

**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<sup>1</sup>
  - 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

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<sup>1</sup> We have updated the Line 0790 project name to Dassel to Delano to better reflect the end points of the project.

The following projects were approved for recovery by the Commission in the Company's Transmission Cost Recovery Rider filing in Docket No. EL22-022:

- Huntley-South Bend 161 kV Rebuild
- Line 0714 Rebuild: Watonwan – Madelia
- Line 0717/0771 Thru Flow Mitigation
- Line 0726 Rebuild: Pipestone – Rock River – Woodstock
- Line 0741 Rebuild: Big Swan – Atwater
- Line 0749 Rebuild: Waseca – ITC Tap
- Line 0754 Rebuild: Linn Street – Becker
- Line 0782 Rebuild: Westgate – Gleason Lake
- Line 0795 Rebuild: Freeport to West St. Cloud New Segments in 2023
- Line 0859 Rebuild: Inver Hills – Chemolite

## **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

The primary reason for an overall cost increase to the Line 0795 Rebuild project is due to project delays caused by outage coordination with other facilities in the system area, driving longer durations for traffic controls, complicating hydro-vacuum excavation, and delaying solid surface restoration.

- **Bayfield Loop**

The Bayfield Loop project shows a capital cost increase, primarily due to increased costs for transmission line materials in addition to increased labor and matting costs during the construction of the project through complicated terrain.

- **CEN LCO**

The forecasted capital cost increase for the CEN LCO project is due to increased cost for restoration of damaged right of way ROW during construction in order to reestablish native vegetation per permit requirements.

- **Line 0717/0771 Thru Flow Mitigation**

The capital cost decrease forecasted for the Line 0717/0771 Thru Flow Mitigation project is due to revised estimates for the project showing lower than anticipated matting required during field visits to the construction area. However, due to recent heavy storms in the construction area, we anticipate that the project's cost will increase due to complicated (now wet) construction conditions in heavy agriculture areas.

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

The capital cost increase forecasted for the Line 0723 Rebuild: Bird Island to Atwater project is due revised cost estimates for the project after resequencing the project phases and extending the overall duration of the construction for the project. Seasonal outage constraints and the agricultural nature of the project area determined the project need to be sequenced in a way that is least disruptive to agriculture activities.

- **Line 726 Rebuild: Pipestone-Rock River-Woodstock**

The capital cost increase forecasted for this project is due to delays in construction productivity causing the project to take longer than originally scheduled. The major contributing factor to these delays and increased project costs have been encountering hard rock (granite/quartz) during drilling and excavation.

- **Line 0741 Rebuild: Big Swan – Atwater**

The capital cost increase forecasted for the Line 0741 Rebuild: Big Swan to Atwater is due to revised cost estimates for the project after resequencing the project phases and extending the overall duration of the construction for the project. Seasonal outage constraints and the agricultural nature of the project area determined that project need to be sequenced in a way that is least disruptive to agriculture activities.

- **Line 0754 Rebuild: Linn Street – Becker**

The capital cost increase forecasted for the Line 0754 Rebuild: Linn Street to Becker is due to changes in the design along County Road 11 and a phased construction approach due to distribution facilities relocations that were needed to allow the rebuild to occur. Additionally, delays with private easement negotiations delayed much of the anticipated construction schedule to 2023, which compressed the overall construction scheduled in order to maintain its 2023 completion.

- **Line 0761 Rebuild: Lake City to Zumbrota**

The 0761 Zumbro Falls to Zumbrota rebuild has had significant delays and issues through the duration of the project. The project has lost two months of work time due to outage availability, heat concern, storms, and delays in receiving a mobile substation at two separate locations, which resulted in a one month delay in work. The original start date of September 2022 was canceled due to a delay in conductor. Crews re-mobilized in December to set structures ahead while waiting on conductor delivery. This approach moved the project ahead, but lengthened the duration of the project due to having to go back to string conductor. Overall circumstances of project right of way (ROW) was another issue, which made installing structures two to three times longer. Communication cable was recently installed in our ROW, which resulted in hydrovac-ing all new structures to locate underground COMM cables. Additional issues include design changes, other material delays, crews de-mobilizing for storms (six total), snow removal on rough terrain, and difficult work at Mezeppa sub and Zumbro Falls due to older substation designs.

