Transmission Cost Recovery Rider
Descriptions of Projects Proposed to be
Eligible Under SDCL 49-34A-25.1

The following projects were approved for recovery by the Commission in the Company's Transmission Cost Recovery Rider filing in Docket No. EL12-035 and re-affirmed for cost recovery most recently in Docket No. EL18-036:

- CapX2020 Brookings – Twins Cities 345 kV transmission line
- CapX2020 Fargo – Twin Cities 345 kV transmission line
- CapX2020 La Crosse-Local 345 kV transmission line
- CapX2020 La Crosse-MISO
- CapX2020 La Crosse-WI
- Glencoe – Waconia
- Sioux Falls Northern

The following projects were approved for recovery by the Commission in the Company's Transmission Cost Recovery Rider filing in Docket No. EL13-006 and re-affirmed for cost recovery most recently in Docket No. EL18-036:

- Bluff Creek – Westgate transmission line
- Chaska Area transmission line
- Minn Valley transmission line
- Big Stone – Brookings 345 kV Line
- Lake Marion – Burnsville
- Maple Lake – Annandale

The following project was approved for recovery by the Commission in the Company's Transmission Cost Recovery Rider filing in Docket No. EL15-030 and re-affirmed for cost recovery most recently in Docket No. EL18-036:

- Minot Load Serving Transmission Line

The following project was approved for recovery by the Commission in the Company's Transmission Cost Recovery Rider filing in Docket No. EL18-036 and re-affirmed for cost recovery most recently in Docket No. EL19-032:

- Huntley-Wilmarth 345 kV Transmission Line

The following projects were approved for recovery by the Commission in the Company's Transmission Cost Recovery Rider filing in Docket No. EL19-032:

- West St. Cloud – Black Oak
- La Crosse – Madison

The following projects were approved for recovery by the Commission in the Company's Transmission Cost Recovery Rider filing in Docket No. EL20-025:

- Line 0795 Rebuild: Freeport to West St. Cloud
  - Avon – Albany
- Belgrade – Paynesville Rebuild
- Canisota Junction – Salem Rebuild
- CEN LCO 69 KV Rebuild
- Long Lake – Baytown

The following projects were approved for recovery by the Commission in the Company's Transmission Cost Recovery Rider filing in Docket No. EL21-025:

- Bayfield Loop
- Helena to Scott County MISO Interconnections
- Line 0723 Rebuild: Bird Island to Atwater
  - Bird Island to Lake Lillian
  - Cosmos to Lake Lillian
- Line 0761 Rebuild: Lake City to Zumbrota
- Line 0790 Rebuild: Dassel to Delano[1]
  - Dassel to Cokato
- Line 0794 Rebuild: Black Oak to Douglas County
- Line 0795 Rebuild: Freeport to West St. Cloud
  - Avon to Brockway Tap
  - St. John's to Watab River
- Line 5401 Rebuild: Maple Lake to Wakefield

[1] We have updated the Line 0790 project name to Dassel to Delano to better reflect the end points of the project.

Project Updates
Below we discuss project scope changes and any significant variances between projects' current capital cost forecast and the forecast presented in last year's TCR Rider Petition.

- **Line 0795 Rebuild: Freeport to West St. Cloud**
  - **Avon to Albany**
  - **St. John's to Watab River**

As discussed in last year's TCR Rider Petition in Docket No. EL21-025, the totality of the Line 0795 Major Line Rebuild project will include 9 project segments. Three have been included in the TCR Rider before this year, Avon – Albany, Avon to Brockway Tap, and St. John's to Watab. We have added the remaining 6 segments to the rider this year, though the Avon – Albany segment will be the only segment to move to base rates in the TCR Rider tracker effective January 1, 2023 because of its earlier in service date. The CWIP report included as Attachment 3 shows cost variances for the segments that have been included in the TCR Rider which is partly related to costs shifting between segments of the project. The primary reason for an overall increase to the Line 0795 Rebuild project is related to increased cost estimates after field reviews showed the need for more traffic controls, hydro-vacuum excavation, solid surface restoration, and coordination with other attached utilities' facilities.

We have added one new project line to this year's rider which includes the remaining 6 segments of the Line 0795 Rebuild not previously included in the TCR Rider. We have kept the three segments previously in the TCR Rider listed separately because of their proposed treatment in the rate case. For simplicity in next year's filing after the rate case has concluded, we will include the Avon to Brockway Tap and St. John's to Watab River segments in the same line item in the TCR Rider attachments and discuss overall cost variances for the entire Line 0795 Rebuild project.

