MINNESOTA
PUBLIC UTILITIES COMMISSION

Staff Briefing Papers

Meeting Date	April 26, 2018		Agenda Item 2*
Company	Northern States Power Company dba Xcel Energy		
Docket No.	**E,G002/D-17-581**		
Issues	**In the Matter of Northern States Power Company for Certification of Its Five-Year Transmission, Distribution, and General Depreciation Study** Should the Commission approve Xcel Energy's five-year depreciation study as corrected by Xcel on December 22, 2017 and April 11, 2018?		
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✓ **Relevant Documents**	**Date**
Xcel Energy – Initial Filing	July 31, 2017
Department – Comments	September 29, 2017
Xcel Energy – Reply Comments	October 10, 2017
Department – Response Comments	October 13, 2017
Xcel Energy – Letter	December 22, 2017
Xcel Energy – Letter	April 11, 2018
Department - Letter	April 12, 2018

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The attached materials are work papers of the Commission Staff. They are intended for use by the Public Utilities Commission and are based upon information already in the record unless noted otherwise.

I. Statement of the Issues

Should the Commission approve Xcel Energy's five-year depreciation study as corrected by Xcel on December 22, 2017 and April 11, 2018?

II. Background

July 31, 2017: Xcel Energy submitted its five-year transmission, distribution and general depreciation study for Commission approval. The Company has proposed new depreciation lives and rates in this Petition to better reflect the expected useful lives of its assets as well as removal costs and expected salvage. Overall, depreciation lives are lengthening slightly and net salvage rates are becoming more negative due to increasing removal costs and decreasing gross salvage values.

Xcel is also recommending a change from using an Average Service Life (ASL) depreciation method to an Average Remaining Life (ARL) method. This change would allow an automatic true-up of differences created between the theoretical and actual reserves over the remaining lives of the assets, incremental to the adjustment made in previous rate proceedings.

In the aggregate, the changes reduce the present depreciation expense by an estimated $6,903,045 based on plant data as of January 1, 2017.

Xcel stated it allocates its common utility plant between electric and gas on the basis of customers, employee labor, or direct assignment based on actual use. In the event the Commission approves the depreciation expense change for the gas and electric utilities, the estimated electric utility decrease of $116,945 will be reflected in the capital true-up that is part of the Company's recently approved multi-year rate plan[1] and the estimated gas utility decrease of $6,786,100 will be addressed in a future rate proceeding. The table below shows the impact of Xcel's proposal on its depreciation expense.

	Estimated Change to Depreciation Expense Prior to Allocation	Common Utility Allocations	Estimated Change to Depreciation After Allocations
Electric Utility	$3,683,630	$(3,800,575)	$(116,945)
Gas Utility	(6,588,601)	(197,499)	(6,786,100)
Common Utility	(3,998,074)	3,998,0784	0
Total Estimated Impact	$(6,903,045)	$0	$(6,903,045)

In this Petition, the Company is requesting Commission approval of the following:

- The depreciation lives and rates in the 2017 Study;

[1] Docket No. E-002/GR-15-826, Application of Northern States Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota, FINDINGS OF FACT, CONCLUSIONS, AND ORDER, (June 12, 2017), Ordering Pt. 3.

- Implementation of the new depreciation lives and rates effective January 1, 2018; and
- A change from an Average Service Life (ASL) to an Average Remaining Life (ARL) depreciation method.

September 29, 2017: The Department filed comments and recommended that the Commission approve Xcel's:

- Proposed depreciation lives and rates in the 2017 Depreciation Study, effective January 1, 2018;
- Request to change from an Average Service Life depreciation method to an Average Remaining Life depreciation method;

And require Xcel to:

- File a comprehensive five-year depreciation study for its transmission, distribution, and general accounts by July 31, 2022; and
- Return the net decrease in depreciation expense due to the change in the depreciation method to ratepayers in the 2018 capital true-up filing in Docket No. E002/GR-15-826.

