

## Appendix B

### Response to Data Request

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- Not-Public Document – Not For Public Disclosure
- Public Document – Not-Public Data Has Been Excised
- Public Document

Xcel Energy Information Request No. 1  
Docket No.: E002/CN-23-200  
Response To: Minnesota Department of Commerce  
Energy Environmental Review and Analysis  
Requestor: Suzanne Steinhauer  
Date Received: February 16, 2024

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Question:

Reference: Greenhouse Gas Emissions

1. Consistent with the guidance provided by the Minnesota Environmental Quality Board, please provide the following information on greenhouse gas (GHG) emissions and climate resilience:
  - a. An estimate of GHG emissions related to construction and operation of the transmission line using <https://www.epa.gov/climateleadership/simplified-ghg-emissions-calculator> as a guide.
  - b. Discuss the potential impacts of a warmer, wetter, more energetic climate on the transmission line. Discuss how the Applicants consider the potential impacts of climate change in its project design, equipment selection and engineering. The *Combined Certificate of Need and Route Permit Application for the Northland Reliability Project* (eDocket ID: 20238-198009-04) at pp. 7-74 – 7-77 provides an example of this discussion for a transmission line.
  - c. Please clarify whether sulfur hexafluoride (SF6), will be used in the breakers installed at the substations.

Response:

- a. Please see Xcel Energy’s Minor Alteration Application – Greenhouse Gas Supplement filed on February 13, 2024 in Docket No. E-022/TL-08-1474 (Document ID [20242-203360-01](#)) for an estimate of GHG emissions related to construction and operation of the transmission line using EPA’s simplified GHG emissions calculator.
- b. The Project will be resilient under changing climatic factors such as increased temperatures and changes in intensity and timing of storm events and associated precipitation. Although the Project is a special design case due to

the use of existing structures designed nearly 10 years ago, the design criteria and standards at that time also included conservative overload factors and design cases in excess of the minimum requirements of the National Electrical Safety Code (NESC). Thus, the existing lines are able to account for a range of modifications due to system or external needs, as well as ensure continued safe operation through abnormal environmental conditions or long-term changes in the local weather patterns. For example, the clearance requirements used in the existing design exceed NESC required clearances by including buffers of up to five feet. This buffer allows for alterations in conductor sag and unforeseen changes, such as increased precipitation resulting in more ice formation or increased average or peak temperatures that could affect conductor sag. Additionally the structural design criteria used included special cases such as differential ice loading, extreme ice loading, and extreme wind loading; as well as overload factors in excess of the NESC or American Society of Civil Engineers standards resulting in designs that can accommodate a wide range of changing environmental factors over the Project's service life without need for modifications.

As the Project largely involves adding a second circuit to existing structures (which limits ground disturbance and other environmental impacts), only a limited number of new structures will be designed and installed. However, where new structures will be needed, slope will be considered to avoid steeper areas that could be prone to future erosion or landslides. A stormwater pollution prevention plan will also be implemented during construction to manage stormwater and reduce the potential for runoff and erosion.

Although the trends in precipitation are increasing, there may be periods of dry weather and wildfire risk, which is corroborated by the increase in drought severity as indicated by the change in the Palmer Drought Severity Index (PDSI) (i.e., wet winters and dry springs and summers). Maintenance of the Brookings Transmission Line, including the second circuit, will follow or exceed North American Electric Reliability Corporation (NERC) reliability standards, including those regarding vegetation management. Changed climatic conditions may result in an increase of noxious weeds, and, if that occurs, it will be addressed through continued vegetation management. Surface water temperatures could increase in the limited locations where the Project requires tree clearing along shorelines increasing sun exposure. This would be exacerbated by increased temperatures. In addition to expected increases in precipitation, the climate trends in the Study Area also suggest future increases in drought severity (PDSI). If agricultural irrigation becomes more prevalent due to increasingly severe droughts, the Applicants will work with landowners to influence the design and configuration of future center-pivot irrigation systems.

- c. Xcel Energy presently anticipates that Sulfur hexafluoride (SF<sub>6</sub>) will be used in the breakers installed at the substations.
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Date: March 1, 2024