
STAFF MEMORANDUM

TO: COMMISSIONERS AND ADVISORS
FROM: PATRICK STEFFENSEN AND KRISTEN EDWARDS
RE: EL21-025 - In the Matter of the Petition of Northern States Power Company dba Xcel Energy for Approval of its 2022 Transmission Cost Recovery Eligibility and Rate Adjustment
DATE: December 2, 2021

BACKGROUND

On September 1, 2021, the South Dakota Public Utilities Commission (Commission) received a petition from Northern States Power Company dba Xcel Energy (Xcel) for approval of a revised Transmission Cost Recovery (TCR) rider adjustment factor for 2022. The filing also requested approval of the 2021 tracker report for approved transmission project investments, expenditures, and revenues received.

South Dakota Codified Laws §§ 49-34A-25.1 through 25.4 authorize the Commission to approve a tariff mechanism for the automatic annual adjustment of charges for the jurisdictional costs of new or modified transmission facilities with a design capacity of thirty-four and one-half kilovolts or more and which are more than five miles in length.

In Docket EL07-007, the Commission approved the establishment of the TCR rider to recover the costs associated with six transmission projects. These costs were incorporated into base rates during Xcel's 2009 rate case, Docket EL09-009. As such, in January 2010, the TCR rider adjustment factor was adjusted to remove the costs related to the six transmission projects and to collect only the remaining balance in the tracker account.

In Docket EL12-035, the Commission approved TCR recovery of the 2011-2012 revenue requirement associated with fourteen new transmission projects and MISO¹ Schedule 26 expenses. The Commission approved the Settlement Stipulation supporting the "refined split method" approach for allocating MISO approved cost-shared projects with company investment. In subsequent years, the Commission approved recovery of additional projects and expenses.

Most recently, in Docket EL20-025, the Commission approved TCR recovery of the 2021 revenue requirement associated with 17 previously approved transmission projects, five new transmission projects, and MISO Schedule 26 expenses. In this docket, Xcel proposes to include ten new projects for 2022 and remove one previously approved project. The West St. Cloud to Black Oak project has been

¹ Midcontinent Independent System Operator, Inc.

removed, since it is now named the Freeport to West St. Cloud project and has been segmented into nine smaller, individual projects. The proposed 2022 revenue requirement results in a rate of \$0.003245 per kWh, calculated based on a January 1, 2022 effective date. This represents a decrease of \$0.000201 per kWh from the existing rate.

STAFF ANALYSIS

Analysis of Updated Projects

Avon to Albany

The Avon to Albany project is a rebuild of approximately seven miles of existing 69 kV transmission line. The prior line was 63 years old and was identified by Xcel as a poor performing line due to its age and condition. Xcel determined it was imprudent to continue replacing single structures due to the number of structures requiring replacement, the poor condition of the cross arms, and the failing conductor. Staff confirmed in the discovery² process that this is still a seven mile rebuild, and the scope has not changed since its approval last year. However, the estimated cost of the project has decreased by approximately \$1.1 million from the estimate provided in Docket EL20-025.

Belgrade to Paynesville

The Belgrade to Paynesville project is a rebuild of approximately eleven miles of existing 69 kV transmission line. The prior line was built in 1940 and was identified by Xcel as a poor performing line due to its age and condition. In discovery³, Xcel indicated this project has been expedited to take advantage of available construction resources and Xcel's ability to take the line out of service when it would minimize outage exposure to the customers in the area. Thus, the project has been moved up six months and is now expected to be in-service by the end of 2021.

The project cost is estimated to be approximately \$1.5 million higher than what was estimated in Docket EL20-025. This is primarily due to commodity cost increases impacting the cost of materials and swampy field conditions that would've been less of an obstacle during frozen field conditions. Since this project was in a lowland, swampy area, there was added cost for additional access roads to the site around the swampy ground and matting at the project site.

Huntley to Wilmarth

The Huntley to Wilmarth project is a new 345 kV transmission line that runs approximately 50 miles from Xcel's Wilmarth substation to an ITC Midwest-owned Huntley substation. Xcel's portion of the project cost consists of the modifications to the existing Wilmarth substation and half the costs related to the transmission line. In this filing, Xcel indicates the Company is currently forecasting an approximate reduction in total cost of \$18.3 million for the project. According to the filing, this reduction was

² Xcel Response to Staff DR 1-2

³ Xcel Response to Staff DR 1-3

achieved with an overall reduction in overhead costs, route alignment adjustments, efficient outage coordination, savings in easement and material costs, and strategic competitive contractor bidding. Xcel stated in response to discovery⁴ that due to the very large size of this project, it allowed for project-specific competitive bidding of major materials and construction resources, providing additional savings over the already competitively priced contracts.