October 10, 2017: Xcel submitted reply comments and agreed with the Department's recommendation that the Commission approve its petition. The Company suggested two clarifying modification (*italics*) to the Department's recommendations:

1) Require Xcel *to file an annual update of remaining lives and depreciation rates for its transmission, distribution, and general accounts by July 31, 2018, and* to file a comprehensive five-year depreciation study for its transmission, distribution, and general accounts by July 31, 2022; and
2) Require Xcel to return *the electric utility and the electric portion of the common utility* net decrease in depreciation expense due to the change in the depreciation method to ratepayers in the 2018 capital true-up filing in Docket No. E002-GR-15-826.

October 13, 2017: The Department submitted response comments and stated its agreement with Xcel's proposed modifications to its recommendations. The Department updated its recommendations to the following:

- Approve Xcel's proposed depreciation lives and rates in the 2017 Depreciation Study, effective January 1, 2018;
- Approve Xcel's request to change from an Average Service Life depreciation method to an Average Remaining Life depreciation method;
- Require Xcel to file an annual update of remaining lives and depreciation rates for its transmission, distribution, and general accounts by July 31, 2018, and to file a comprehensive five-year depreciation study for its transmission, distribution, and general accounts by July 31, 2022; and

- Require Xcel to return the electric utility and the electric portion of the common utility net decrease in depreciation expense due to the change in the depreciation method to ratepayers in the 2018 capital true-up filing in Docket No. E002-GR-15-826.

December 22, 2017: Xcel submitted a letter to provide an update to the Company's 2017 Transmission, Distribution, and General Depreciation Study and proposed a correction to its initial filing.

Xcel stated that in its initial filing, the Company requested a 10 year average remaining service life for FERC Account 390 (Structures and Improvements – Leasehold Improvements). The only assets held in this account are the leasehold improvements for 401 Nicollet Mall. The Company stated it should have requested that the leasehold improvements be recovered over the term of the lease, which was 15 years as of May 2016. The remaining term of the lease as of January 1, 2018 will be 13.33 years and yields a depreciation rate of 6.67%.

The Company stated that the original filing showed an increase of $40,721 in Account 390. The Company stated that correcting the error aligns the proposed lease period with current rates because the Company correctly depreciated the leasehold improvements over the lease term in its 2015 General Rate Case in Docket No. E002/GR-15-826. As a result of the correction there is no change to depreciation expense, as the correction eliminates the $40,721 caused by the error.

April 11, 2018: Xcel submitted a letter to correct another error in its original filing. The Company stated that it proposed an average service life of 49 years, instead of 44 years for FERC Account 369 (Services – Underground). The Company stated that there is no change to depreciation expense as a result of this error and correcting the error aligns the proposed average service life with the Company' five-year depreciation study.

April 12, 2018: The Department submitted a letter and stated it does not oppose Xcel's correction to FERC Account 390 (Structures and Improvements). The Department stated it recognizes that this is a minor change and does not modify the Department's October 13, 2017 recommendations. In order to ensure an accurate record, the Department requested that Xcel provide corrected versions of the following:

- Table 1 (Depreciation Expense Impact of the Proposed Change);
- Summary page of Schedule C, page 1 of 6.

The Department noted that the correction to FERC Account 369 appeared to be a typographical error and has no impact on the 2017 Depreciation Study's results.

III. Parties' Comments

Theoretical Reserve Analysis

In the past, the Company has used two basic depreciation methods: the remaining service life method for generation facilities; and the ASL method for transmission, distribution, and general property. In this Petition, Xcel proposed replacement of the ASL method with an ARL depreciation system to calculate annual and accrued depreciation for transmission, distribution and general property. Xcel has proposed the change in method in order to spread the depreciation imbalance between the theoretical and actual reserves over the remaining lives of the assets.

Xcel stated that a comparison of the actual depreciation reserve to the theoretical reserve is a gauge the Company and the Commission use to review whether the accumulated depreciation is reasonable given all that has occurred in the past and all that is expected to occur in the future. Actual reserves are based on historical rates and lives, whereas the theoretical reserve is based on the current assumptions applied if they had been in place from the beginning of an asset's useful life.