- **Line 0782 Rebuild: Westgate to Gleason Lake**

The 0782 Westgate to Gleason Lake rebuild has increased its forecasted capital cost due to delays in local permitting. The process has added significant (and previously underestimated) restoration cost due to a “zero impact” requirement of the city of Minnetonka. Additionally, the several segments of this project have had to be re-engineered in an effort to avoid condemnation that would further increase project costs.

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

This project has been placed in-service and experienced higher construction costs than originally estimated. The project start was slightly delayed from original

expectations, and due to outage constraints in the system area, additional construction resources were added to this project in order to complete it in the necessary timeframe to avoid further delays and complications with system reliability in the fall.

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

The capital cost increase for the 5401 Maple Lake to Wakefield rebuild project, which was placed in service in 2022, is due to additional construction resources and matting requirements to complete the project in the necessary timeframe to avoid complications with reliability in the system area.

- **Long Lake to Baytown**

As discussed in Docket No. EL22-022, the Company updated the forecast and in-service date for the Long Lake to Baytown project after the data set provided for that TCR Rider filing was queried. As a result, the expected 2023 capital expenditures were not properly reflected in Attachment 3, and so the project showed a significant cost decrease. The project's costs have been updated in this filing, and the cost of this project is more in-line with our forecast in Docket No. EL21-025 as expected.

- **Eau Claire 345 kV Upgrade**

The Eau Claire 345 kV Upgrade project is located in Wisconsin and is being constructed by the NSPW operating company. Costs for NSPW projects are not billed through the Interchange Agreement to NSPM customers during the project's construction and are not recovered through the TCR Rider until the project is placed in-service. We first requested TCR Rider recovery of this project in Docket No. EL19-032 prematurely, and so we removed the project from the TCR in Docket No. EL20-025 until the project is in-service. The Company currently expects this project to be in-service in 2025, so we have included the project in the 2025 forecasted TCR revenue requirement shown in this filing as a preview.

## **New Projects**

The Company seeks eligibility determination for the following projects:

### **1. Brookings Second Circuit**

The CapX Brookings Second Circuit project consists of adding a second circuit to two 345kV segments and associated substation upgrades. The first segment adds a 58 mile new circuit (Line Number 5653) on existing transmission line 0972 between the Company's Brookings County substation near the Brookings, SD in Brookings County, SD and Lyon County substation near Marshall, MN in Lyon County, MN. The second segment adds a 39 mile new circuit on transmission line 0960 between the Company's Helena substation near New Prague, MN in Scott County and Hampton substation near Hampton, MN in Dakota County. Line 0972 is a 345 kV transmission line and was constructed in 2015. Line 0960 is a 345 kV transmission line and was constructed in 2014. Both line 0972 and 0960 were constructed with the capacity to allow a second circuit to be installed at a future date.

The project involves installing separate second 345 kV circuits on double-circuit-capable structures on the Western Segment and Eastern Segment, which were initially constructed as part of the Original Brookings Line (see Docket No. EL10-016). The second circuit will be installed on the Western and Eastern Segments. The Lyon County – Helena segment was originally constructed with the second circuit installed. The Western and Eastern Segments of the Project will, collectively, be approximately 98.5 miles long. The Western Segment is approximately 59.5 miles and will require reconfiguring an existing line at the Steep Bank Lake Substation to avoid the second circuit crossing the existing transmission line. This reconfiguration will involve adding one structure outside of the Steep Bank Lake Substation but within the existing right-of-way. The Eastern Segment is approximately 39 miles and will require rerouting around the Chub Lake Substation. The Company will construct two new dead-end structures on foundations on the south side of the Chub Lake Substation to avoid the second circuit having to go over the top of the Chub Lake Substation. The Company will also install eight new poles in the Eastern Segment to maintain the transmission line's low profile near an airport.