Analysis of New Projects

Bayfield Loop

The Bayfield Loop project consists of two new substations and approximately 19 miles of new 34.5 kV transmission line that connect the two substations. The 115/34.5 kV Fish Creek Substation is located approximately four miles west of Ashland, Wisconsin, and the 34.5 kV Pike's Creek Substation is located approximately two miles west of Bayfield, Wisconsin. Xcel indicates in its filing that the project is needed to improve system reliability by adding redundancy to the system through the construction of the two substations, a second 34.5 kV transmission line, and a rebuild of the original transmission line. Along with increased reliability provided by the second source of power to the east side of the Bayfield Peninsula, the project will provide voltage support to reduce power outages across the Bayfield Peninsula.

According to the Application for a Certificate of Authority⁵ with the Wisconsin Public Service Commission, this line was originally built over 50 years ago as a loop, connecting to the west side of the peninsula through Cornucopia, Herbster, and Iron River. In the years since the line was originally built, loads have increased on the peninsula, particularly at Bayfield and Washburn. The area is currently served by a single transmission line connecting two source substations, the Gingles Substation south of Ashland and the Iron River Substation northwest of Iron River. Due to the higher electric loads on the east side of the peninsula at Washburn and Bayfield, Xcel has operated this system with a switch at Cornucopia that is normally kept open to prevent system collapse. This essentially separates the loop into two separate radial lines, one from Iron River to Cornucopia and one from Gingles to Bayfield. Thus, the east side of the peninsula is currently served only by the single 34.5 kV line from Gingles Substation, and without a backup line, any failure on the line south of Bayfield or Washburn results in power outages to those communities.

Similarly, transmission lines on the Bayfield Peninsula cannot be taken out of service for line maintenance without causing power outages. Also, the load growth over time has resulted in low voltage at Bayfield during peak load conditions, and as voltage levels decrease, the risk of damaging electrical components rises and the flexibility of the grid to meet end user required voltage levels decreases.

⁴ Xcel Response to Staff DR 1-4

⁵ Wisconsin PSC Docket 4220-CE-182, Application for a Certificate of Authority

In response to Staff discovery⁶, Xcel indicated it analyzed a couple other options to remedy the current issues. One of the options was a capacitor bank with a new small substation, but it was determined that due to the overall length of the transmission system on the Bayfield Peninsula, the capacitor bank could not support the system during contingency conditions. The capacitor bank was able to solve the voltage issue, but since it would not solve the reliability issue or allow for line maintenance, it was not pursued as a standalone option. Xcel also conducted a high-level assessment of the potential of using generation, but it was determined to be cost prohibitive, as it would require the construction of two black start capable 20 MW generators that would be available 24/7 in addition to the Pike's Creek Substation.

Helena to Scott County MISO Interconnections

The Helena to Scott County MISO Interconnections project satisfies statute requirements as a rebuild of approximately 16 miles of existing 345 kV transmission line. The existing line was originally built in 1970 and runs between the Scott County Substation east of Chaska, Minnesota to the Helena Substation west of New Prague, Minnesota. To reduce the potential for galloping in the area, the project will use a vertical bundle configuration with high temperature conductors.

The new line will remain the same voltage, but it will have a higher capacity conductor to increase the electric power flow. MISO studies determined this rebuild and increased capacity was necessary to allow for the transfer of power of four wind generators in southwest Minnesota. Xcel confirmed, in response to Staff discovery⁷, that one of the wind generators, Blazing Star II, is owned by Xcel, and that network upgrade costs, including its share of this rebuild project, were included in the benefit-cost analysis of Blazing Star II. Xcel also confirmed that the other three wind farms will pay their share of these network upgrades.

Line Rebuild Projects

During discovery⁸, Xcel indicated it performs foot patrols, ground line inspections, and drone inspections on its transmission facilities to assess the status of its transmission lines. Until recently, Xcel had been able to maintain the majority of its assets through either O&M repairs, replacement of specific components when they are at the end of their service life, or refurbishment projects that extend the life of the assets. Recently, the inspections are revealing that lines that were previously refurbished are in need of replacement due to the cumulative condition of the poles, cross-arms, insulators, and conductor, as well as lines where the general composition (i.e. conductor type, framing, and pole sizes) would not safely allow for refurbishments. As a result, Xcel indicates there is a need to increase its investments in rebuild projects.