- **Line 0723 Rebuild: Bird Island to Atwater**

In our response to Staff Data Request No. 11 and Informal Data Request No. 6 in Docket No. EL21-025, we updated our project description to differently segment the Line 0723 Rebuild project. In last year's TCR Rider Petition, we included the Bird Island to Panther and Panther to Cosmos segments. This project shows a capital cost increase this year because we added the third and final segment of the project,

Atwater to Cosmos. For simplicity, we have combined all Line 0723 Rebuild project segments into the same line item in the attachments.

- **Line 790 Rebuild: Dassel to Delano**

As discussed in last year's TCR Rider Petition in Docket No. EL21-025, the totality of the Line 0790 Major Line Rebuild project will include 7 project segments. One segment was included in the TCR Rider before this year, Dassel to Cokato. We have added the remaining 6 segments to the rider this year as follows:

- Cokato to Howard Lake
- Howard Lake to Waverly
- Waverly to Montrose
- Montrose to Delano
- Victor to Structure 4N185
- Victor to Winsted

This project shows a capital cost increase because we added the 6 additional segments to the rider. For simplicity, we have combined all Line 0790 Rebuild project segments into the same line item in the attachments.

- **Bayfield Loop**

The Bayfield Loop project shows a capital cost increase in Attachment 3, primarily due to increased costs for transmission line materials in addition to a project scope change. This scope change added the construction of a temporary by-pass transmission line to allow for safe construction of the project while keeping the system power intact for the area.

- **Belgrade – Paynesville**

The Belgrade – Paynesville project has experienced a capital cost decrease because the project was completed ahead of schedule.

- **Canisota Junction**

The Canisota Junction project shows a capital cost increase because a field visit revealed that a complete tear-down and rebuild of the 14 mile line needed to occur

rather than the originally forecasted scope which expected only a partial tear-down with complete replacement of conductor.

- **CEN-LCO**

The CEN-LCO project is a Major Line Rebuild project with two segments. The capital cost increase shown in Attachment 3 is due to the addition of the second segment of this project for the rebuild of approximately 6.2 additional miles of the circuit.

- **Helena to Scott County**

This project experienced a decrease in capital expenditures because we were able to reduce the number of concrete (structure) foundations originally estimated for the project. The project is now in service, and we did not need all of the dollars budgeted for risk management.

- **Huntley-Wilmarth**

The Huntley-Wilmarth project is now in service, and we did not need all of the dollars budgeted for risk management.

- **Line 761 Rebuild: Lake City to Zumbrota**

This project experienced a capital cost decrease because we were able to use more internal engineering and construction resources than originally estimated, which are lower cost resources than contracted resources.

- **Line 794 Rebuild: Black Oak to Douglas County**

The Line 0794 Rebuild project capital costs have increased because materials costs for the project have increased.

- **Line 5401 Rebuild: Maple Lake to Wakefield**

The Line 5401 Rebuild project shows a capital cost increase because the we needed to change the transmission pole material from wood or laminated to steel structures.

- **Long Lake to Baytown**

The Company updated the forecast and in-service date for the Long Lake to Baytown project after the data set provided for this TCR Rider filing was queried. As a result, the expected 2023 capital expenditures are not properly reflected in Attachment 3. The project therefore shows a significant decrease. However, we expect the final costs of this project to be more in-line with our forecast in last year's filing. The project's costs will be updated in our TCR Rider filing next year.

New Projects

The Company seeks eligibility determination for the following projects:

1. Huntley-South Bend 161 kV Rebuild

Project Description and Context

The Huntley-South Bend 161kV project is a 31.5 mile rebuild of 161kV transmission line between the Company's Huntley Substation and the South Bend Substation. The project consists of one segment between the Company's Huntley Substation north of Blue Earth, MN and the South Bend Substation southwest of Mankato, MN. The 5300 transmission line is an approximately 60-year old 161kV transmission line and has no record of being rebuilt. The scope of the project is to rebuild the line to higher capacity and add a second transformer at South Bend. Planning studies show overload of the Huntley – South Bend 161 kV transmission line and the South Bend transformer in the year 2026 under certain planning conditions. This line is important because it serves the Company's, as well as other utilities', distribution loads in the area. See the Project Map (Attachment 18-1) for the estimated construction start date and estimated in-service date for this project.

