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Xcel Energy

Docket No.: E002, ET2/CN-06-1115

Response To: Paula Maccabee Information Request No. 16  
Citizens Energy Task Force

Date Received: May 2, 2008

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Question:

- A. Please explain for the St. Cloud Area, what assumptions were used to determine the 2020 summer peak load forecast on which the Applicant's analysis of community service reliability was based): 1) what percentage of annual growth was assumed; 2) from where was it derived; 3) in which integrated resource plan, if any, has this forecast been accepted or adopted; 4) what is the justification for and impact of the load adjustment factor in the analysis and 5) what the term "MW at Risk" signifies in Figure 4-19.
- B. Have the Applicants determined at what level of forecasted growth in summer peak demand in the St. Cloud Area the need for the proposed Twin Cities - Fargo 345 kV power line to provide community service reliability would be triggered? If so, please state the level calculated.
- C. What load management, energy conservation, efficiency and/or smart grid alternatives did Applicants evaluate as means to provide for demand or community service reliability in the St. Cloud Area either alone or in combination with transmission or local generation alternatives?
- D. Please provide in Microsoft Excel spreadsheet form an analysis of the costs and savings from all alternatives evaluated in Part C as compared to the costs of the CapX project selected to provide community service reliability in the St. Cloud Area.

Response:

A.1 - A.2. The load forecasts included in the Application were developed by each utility that serves load in the St. Cloud area. As such, the assumptions reflected in the 2020 summer peak load forecast are reflective of those used by the individual utilities.

Detailed descriptions of each utility's load forecasting methodology can be found in Applicants' response (and subsequent supplemental response) to Department of Commerce Office of Energy Security Information Request No. 47 ("OES IR No. 47").

A.3. The combined substation demand forecast provided in the Application has not been accepted directly into any integrated resource plan. However, the substation demand forecasts provided by the individual utilities are based, in part, on resource planning data. See Applicants' Response to OES IR No. 47.

A.4. Unlike the southern Red River Valley area, a load adjustment factor was not used for the St. Cloud area. This is because the St. Cloud area is a very small geographic area. Generally speaking, smaller areas tend to peak more uniformly than larger, more diverse areas (such as the southern Red River Valley area).

A.5. The term "MW at Risk" approximates the number of megawatts of customer load that would need to be interrupted in order to return the system within operating limits assuming no new transmission facilities were constructed and the critical contingency in the area occurred during the year in question.

B. The maximum load level at which the St. Cloud area transmission system can reliably operate has been determined to be 228 MW. If the generation at Granite City is run during peak load times, then the transmission system can reliably support 285 MW. More detail regarding this critical load level can be found in the Application, beginning on page 4.31.

C. In the St. Cloud area, the electrical system can reliably support 228 MW. At this level, the loss of the double circuit line between the Benton County Substation and the Granite City Substation results in the interruption of electrical power to customers served by the St. Regis Substation and a limitation on the capacity of the transmission system to serve remaining load. This capacity can be increased to 285 MW by running the Granite City gas-fired generators for system support. However, operating peaking units for system support is generally undesirable because generators are less reliable and less economical than transmission improvements. The substation forecast analysis, provided in Appendix C-5 of the Application, shows that the current actual summer peak loads experienced in the St. Cloud area exceed the current electrical system's capability under contingency. For example, in 2005, the load level was approximately 368 MW, 140 MW more than the electrical system can reliably serve.

Appendix C-5 was compiled by using substation forecasts provided by Xcel Energy and Great River Energy. The utilities' substation forecasts took into account load

management programs and conservation efforts used by the utilities to reduce peak demand.

D. Applicants do not have this information.

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