

## **Route Permit for Xcel Energy 345-kV HVTL, 115-kV HVTL and Substation in Rock, Nobles, Jackson, and Murray Counties in Southwest Minnesota**

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### **Materials Enclosed:**

1. Staff Memorandum dated June 8, 2005
2. Proposed Route Permit
3. Administrative Law Judge Findings of Fact, Conclusions, Recommendation and Memorandum, dated May 3, 2005
4. Proposed Findings of Fact, Conclusions, and Order
5. Draft Findings of Fact and Draft Permit Conditions for Route Options  
345-kV HVTL in Jackson County
  - a. Yellow –Xcel Energy Original I-90 Route (Staff Recommended)115-kV HVTL in Nobles and Murray County
  - b. Blue - Xcel Energy Modified East Route
  - c. Pink - West Route Option (Fewest Nearby Residences)
  - d. Goldenrod – Double-Circuit Murray County Option (Staff Recommendation)
6. Two maps showing route options: One map of Jackson County showing one route option for the 345-kV HVTL and one map showing three possible route options in Nobles and Murray Counties for the 115 kV HVTL
7. Proposed Resolution - Pink
8. Written Exceptions to the Report and Recommendation of the Administrative Law Judge

### **Action Requested:**

The Board is asked to issue a Route Permit to Xcel Energy covering three interconnected projects: (1) a 345 kilovolt transmission line approximately 86 miles long in Rock, Nobles and Murray Counties, (2) a 115 kilovolt transmission line approximately 40 miles long in Nobles and Murray Counties, and (3) a new substation in Nobles County. Many alternative route options and variations were reviewed throughout the EIS scoping process, the draft EIS review process, and the four-day contested case hearing. Following the release of the Administrative Law Judge (ALJ) Findings of Fact and Recommendation (and the required period for parties to file exceptions) the Board is now being asked to make a final route permit decision.

### **Background:**

This project is the first transmission line over 200-kilovolts to reach a route permit decision in Minnesota in over 20 years. The detailed, complex procedural and substantive record is summarized in the Administrative Law Judge Findings of Fact, Conclusions and Order. Major issues include visual impacts, magnetic field concerns, the potential for future “double-circuits” on the new HVTLs, as well as the general trade off between following road right-of-way (residential impacts) versus following field section lines (farm impacts). The benefits of ordering Xcel Energy to install structures

capable of double-circuiting in the future was reviewed extensively for both HVTLs, but in the end that is recommended for only relatively short sections. In addition, maintaining grid reliability was also an important issue. Construction-period reliability concerns were a major factor in the ALJ decision to recommend Xcel Energy's preferred route along I-90 for the 345-kV HVTL. The major alternative route for the 345-kV HVTL was to construct it as a "double-circuit" with an existing 161-kV line that runs parallel to and north of much of I-90.

### **Route Option Decisions**

The ALJ found that "the Project will not have a significant impact on the natural environment, regardless of which of the routes under consideration are selected." Therefore, the decision before the Board is one of balancing statutory considerations and other factors. For the 345-kV line, the ALJ recommended Xcel Energy's Preferred Interstate Route. For the 115-kV line, the ALJ recommended using Xcel Energy's preferred Modified East Route with one change in Wilmont Township in Nobles County. However, Staff has outlined options to the ALJ recommendation for the Board to consider on both the 345-kV and 115-kV lines. On the 345-kV line, in Jackson County there is one option to consider. On the 115-kV line, there are three such route options: two in Nobles and one in Murray County. Finally, on the 345-kV HTL, in Jackson County, the issue arises of how much is it reasonable to require Xcel Energy to spend to avoid a residence along I-90 should the route option near that home be selected.

### **345-kV Route Options:**

The staff has provided the Board with two maps showing the close call route options. For the 345-kV HVTL (Figure A4), they are color coded as follows:

Blue Route: Xcel Energy Modified Interstate Route (ALJ Recommendation)  
Yellow Route: Xcel Energy Original Interstate Route (EQB Staff Recommendation)

The two options are described below. Either 345-kV route option is acceptable to Xcel Energy.

### **115-kV Route Options**

For the 115-kV HVTL, the route options are color coded as follows:

Blue: Xcel Energy preferred Modified East Route  
Yellow: "Segment N2" Option to Xcel Energy's Modified East Route (ALJ Recommendation)  
Goldenrod: West Route Optional to Modified East Route, (Minimizes nearby residences in Wilmont Township)  
Pink: Double Circuit Option in Murray County (EQB Staff recommendation)

Three formal exceptions to the ALJ recommended route were submitted from landowners opposing the "N2" segment in Wilmont Township in Nobles County, where the ALJ deviated from Xcel Energy's preferred Modified East Route. In addition, Xcel Energy

has indicated that any of these 115 kV route options, except perhaps the ALJ segment N2 modification, is acceptable.

