

**TRANSMISSION COST RECOVERY RIDER
DESCRIPTION OF PROJECTS PROPOSED
TO BE ELIGIBLE UNDER SDCL 49-34A-25.1**

Projects 1-6 were approved by the Commission in the Company's initial Transmission Cost Recovery Rider. The projects include:

- Project 1. 825 Wind Main Project
- Project 2. Yankee Collector
- Project 3. Fenton Collector
- Project 4. Series Capacitor
- Project 5. Nobles Co. Collector
- Project 6. Rock County Collector

The Company seeks eligibility determination for the following projects:

- Project 7. BRIGO 115 kV transmission lines (3 Ea.)¹

Project Description and Context

The BRIGO projects consists of thee 115 kV transmission lines located in the Buffalo Ridge area of southwestern Minnesota. The lines provide additional capacity for wind generation outlet from the Buffalo Ridge to the Company's load centers. It has the added benefit of increasing service reliability to the City of Marshall by providing a new transmission source into the south side of the City's transmission system. Combined, the three new lines and associated substations provide approximately 300 MW of additional outlet capacity for wind generation. Without these new lines, further wind turbine development on the Buffalo Ridge would not be possible. The lines serve as an interim solution until the new 345 kV transmission lines can be constructed from southwest Minnesota to the Twin Cities (the CapX2020 transmission lines).

Efforts to Ensure Lowest Cost to Ratepayers

The Company studied multiple options for the purpose of increasing wind generation from the Buffalo Ridge area. The three transmission lines and

¹ Project 7 has been moved to base rates and is not included for TCR recovery in this petition. It is listed here because it was included in the Company's 2011 Petition, which has been tabled.

associated substations were chosen because they provided the greatest increase in wind generation outlet capacity at the lowest cost. The load serving concerns of the City of Marshall municipal utility were also addressed.

Project 8. Chisago – Apple River 115/161 kV transmission line

This project was a joint effort between Xcel Energy and Dairyland Power Cooperative. The Companies replaced an existing 69 kV transmission line with a new 115 kV line from the Chisago County Substation near North Branch to a new substation near Taylors Falls called Lawrence Creek Substation. From Lawrence Creek Substation to Border Substation in St. Croix Falls, Wisconsin, the Companies replaced a 69 kV line with a new 161 kV line. From the Border Substation to the Apple River Substation in Amery, Wisconsin, an existing 69 kV line was replaced with a double circuit 161/69 kV line. The 161 kV line was placed underground through the land district within the Lower St. Croix National Scenic Riverway. The actual St. Croix River crossing at the St. Croix Falls Substation is overhead construction. These lines were needed to ensure system reliability for area customers. System demand in the area exceeded capacity during hundreds of hours during the year if any of several key transmission elements failed. The Commission granted a Certificate of Need for this project on February 20, 2008 in Docket No. E-002/CN-04-1176. On July 30, 2008, the Commission granted a route permit.

Efforts to Ensure Lowest Cost to Ratepayers

The Chisago-Apple River project was needed to accommodate load growth in the area. Additionally, the project was needed to prevent low voltages and unacceptable line loadings during transmission outages. The ultimate design plan was studied along with several alternatives and it was concluded to be the low cost solution while providing the greatest benefits to the area.

Project 9. CapX2020 Fargo – Twin Cities 345 kV Transmission Line***Project Description and Context***

The Fargo Project consists of a series of new 345 kV single circuit transmission line segments between Fargo, North Dakota and Monticello, Minnesota (at the far northwest corner of the Minneapolis/St. Paul metropolitan area). All of these line segments will be constructed in a double circuit compatible

configuration by using structures capable of supporting a second circuit in the future.

The first segment consists of a 345 kV circuit between the Fargo, North Dakota area, either at the existing Maple River Substation or at a new Fargo area substation approved by the Commission during the route permitting phase and an expanded substation in the Alexandria, Minnesota area (Alexandria Switching Station). This segment will be approximately 130-165 miles long depending on ultimate routing approval. The second segment consists of a 345 kV circuit from the Alexandria Switching station to a new substation (Quarry Substation) on the western side of St. Cloud, Minnesota. This segment will be approximately 75-85 miles long. The third segment includes a 345 kV circuit between Quarry Substation and Monticello Substation on the Monticello Power Plant site in Monticello, Minnesota. This segment will be approximately 28 miles long.