The Company plans to place the Western Segment in service by September 1, 2024, and the Eastern Segment in service by September 15, 2025. This timeline will help customers realize the economic benefits of the Project more quickly. Additionally, having the Project in service by 2025 will allow the Project to provide outage support

during the construction of the Long-Range Transmission Plan projects currently under development.

The Project is aimed at reducing energy costs by addressing one of the most electrically congested areas in Minnesota. Currently, low-cost energy generated in South Dakota, North Dakota, and southern Minnesota faces congestion when flowing to load centers, like the Twin Cities. When this congestion occurs, the cost of electricity increases either due to congestion charges or because electricity must come from higher-cost generators in areas without transmission constraints. These higher costs create inefficiencies in the wholesale energy market and increase costs for consumers. The project is needed to relieve the current transmission congestion in this area. By relieving congestion, the project is expected to increase access to low-cost, carbon-free, renewable generation; provide economic benefits; strengthen the regional grid; and support wind generation facilities in Minnesota, North Dakota, and South Dakota.

No other alternatives were pursued for this project as they were not viable. The Notice Area for the Project takes into account that the project primarily involves stringing a second 345 kV circuit on existing transmission line structures, does not require significant new right-of-way, and is on its face less impactful than all potential alternatives that would provide the congestion relief benefits of this project.

## **2. Line 0708 Rebuild: Eagle Lake to Waterville**

Line 0708 Eagle Lake to Waterville Rebuild is a 16.4 mile rebuild of a 69 kV transmission line between the Company's Eagle Lake Substation and the Waterville Substation. The project consists of rebuilding the line between the Eagle Lake Substation west of the City of Madison Lake in Blue Earth County and the Waterville Substation in the City of Waterville, MN in Le Sueur County, MN as one complete project segment. The 0708 transmission line is an approximately 60-year old 69 kV 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) for the estimated construction start date and estimated in-service date for this project.

## **3. Line 0736 Rebuild: Arden Hills to Lawrence Creek**

Line 0736 Arden Hills to Lawrence Creek Rebuild is a 30.3 mile segmented rebuild of a 69 kV transmission line between the Company's Arden Hills Substation and the



Lawrence Creek Substation. The project consists of three segments; the first segment is an 8.5 mile rebuild between the Arden Hills Substation near Arden Hills, MN in Ramsey County and the Hugo Substation located near Hugo, MN in Washington County, MN. The second segment of this project is an approximately 12.8 mile rebuild between the Hugo Substation and the Scandia substation near Scandia, MN in Chisago County, MN. The third segment of this project is an approximately 9.0 mile rebuild between the Scandia substation near Scandia, MN in Chisago County and the Lawrence Creek substation near Taylors Falls, MN in Chisago County, MN. The 0736 transmission line is an approximately 70-year old 69 kV transmission line and has no record of being rebuilt. The scope of the project is to rebuild the line to higher capacity. 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) for the estimated construction start date and estimated in-service date for each project segment. Rebuild project segments:

- Arden Hills to Hugo (12.4 miles)
- Hugo to Scandia (12.7 miles)
- Scandia to Lawrence Creek (9.1 miles)

#### **4. Line 0822 Rebuild: STR 107 to Empire**

Line 0822 Str 107 to Empire Rebuild is an approximately 7.1 mile rebuild of a 115 kV transmission line that spans between the Company's Rosemount Substation and Empire Substation. The project consists of rebuilding one segment located near Rosemount, MN in Dakota County, MN. The 0822 transmission line is an approximately 83-year old 115 kV transmission line and has no record of being rebuilt. This line is important because it serves the Company's as well as other utilities' industrial and distribution loads in the area.

See the Project Map (Attachment 18) for the estimated construction start date and estimated in-service date.