADDS UP: EMISSIONS FROM MINNESOTA'S NATURAL GAS CONSUMPTION", December 3 2020

ⁱⁱⁱ Golston et al, *Atmosphere* **2018**, 9(9), 333; <https://doi.org/10.3390/atmos9090333>