Efforts to Ensure Lowest Cost to Ratepayers

The CapX2020 group of utilities established a coordinated regional approach to addressing both regional and community reliability needs, and longer-term growth. To ensure cost-effective implementation of the CapX2020 projects (Fargo, Brookings, La Crosse, and Bemidji lines), the Company, through its participation in the CapX2020 Initiative, provided for a prudent means of developing the projects. The CapX2020 Initiative was formed to meet the growing transmission needs of all utilities in the region. By coordinating regional planning, the region's utilities are able to develop complete solutions to regional transmission needs instead of piecemeal solutions that could lead to duplicative transmission facilities being built. Further, by acting as a group, the CapX2020 Utilities obtain improved efficiency in permitting, routing, scheduling, material purchasing and overall project development. Overall, the Company's participation in the initiative allows us to lessen our costs and achieve greater benefits from the projects due to the strength and size of the organization. For example, by working together, the CapX2020 Utilities have been able to develop a comprehensive set of alternatives for improvement of the transmission system, as opposed to crafting piecemeal solutions that would result from individual utility solutions.

In addition, by working together within the regulatory environment to jointly file applications for permits in all of the affected jurisdictions allows regulators

to more fully understand the scope, benefits and impacts of the projects and not be subjected to numerous separate filings by individual utilities on separate projects that may often times work at cross purposes. The joint approach taken by the Company and the other participating utilities is a prudent way to proceed with developing the projects in order to spread the costs among a broad array of utilities. An investment of approximately \$1.8 billion for all of the projects would be difficult for any one utility to undertake. By collaborating with a number of other regional utilities, the Company is able to successfully spread its risks and balance its costs.

Finally, the Company and the participating utilities recognize that there will be benefits arising from a coordinated effort in securing materials and services required to build the CapX2020 projects. As such, a joint sourcing approach is being utilized to pursue benefits in order to minimize or eliminate inter-project competition for labor and material resources, maximize leverage on vendors and specification standardization, establish a common request for proposal (“RFP”) process to present one “CapX2020 face” to the market and eliminate inefficiencies, maximize inter-project flexibility where possible for services. For example, utilizing a joint sourcing process across the projects creates a spend volume asset. This volume consolidation and early RFP activity allows manufactures and suppliers the ability to plan fabrication in advance of the delivery needs. This approach works to avoid the premium costs associated with orders outside of the lead time and typically garners more attractive pricing when the suppliers, manufactures and contractors are able to advance plan their production schedules or field resources.

Project 10. CapX2020 Brookings – Twins Cities 345 kV transmission line

Project Description and Context

The Brookings Project consists of a series of 345 kV segments between the Brookings County Substation in Brookings County, South Dakota and the southeast corner of the Twin Cities area in Minnesota at the proposed new Hampton Substation. The Brookings Project includes an approximately 25-mile, 345 kV circuit from the Lyon County Substation near Marshall, Minnesota to a new substation southwest of Granite Falls, Minnesota (Hazel Creek Substation), and an approximately 8 to 10 mile, 230 kV transmission line

from the Hazel Creek Substation to the existing Minnesota Valley Substation on the east side of Granite Falls, Minnesota.

The western-most segment will be a 345 kV circuit between the Brookings County Substation and the Lyon County Substation. As filed in the route permit application, this segment will be approximately 50 to 60 miles long and constructed in a double circuit configuration by using structures capable of supporting a second circuit in the future.

The segment from Lyon County Substation to the new Hazel Creek Substation and then on to Minnesota Valley Substation near Granite Falls, Minnesota will be approximately 30 - 35 miles long and will in part replace an existing 115 kV line. It will also be constructed in a double circuit configuration by using structures capable of supporting a second 345 kV circuit in the future.

The Lyon County – Cedar Mountain segment will consist of a double circuit 345 kV transmission line between the Lyon County Substation and a new substation (Cedar Mountain) in the Franklin, Minnesota area. This segment will be approximately 55 miles long.

The Cedar Mountain - Helena segment of the Project consists of a double circuit 345 kV transmission line between the Cedar Mountain substation and a new substation (Helena Substation) generally in the vicinity of New Prague, Minnesota. This segment of the project will be approximately 60 - 75 miles long.