### **345-kV Route Options**

In its permit application, Xcel Energy originally preferred the Interstate Route in Jackson County (shown in yellow along I-90), but changed its preference to the Modified Interstate Route (in blue) prior to the start of the contested case hearing. Xcel Energy changed its preference primarily because of concerns about construction problems posed by the Little Sioux Tributary on the north side of I-90 and the location of other homes on the south side of I-90. Xcel Energy, however, indicates it does not consider these construction problems to be major and believes it could construct the HVTL along either route option.

Deviating off of I-90 under the Modified Interstate Route does move the line away from one residence (Post's) on the north side of I-90 and three houses on the south side of I-90, but it moves the route just as close to a similar number of residences on the half-section line to the north and east of Post's. In addition, the Modified Interstate Route requires six miles of new right-of-way whereas the Original Interstate Route instead shares I-90 right-of-way. Construction costs are about the same. Although it is a close call, Staff recommends the original Interstate Route with a permit condition requiring Xcel Energy to work with landowners along Segment I9 to minimize impacts on nearby residences.

### **I-90 Crossing As Permit Condition**

The residents on the north side of I-90 in Section I9 (the Posts), have requested that should the Original Interstate Route be selected, Xcel Energy be required as a permit condition to cross I-90 to avoid his house and then cross back again so as to also avoid the houses on the south side of I-90. Xcel Energy has estimated that this would cost approximately \$425,000. Staff is reluctant to recommend this additional cost to avoid one residence that is about 250 feet from the likely centerline. Instead, Staff is recommending more general language in the permit that requires Xcel Energy to work out a detailed design with nearby residents in the area to minimize residential impacts—language that allows but does not require Xcel Energy to cross the freeway in the area. Staff has, however, prepared findings and permit language to impose the crossing option as a permit condition should the Board decide to do so. Xcel Energy opposes this permit condition.

### **115-kV Line**

For the 115-kV line, there is not an obvious existing right-of-way to follow as there is on the 345-kV line. The Administrative Law Judge recommended Xcel Energy's Modified East Route (blue), except for the selection of Segment N2 in Wilmont Township in northern Nobles County (yellow). The reason for the modification was to avoid three residences within 300 feet of the Xcel Energy Modified East Route in that area. Staff recommends, however, that the Board not select the ALJ recommended Segment N2 because (1) Segment N2 cuts through farm fields thereby disrupting farming operations, (2) it crosses within about 500 feet of three residences, (3) the HVTL can be built on the

opposite side of the road from the affected residences on the Modified East Route, and (4) if avoiding residences is the primary criteria, the West Route Option in this area (shown in goldenrod) affects fewer residences than Segment N2 and has limited farm impacts. This West Route Option comes within 1000 feet of one residence and crosses one farm at the half-section line at a property line.

### **Murray County Double Circuit Option**

In Murray County, Staff is recommending a change to the Xcel Energy Modified East Route that would include six miles of “double-circuiting” with an existing 69-kV line. This Double Circuit Option reduces the need to construct the new 115-kV line on completely new right-of-way on County Highway 28, which in turn reduces the general proliferation of transmission lines in the area. This particular 69-kV line, however, is adjacent to the Chandler Wildlife Management Area. And construction of a new 115-kV/69-kV double-circuit line would require somewhat heavier, taller poles than the existing 69-kV poles. The Double Circuit Option therefore increases construction costs by approximately \$1,000,000. Xcel Energy, though, does not oppose this route option. A double-circuit would also increase the height of the line. Because of the proximity to the Chandler WMA and the potential for increased waterfowl collisions due to the taller line, the DNR prefers the Modified East Route. DNR staff, however, believes that since the wetland areas of the WMA are one-quarter to one-half mile from the line, with appropriate waterfowl protection measures, the Double Circuit Option would be acceptable.

### **Staff Recommendation:**

Staff recommends that for the 345-kV line in Jackson County, the Board select Xcel Energy’s original Interstate Route (yellow) with a permit condition that Xcel Energy must work with residents and landowners along Segment I9 to reduce impacts. For the 115-kV line in Wilmont Township, staff recommends that the Board select either Xcel Energy’s Modified East Route (blue) or the Modified East Route with the West Route Option (goldenrod). Finally, in Murray County, Staff recommends that the Board select Xcel Energy’s Modified East Route with the Double Circuit Option (pink) to reduce the need to use new right-of-way.