☐ **Non Public Document – Contains Trade Secret Data**
☐ **Public Document – Trade Secret Data Excised**
☒ **Public Document**

Xcel Energy
Docket No.: E002, ET2/CN-06-1115
Response To: Paula Maccabee, Citizens Action Task Force — Information Request No. 13
Date Received: May 2, 2008

Question:

In their Application, Applicants state that the primary driver for the Twin Cities - Fargo 345 kV line is the need for community service reliability.

A. Please state whether there is any additional basis for Applicants' claim that the Twin Cities - Fargo 345 kV line is needed other than community service reliability concerns between 2009 and 2020.

B. Please state whether the need for the Twin Cities - Fargo 345 kV line is based on community service reliability concerns in any or all of the following areas discussed in the Application: 1) the South Zone of the Red River Valley; 2) the Alexandria Area; 3) the St. Cloud Area.

C. Please state whether the need for the Twin Cities - Fargo 345 kV line is based on community service reliability concerns in areas other than those described in Part B. If so, identify the salient areas and concerns.

D. Please state whether construction and through what date the Twin Cities - Fargo line is projected to be sufficient to provide community service reliability to 1) the South Zone of the Red River Valley; 2) the Alexandria Area; and/or 3) the St. Cloud Area.

E. If construction of the Twin Cities- Fargo line will not be sufficient to provide community service reliability to the South Zone of the Red River Valley, the Alexandria Area, and/or 3) the St. Cloud Area, please describe every additional transmission or generation facility that will be needed to provide community service reliability to each area, identifying the nature, size, length, costs and proposed construction year of the

facility that would be needed in addition to the Twin Cities-Fargo 345 kV transmission line.

F. Assuming the forecasted load growth rates contained in the Application, describe each alternative that Applicants compared to the proposed Twin Cities - Fargo 345 kV power line to determine that the 345 kV line was cost-effective to provide community service reliability: including upgrading of existing generation and transmission facilities; new generation of various sizes and technologies at various locations closer to load; transmission lines of different sizes, types, lengths and locations and any reasonable combinations of these alternatives. If the alternatives were considered separately for each community service reliability area (South Zone of the Red River Valley, Alexandria Area, St. Cloud Area), please describe each alternative for each community service reliability area separately. If they were not considered separately for each community service reliability area, please explain why this wasn't done.

G. For each alternative described in Part F, provide a spreadsheet describing the costs of the alternative, including 1) costs of transmission system upgrades; 2) electrical line losses; 3) costs of upgrading, constructing, repowering or retiring of generation resources; 4) costs of purchasing energy from remote or local generation; and 5) costs of greenhouse gas emissions and other environmental externalities related to energy generation, whether the generation is generated at a local or remote location. Please also provide in spreadsheet or narrative form a description of the community service reliability or other benefits of each alternative.

Response:

A. The proposed Twin Cities – Fargo 345 kV Project is needed to address regional reliability needs, community service reliability needs and the need for generation support. All three needs are discussed in the Application.

B. With respect to community reliability needs, the Twin Cities – Fargo 345 kV Project is needed in and will provide support to the southern Red River Valley; the Alexandria area; and the St. Cloud area.

C. The Twin Cities – Fargo 345 kV Project will directly address needs in the three communities identified. The project is also expected to provide some system improvement in the other areas shown on Figure 5-7 in the Application. For

example, these other areas may see an improved voltage profile or reduced loading on local transmission lines.

D. Yes. Based on current substation peak demand forecasts, the Twin Cities – Fargo 345 kV line will provide sufficient community service reliability to the southern zone of the Red River Valley until approximately 2032. The proposed line will meet Alexandria area and St. Cloud area community service reliability needs until approximately 2050.

E. Not applicable.

F. Chapter 5 of the Application and Section 5.0 of the TIPS Update (Appendix A-3 of the Application) includes a description of the alternatives investigated as potential solutions for the community service concerns in the southern Red River Valley area. These alternatives were:

1. Harvey – Prairie 230 kV Line
2. Letellier – Drayton – Prairie 230 kV Line #2
3. Bemidji – Boswell 230 kV Line
4. Fargo – Grand Forks 230 kV Line

In the southern zone of the Red River Valley, the TIPS Update determined that Option 1, a Harvey – Prairie 230 kV line provided only 60 MW of incremental load-serving capability during first contingency conditions. Option 2, a second Letellier - Drayton - Prairie 230 kV line only increased the incremental load-serving capability of the transmission system in the South Zone of the Red River Valley by 10 MW during first contingency conditions. Option 3, a Bemidji - Grand Rapids 230 kV line provided approximately 100 MW of incremental load-serving capability during first contingency conditions. The best performing option for the southern Red River Valley was Option 4, the Twin Cities – Fargo 345 kV line. This option provided approximately 422 MW of incremental load-serving capability during first contingency conditions.

In the TIPS Update, planning engineers concluded that the largest amount of incremental load serving capability to both the north and south zones could be achieved by a combination of Options 3 and 4, a Bemidji – Grand Rapids 230 kV line and a Twin Cities – Fargo 345 kV line. Option 3 is the Bemidji – Grand Rapids 230 kV line which is the subject of a separate proceeding.

Option 4, the Twin Cities – Fargo 345 kV Project, provides more than 422 MW of incremental load serving capability to the South Zone during first contingency conditions. Based on the forecast projections at the time of the study, planning engineers determined that the growing demand in the Red River Valley could be met until the latter half of the next decade.

The Twin Cities – Fargo option was further refined in the TIPS Update through an analysis of alternative east endpoints. Planning engineers compared the performance of three potential terminations, Benton County, Sherburne County and Monticello to provide a 345 kV source to the western side of the St. Cloud region and increase load serving capability in the St. Cloud area. Planning engineers concluded that the Monticello termination as the best electrical solution.

A discussion of generation alternatives to transmission construction is also included in Chapter 7.3 of the Application. This information includes costs to construct generation facilities for a variety of peaking plant sizes. Based on the cost information included in this section and the other considerations discussed therein, planning engineers concluded that construction of transmission facilities provided a more economical, more reliable solution than construction of generation facilities.

In the Alexandria area, specifically, some consideration was given to installing additional capacitors, but this idea was abandoned when the possibility of connecting a high-voltage source presented itself. Where capacitors would last only a few years, a high voltage source has been projected to provide sufficient support to the Alexandria area until approximately 2050.

G. Applicants do not have the requested information. With respect to part 5, transmission lines do not create or emit greenhouse gases. The transmission lines proposed in this Application are not intended for any specific generation project for which greenhouse gas emissions could be measured.

Response By: Daniel Kline
Title: Transmission Planning Engineer
Department: Transmission Reliability & Assessment
Company: Xcel Energy
Telephone: 612-330-7547
Date: May 16, 2008

2172947v1