There are two additional 345 kV single circuit segments of the Brookings Project in the far southern part of the Twin Cities metropolitan area in Minnesota. From the Helena Substation, the 345 kV single circuit will continue east to the Lake Marion Substation in Scott County, Minnesota. From the Lake Marion Substation, the 345 kV circuit will continue to the new Hampton Substation. These two segments will be a combined 45 to 55 miles long and will be constructed using the double circuit compatible configuration with one circuit installed initially.

Efforts to Ensure Lowest Cost to Ratepayers

See Fargo – Twin Cities discussion above

Project 11. CapX2020 Twin Cities – La Crosse 345 kV transmission line***Project Description and Context***

The La Crosse Project consists of a series of 345 kV transmission line circuits from the Twin Cities to Rochester, Minnesota, and on to La Crosse, Wisconsin. The La Crosse Project also includes two new 161 kV transmission lines in the Rochester, Minnesota area.

The northwestern terminus of the La Crosse Project will be the new Hampton Substation, which will connect the new 345 kV transmission line to the existing Prairie Island – Blue Lake 345 kV transmission line in the vicinity of Hampton, Minnesota. From the new Hampton Substation, the new 345 kV transmission line will be routed to a new substation (North Rochester Substation). This segment of the La Crosse Project will be approximately 40 to 50 miles long and will be constructed using a double circuit compatible configuration.

As part of the La Crosse Project, two 161 kV transmission lines will connect the new North Rochester Substation to two existing distribution substations in the Rochester area (Chester and Northern Hills Substations). The North Rochester – Northern Hills 161 kV transmission line will be approximately 15 – 20 miles long. The North Rochester – Chester 161 kV transmission line will be approximately 20 to 30 miles long.

The remaining segment of the 345 kV transmission line will connect the North Rochester Substation to a substation in the Holmen, Wisconsin area north of La Crosse. The estimated length of the segment will be 85 -- 95 miles depending on where the line is routed and will be constructed using a double circuit compatible configuration in Minnesota. Single circuit 345 kV will be proposed in Wisconsin.

Efforts to Ensure Lowest Cost to Ratepayers

See Fargo – Twin Cities discussion above.

Project 12. CapX2020 Bemidji – Grand Rapids 230 kV transmission line***Project Description and Context***

The Bemidji Project is a 230 kV circuit from the Wilton Substation near Bemidji, Minnesota to a new substation near Cass Lake (Clear Lake Substation) and then to the Boswell Substation in Cohasset, Minnesota. The Bemidji Project will be approximately 68 miles long.

Efforts to Ensure Lowest Cost to Ratepayers

See Fargo – Twin Cities discussion above

Project 13. North Mankato 115 kV transmission line***Project Description and Context***

This project consists of constructing a new 345/115/69kV transformer at the Shays Lake located north of the city of Mankato in southern Minnesota. This project is necessary to meet customer demand due to load growth in the area. This project will alleviate low voltage and excessive transmission line loading during high summer loads and transmission outages.

The project includes the following components:

- 1) 345/115/69kV transformer at the Shays Lake
- 2) New 69 kV switching station at Kelso Substation at Le Sueur Tap with room to expand for future 115 kV yard and 115/69 kV transformer.
- 3) Upgrade St. Thomas – Le Center 69 kV line to 84 MVA

Efforts to Ensure Lowest Cost to Ratepayers

All major materials (steel structures, switches, transformers, breakers and conductors) and construction labor for this project will take advantage of contracts that have been negotiated by the Company's sourcing group. These contracts were negotiated based on Xcel Energy system-wide use of materials and components resulting in lowest cost.

Project 14. Blue Lake – Wilmarth transmission modification²***Project Description and Context***

In October 2008, an interconnection study was conducted to determine what upgrades to the system would be required in order for the 150 MW Heartland Wind Farm to connect to the grid near Trimont, Minnesota. This wind farm will connect to the existing 345/161 kV Lakefield Junction Substation. The interconnection study identified the need for upgrades to the 54-mile Blue Lake-Wilmarth-Lakefield 345 kV transmission line and associated substation equipment to increase the lines capacity to accommodate additional wind generation in southwestern Minnesota. Construction began in the fall of 2009 and the project was placed in-service in the fall of 2010. The project consists of upgrades at the Blue Lake, Lakefield, Wilmarth, and Fieldon Substations. In addition, phase raisers were placed on existing poles to increase ground clearance of the line conductors without having to completely rebuild the line. The phase raisers allow the distance between each conductor to be increased, which increases the electrical carrying capacity of the conductor. MISO also identified this line as a limiter to 17 additional renewable generation interconnection requests in the MISO Group 5 interconnection study.