2. Line 0714 Rebuild: Watonwan – Madelia

Project Description and Context

The Line 0714 Watonwan – Madelia Rebuild Project is an approximately 17.5 mile segmented rebuild of a 48 mile 69kV transmission line that spans between the Company's Rapidan Substation and Butterfield Substation. This project consists of two segments. The first 9.1 mile segment is between the Company's Watonwan Substation and St. James Municipal East Tap located northeast of St. James, MN. The second segment is approximately 8.4 miles between the Company's St. James Municipal East Tap and ITC's Madelia Switching Station and is located west of

Madelia, MN. The 0714 transmission line is an approximately 70-year old 69kV transmission line and has no record of being rebuilt. This line is important because it serves the Company's, as well as other utilities', distribution loads in the area. We note that though ITC owns the Madelia Switching Station, they do not own the line. Since this project is confined to the rebuild of the line with no changes made in the substation, the full project cost is the responsibility of Xcel Energy.

See the Project Map (Attachment 18-2) for the estimated construction start date and estimated in-service date for each project segment. Rebuild project segments:

- Watonwan Substation to St. James Municipal East Tap
- St. James Municipal East Tap to Madelia Switching Station

3. Line 0717/0771 Thru Flow Mitigation

Project Description and Context

The Line 0717/0771 Thru Flow Mitigation project is a 9.2 mile rebuild of a 69kV circuit between Green Isle, MN and Norwood Young America, MN. The project consists of 2 segments. The first segment rebuilds 7.2 miles of line 0717 starting at structure 180 north of the Green Isle Substation and going to structure 43A. The second segment is rebuilding 2 miles of line 0771 starting at structure 1A and going north to the Young America Substation. While these segments are technically on two separate lines, the segments connect at a three-way switch and are contiguous, as shown on the Project Map (Attachment 18-3). The need for this project is driven by the through flows on the 69 kV system between Wilmarth – Ft. Ridgely – Franklin – Carver County Substations during the loss of the Wilmarth – Blue Lake 345 kV line. In other words, if there is a planned or unplanned outage for any reason on the Wilmarth – Blue Lake 345 kV line, the 69 kV system is affected; this line in particular needs to have capacity to move the electricity that would normally be carried by the 345kV line in the system area, but that wouldn't be able to move during an outage. The sections of line on 0717 and 0771 were originally constructed in the 1950s and have no record of being re-built. This line is important because it serves the Company's, as well as other utilities', distribution loads in the area.

See the Project Map (Attachment 18-3) for the estimated construction start date and estimated in-service date for each project segment. Rebuild project segments:

- Structure 180 to Structure 43A (Line 0717)
- Structure 1A to Young America Substation (Line 0771)

4. Line 0726 Rebuild: Pipestone – Rock River – Woodstock

Project Description and Context

The Line 0726 Pipestone – Rock River – Woodstock Rebuild is a 48.7 mile segmented rebuild of a 69kV transmission line that spans between the Company's Pipestone Substation and the Tracy Switch Substation. The first 17.2 mile segment is between the Pipestone Substation, the Rock River Substation, and the Woodstock Substation east of Pipestone, MN in Pipestone County, MN. The second 17.1 mile segment is between the Moon Lake Substation and the Currie Tap near Slayton, MN in Murray County, MN. The third 14.4 mile segment is between Currie Tap and the Tracy Switch Substation near Tracy, MN in Lyon County, MN. The 0726 transmission line is an approximately 65-year old 69kV transmission line and has no record of being rebuilt. This line is important because it serves the Company's, as well as other utilities', distribution loads in the area.

See the Project Map (Attachment 18-4) for the estimated construction start date and estimated in-service date for each project segment. We note that the Project Map shows an approximate 8.7 mile gap between the Woodstock Substation and Moon Lake Substation that does not need to be rebuilt at this time. Each of the segments for this rebuild project are greater than 5 miles, even though they are not all contiguous. Rebuild project segments:

- Pipestone Substation to Rock River Substation to Woodstock Substation
- Moon Lake Substation to Currie Tap
- Currie Tap to Tracy Switch Substation

5. Line 0741 Rebuild: Big Swan – Atwater

Project Description and Context

The Line 0741 Big Swan-Atwater Rebuild is an approximately 29.6 mile segmented rebuild of a 69kV transmission line that spans between the Company's Big Swan Substation and Atwater Substation. The project consists of two segments. The first 15.9 mile segment is between the Litchfield City Tap and the Atwater Substation located near Atwater, MN in Meeker County, MN. The second segment is approximately 13.7 miles between Litchfield City Tap and the Big Swan Substation near Dassel, MN in Wright County, MN. The 0741 transmission line is an approximately 63-year old 69kV transmission line and has no record of being rebuilt. This line is important because it serves the Company's, as well as other utilities', distribution loads in the area.