The following eight projects are part of the annual MISO Transmission Expansion Plan (MTEP) filing and have been identified as rebuild projects that are necessary at this time: Bird Island to Lake Lillian,

⁶ Xcel Response to Staff DR 1-5

⁷ Xcel Response to Staff DR 1-7

⁸ Xcel Response to Staff DR 1-10

Cosmos to Lake Lillian, Lake City to Zumbrota, Dassel to Cokato, Black Oak to Douglas County, Avon to Brockway Tap, St. John's to Watab River, and Maple Lake to Wakefield. All eight of these rebuild projects are 69 kV and meet the 34.5 kV statutory capacity requirement. However, two of these rebuild projects, Avon to Brockway Tap and St. John's to Watab River, are under five miles in length. Avon to Brockway Tap is a 2.5-mile segment, and St. John's to Watab River a 4.3-mile segment, of the 25-mile Freeport to West St. Cloud project. Even though these two segments are not five miles in length, Staff believes these projects meet the intent of the length requirement in statute, as they are both individual phases of the 25-mile Freeport to West St. Cloud project. It is essentially one 25-mile project with smaller, individually named segments. Further, this level of delineation among the project segments will provide a more efficient analysis of the projects and provide added transparency to the Commission.

The individual rebuild projects are between 2.5 miles to 23.5 miles in length and were originally build between 1929 and 1960. Each of the rebuild projects has been identified as necessary due to reliability concerns given the age and condition of the lines. The lines consist of direct-embedded cedar poles with signs of insulator deterioration, cross-arm physical decay, and failure-prone conductor. Each of the lines is vital to the system, as it serves Xcel's and other utilities' distribution loads in the area. Thus, Xcel has determined it is imprudent to continue replacing single structures due to the number of structures past their useful life and currently needing replacement. Once replaced, Xcel customers will see the benefit of enhanced reliability, and the new conductor will provide the benefit of higher capacity.

2021 TRACKER REPORT

The rate approved in Docket EL20-025 was based on the balance in the tracker account and the 2021 estimated revenue requirements. In this docket, Staff reviewed the revised 2021 revenue requirement to determine if the costs were prudent and at the lowest reasonable cost to ratepayers. Staff also reviewed the Company's calculation of the under/over collection of costs incorporated in the new TCR rates, comparing actual recoveries to actual costs.

Attachment 6 summarizes the tracker activity by month for 2021. Individual project detail for the projects is found on Attachment 12.

2022 TCR REVENUE REQUIREMENT

The total estimated 2022 revenue requirement of \$7,021,299, subject to later true-up to actual costs and recoveries, is based on the 2021 over-collection in the tracker account and the estimated 2022 revenue requirement associated with the 31 transmission projects and MISO Schedule 26 expenses.

The 2022 revenue requirement continues to apply the other provisions agreed upon in the EL13-006 settlement, including the jurisdictional demand allocators, carrying charge, and rate design. Additionally, the Company will continue to employ the same rate of return method with a true up of the 2022 rider balance calculations to reflect the cost of debt and capital structure at December 31, 2021 levels and use of the return on equity approved in its most recent rate case, Docket EL14-058.

During review of the calculations, it was discovered by Staff that Xcel was incorrectly using a cost of debt and capital structure as of the end of the year December 31 levels and not December 31 of the prior year (beginning of year levels). This error was confined to this docket, as past TCR dockets have used the correct cost of debt and capital structure percentages. Since this error increases the total revenue requirement by approximately \$3,000, Xcel has agreed to make the proper corrections in next year's TCR filing. Given that the true-up will correct the issue next year, and the effect on the carrying charge will be minimal, Staff agrees this is the most efficient way to handle this error.

2022 TCR RATE

The TCR rate is designed to be implemented effective January 1, 2022 and is calculated based on forecasted sales from January 2022 through December 2022. The TCR rate, effective January 1, 2022, is \$0.003245 per kWh and represents a decrease of \$0.000201 per kWh from the existing rate.

Reasonableness of Overall Earnings from Regulated Rates

Consistent with the terms of the EL13-006 settlement agreement, the Company will continue to file, by June 1 of each year, an annual report with the Commission detailing its South Dakota jurisdictional earnings for the preceding calendar year. Staff believes the report is necessary to monitor the Company's earnings and the potential effect of adding the TCR rider to its South Dakota tariff.

RECOMMENDATION

Staff's recommendation is based on its analysis of Xcel's filing, discovery information, relevant statutes, and previous Commission orders. Staff's review consisted of, but not limited to, the 2021 tracker report, the forecasted 2022 revenue requirement, and rate calculation.

Staff believes the Company's filing is consistent with the settlement approved in Docket EL13-006 and consistent with prior TCR filings. Staff recommends the Commission approve the updated 2022 revenue requirements and updated TCR rate of \$0.003245 per kWh, with an effective date of January 1, 2022.