Efforts to Ensure Lowest Cost to Ratepayers

Where feasible, phase raisers were used to modify some structures in lieu of replacing structures. Phase raisers are less expensive than replacement structures and they allow construction to be completed without the added cost of taking the line out of service. Raisers also increase the life of the structures.

Project 15. Pleasant Valley – Byron transmission line***Project Description and Context***

This is a 161 kV transmission line located in Southeastern Minnesota. It is approximately 18 miles long and runs from the Byron Substation in the City of Byron on the north end to the Pleasant Valley Substation in Pleasant Valley Township. The line was required in order to satisfy interconnection obligations

² Project 14 has been moved to base rates and is not included for recovery in this TCR petition. It is listed here because it was included in the Company's 2011 Petition, which has been tabled.

for two 100 MW wind farms operating in the area. The PV – Byron line will also add approximately 150 MW of additional outlet capacity in the area.

Efforts to Ensure Lowest Cost to Ratepayers

All major materials (steel structures, switches, transformers, breakers and conductors) and construction labor for this project will take advantage of contracts that have been negotiated by the Company's sourcing group. These contracts were negotiated based on Xcel Energy system-wide use of materials and components resulting in lowest cost.

Project 16. Glencoe – Waconia transmission line

Project Description and Context

The Glencoe – Waconia project consists of approximately 2 miles of new 69 kV transmission line, 6 miles of new 115 kV transmission line, and upgrades to approximately 20 miles of 69 kV transmission line to 115 kV capacity near the cities of Glencoe, Norwood Young America, and Waconia along with certain substation modifications located in the southwest metro area of the Twin Cities within Carver and McLeod Counties. The line is needed to prevent significant low voltage and line overload conditions during certain contingencies.

Efforts to Ensure Lowest Cost to Ratepayers

All major materials (steel structures, switches, transformers, breakers and conductors) and construction labor for this project will take advantage of contracts that have been negotiated by the Company's sourcing group. These contracts were negotiated based on Xcel Energy system-wide use of materials and components resulting in lowest cost.

Project 17. St. Cloud Loop transmission line

Project Description and Context

This project includes construction of 4 miles of new 115 kV transmission line north of St. Cloud in West Central Minnesota near Sauk Rapids, and includes 1.4 miles of rebuild to an existing 115 kV line west of St. Cloud. The project is required due to new load growth on the north side of St. Cloud and to provide improved reliable service to the large industrial customers in that area. The 1.4 mile rebuild was required to meet the CAPX2020 underlying system needs.

Efforts to Ensure Lowest Cost to Ratepayers

The new transmission line is needed as a second source at Mayhew Lake substation and to improve reliability. Cost savings considered as part of the project included following existing roadway right of way to minimize new right of way that needs to be acquired. Transmission line design will incorporate value engineering by designing for both steel and wood poles. Where field conditions do not require installation of steel poles with concrete foundations, direct imbedded wood poles will be installed. Furthermore, in locations where topography or wetland conditions warrant, H-frame structures will be installed to reduce the number of poles installed and increase pole span lengths.

Project 18. Sioux Falls Northern transmission line

This project includes reconstructing 10 miles of existing 69 kV line in Sioux Falls, SD to 115 kV capacity; approximately 6 miles of the new line will be double circuit with the existing 69 kV transmission line. This project is required to help mitigate load serving issues in Sioux Falls on the 69 kV load serving lines. Currently, all Distribution substations on the 69 kV lines in Sioux Falls are over firm and cannot serve any additional load on the system without exacerbating the problem. These over firm numbers are some of the highest on our entire system. This project is required for load growth in the area and to prevent overloads and low voltage during high system load conditions and transmission outages.