See the Project Map (Attachment 18-5) for the estimated construction start date and estimated in-service date for each project segment. Rebuild project segments:

6. Line 0749 Rebuild: Waseca – ITC Tap

Project Description and Context

The Line 0749 Waseca to ITC Tap Rebuild is an approximately 6.9 mile long rebuild of a 69kV transmission line that spans between the Waseca Substation and the ITC interconnection point. This project consists of one segment between the Waseca Substation and the ITC interconnection point near Waseca, MN. The 0749 transmission line is an approximately 60-year old 69kV transmission line and has no record of being rebuilt. This line is important because it serves the Company's, as well as other utilities', distribution loads in the area. See the Project Map (Attachment 18-6) for the estimated construction start date and estimated in-service date for this project.

7. Line 0754 Rebuild: Linn Street – Becker

Project Description and Context

The Line 0754 Linn Street – Becker Rebuild is an approximately 8.0 mile rebuild of a 69kV transmission line that spans between the Linn Street Substation and the Becker Substation. This project consists of one segment between the Linn Street Substation and the Becker Substation which starts south of the City of Becker, MN and ends in Monticello, MN. The 0754 transmission line is an approximately 60-year old 69kV transmission line and has no record of being rebuilt. This line is important because it serves the Company's, as well as other utilities', distribution loads in the area. See the Project Map (Attachment 18-7) for the estimated construction start date and estimated in-service date for this project.

8. Line 0782 Rebuild: Westgate – Gleason Lake

Project Description and Context

The Line 0782 Westgate – Gleason Lake Rebuild is an approximately 10.3 mile segmented rebuild of a 69kV transmission line that spans between the Company's Westgate Substation and Gleason Lake Substation. The project consists of two segments. The first 6.7 mile segment is between the Glen Lake Substation and Gleason Lake Substation located western part of Hennepin County in Minnetonka, MN. The second is an approximately 3.6 mile segment between Glen Lake Substation and the Westgate Substation in Minnetonka, MN. The 0782 transmission

line was originally built in 1960 and has no record of being rebuilt. This line is important because it serves the Company's, as well as other utilities', distribution loads in the area.

See the Project Map (Attachment 18-8) for the estimated construction start date and estimated in-service date for each project segment. Rebuild project segments:

- Glen Lake Substation to Gleason Lake Substation
- Glen Lake Substation to Westgate Substation

9. Line 0795 Rebuild: Freeport to West St. Cloud New 2023 Segments

Project Description and Context

The Company's Line 0795 is a 63-year old 69 kV transmission line originating at Great River Energy's West St. Cloud Substation in St. Joseph, Minnesota and running westerly approximately 25 miles to the Millwood Tap Switch in Freeport, Minnesota. This line is important because it serves the Company's as well as other utilities' distribution loads in the area.

This project was initially identified as part of the Company's systematic Major Line Rebuild program. The Company identified Line 0795 as being a poor performer due to its age and condition. The 1953 vintage line consists of direct-embedded cedar wood poles. Many of the poles are past their useful life and over the years, many have been replaced through the Storm and Emergency program due to their poor condition. Continuing to replace singular structures is no longer an option due to the number of structures requiring replacement as well as the poor condition of the existing cross-arms and conductor. The cross-arms show evidence of physical decay and the conductor has failed in several locations. See the Project Map (Attachment 18-9) for the estimated construction start date for each segment.

The following segments of the Line 0795 Rebuild Project have been previously approved for TCR Rider recovery as separate line items:

- Avon - Albany
- Avon to Brockway Tap
- St. John's to Watab River

The additional segments added in one line item to the attachments are:

- Brockway Tap – St. John's
- Riverview – Wobegon Trail

- St. Joseph – Westwood Tap
- Watab River – St. Joseph
- Westwood Tap – West St. Cloud
- Wobegon Trail – Albany

10. Line 0859 Rebuild: Inver Hills – Chemolite

Project Description and Context

The 0859 Inver Hills – Chemolite project is an approximately 7.0 mile rebuild of a 9-mile 115kV transmission line that spans from Inver Hills Substation to Chemolite Substation. This 7.0 mile rebuild is located south of St. Paul, MN. Due to the age of the wood poles (1960's) and the small conductor size, we opted to rebuild the line with larger conductor and fiber optic. The line is a critical 115kV circuit that is part of the supply for Koch Refinery and other industrial loads in the area. See the Project Map (Attachment 18-10) for the estimated construction start date and estimated in-service date for this project.