Efforts to Ensure Lowest Cost to Ratepayers

In addition to the selected option, seven alternative transmission options were considered. The selected option was the best economical option to solve the existing electrical problem in the area.

Project 19. Grove Lake – Glenwood transmission line

This project will upgrade 13 miles of 69 kV line from circuit 0752 to Lowry tap (up to switch 683) to 477 ACSR conductor in Douglas Co in West Central Minnesota. The project will alleviate low voltage conditions during high summer loads and transmission line outages. It will prevent low voltages in the region during any loss of the 69 kV system between Douglas Co and Villard.

This line also has been a source of poor reliability due to the age and condition of the structures.

Efforts to Ensure Lowest Cost to Ratepayers

The alternative to the proposed plan is to build a new 16 mile 115 kV line from Paynesville to Grove Lake and install a 115/69 kV transformer at Grove Lake switching station. This alternative plan would be significantly more expensive than the preferred plan.

Project 20. Hiawatha transmission line

Project Description and Context

This project consists of two 115 kV transmission lines and two new distribution substations in the Midtown area of South Minneapolis. The Hiawatha Project is designed to meet the distribution needs of Xcel Energy's customers in south Minneapolis, Hennepin County, Minnesota. The demand for power has increased beyond the capability of the existing system due to population growth, higher load density, and recent successful urban revitalization efforts. Additional electrical infrastructure is required to address overload conditions on the distribution system and to improve the reliability of the power supply to residences and businesses. Without new infrastructure, electrical conditions will worsen with time.

Efforts to Ensure Lowest Cost to Ratepayers

All major materials (steel structures, switches, transformers, breakers and conductors) and construction labor for this project will take advantage of contracts that have been negotiated by the Company's sourcing group. These contracts were negotiated based on Xcel Energy system-wide use of materials and components resulting in lowest cost. In additions, several alternative options were evaluated and thoroughly vetted.

Project 21. Sauk Center – Osakis transmission line

This project reconstructs and upgrades the capacity of 8 miles of 69 kV transmission line in the vicinity of the town of Sauk Centre in west-central Minnesota. The project is required due to load growth in the region and the poor condition of the existing transmission line. By the of summer 2012, outage of the Black Oak – Grove 69 kV line will result in low voltage at Sauk Centre, Kandota, and Grove Substations (approximately 90%). This would

place as much as 3 MVA of customer load at risk. This project will alleviate low voltage conditions during high summer loads and transmission outages.

Efforts to Ensure Lowest Cost to Ratepayers

All major materials (steel structures, switches, transformers, breakers and conductors) and construction labor for this project will take advantage of contracts that have been negotiated by the Company's sourcing group. These contracts were negotiated based on Xcel Energy system-wide use of materials and components resulting in lowest cost.

Project 22. Hollydale transmission line

The Hollydale Project is needed to address feeder circuit overloads in the Plymouth area distribution delivery system and to provide additional capacity for future growth. To meet area electricity needs, the following upgrades are needed: rebuild approximately 8 miles of existing 69 kV transmission line to 115 kV capacity. Construct a new 0.8 mile 115 kV transmission line on new right-of-way; construct the proposed new Pomerleau Lake Substation and; new transmission line terminations and related substation modifications.

Efforts to Ensure Lowest Cost to Ratepayers

All major materials (steel structures, switches, transformers, breakers and conductors) and construction labor for this project will take advantage of contracts that have been negotiated by the Company's sourcing group. These contracts were negotiated based on Xcel Energy system-wide use of materials and components resulting in lowest cost.

Project 23. Meadow Lake transmission line

This project includes construction of 7 miles of new 115 kV transmission and new substation facilities to interconnect a new distribution substation in Plymouth, Minnesota. The project is needed due to load growth in the northwest metropolitan suburbs. Beginning in 2010, there will be 25 MVA of load at risk. The load risk will grow at a rate of approximately 1% per year. There will a growing number of feeder overloads and very severe contingency risks on both the feeders and substation transformers without this project.

Efforts to Ensure Lowest Cost to Ratepayers

All major materials (steel structures, switches, transformers, breakers and conductors) and construction labor for this project will take advantage of contracts that have been negotiated by the Company's sourcing group. These

contracts were negotiated based on Xcel Energy system-wide use of materials and components resulting in lowest cost.