Xcel explained that when the actual reserve is greater than the theoretical reserve, it is often called a "surplus" in reserve. A "deficit" in reserve would occur if the theoretical reserve is greater than the capital reserve. While a difference in the reserve amounts does not, by itself, imply an issue that needs correcting, the use of the remaining life depreciation rate will incorporate any current differences.

Xcel stated that the current difference between the actual and theoretical reserve is approximately $65 million across the electric, gas and common utilities. The Company estimated that this surplus represents less than 1% of the $9.1 billion plant balance as of January 1, 2017.

Xcel provided the following table to show the estimated reserve difference by utility:

	Theoretical to Actual Reserve Surplus (Deficit)
Electric Utility	$(20,569,866)
Gas Utility	92,462,381
Common Utility	(6,410,675)
Total Estimated Impact	$65,481,840

Xcel stated that through the use of ARL depreciation rates, the future depreciation expense is adjusted to flow the surpluses or deficits back over the remaining lives of the asset groups. The ARL depreciation rates ensure that the assets are fully recovered at the end of their estimated ASL, after adjusting for net salvage assumptions, but not earlier or later than this ASL as may be the case when strictly using an ASL depreciation rate. This five-year depreciation certification filing is proposing a switch from an ASL depreciation rate to an ARL depreciation rate for the electric, gas, and common utility assets. While there are many ways to deal with this statistical

difference between actual reserve and theoretical reserve (and many filings prior to Xcel's 2012 depreciation petition provided this information without any implications to the overall depreciation rate), the Company stated it believes that the best course of action to deal with future theoretical reserve differences should be through the ARL depreciation rates.

The Company recommended that the surplus be spread over the ARL of the account through the use of the proposed remaining life depreciation rates. The difference between an ASL depreciation rate and an ARL depreciation rate is the systematic allocation of the actual to theoretical reserve difference over the ARL of the asset. A surplus lowers the ASL depreciation rate and a deficit increases the ASL depreciation rate. The effect of switching from an ASL depreciation rate to an ARL depreciation rate (where the calculations under both methods were based on the proposed changes in life and net salvage rates), is an annual depreciation expense increase of $1.3 million for the electric utility, a decrease of $4.3 million for the gas utility, and an increase of $0.5 million for common utility.

The Department stated that the most important consideration in deciding to switch from the Average Service Life depreciation method to the Average Remaining Life depreciation method is the concern with the size of Xcel's overall depreciation surplus. In Docket No. E,G-002/D-12-858, the Department recommended and the Commission approved the change in depreciation method to address this concern in the Company's most recent five-year depreciation study; but the switch was not adopted by the Company to date.

The Department explained that as of January 1, 2017, the Company's transmission, distribution and general property accounts' total actual depreciation reserve exceeds the same accounts' total theoretical reserve by $65.5 million dollars. However, the theoretical reserve is calculated based on the unrealistic assumption that the Company had a perfect view of the future and its initial estimates of average service lives and salvage rates were exactly correct. In other words, had the Company's proposed depreciation parameters been in place all along, the total actual depreciation reserve would be $65.5 million less than it is currently, and the accounts, in this limited sense, are 19.25 percent over-depreciated from the original values.

Depreciation expense should be accrued evenly over the life of an asset as ratepayers consume the usefulness of the asset. It is the Department's position that Xcel's over-accrual of depreciation expense raises issues of possible generational inequity as rates paid by ratepayers in the past reflected inappropriately high levels of depreciation expense which did not match those ratepayers' consumption of the usefulness of the assets. Conversely, rates in the future will reflect inappropriately low levels of depreciation expense. In other words, past ratepayers have subsidized future ratepayers.

The Department agreed with Xcel's proposal to correct the actual/theoretical reserve difference, and switch from its current ASL depreciation method, which does not consider or correct the difference, to an effective ARL method, which continually corrects for actual/theoretical reserve differences, and eliminates any differences over an asset's (or account's) remaining life.

With an ASL method, depreciation expense is calculated as follows:

$$\text{Depreciation Expense} = \frac{\text{Plant Balance x (1 – Salvage Rate)}}{\text{Average Service Life}}$$

The size of an account's actual depreciation reserve is not reflected in this calculation, and thus depreciation expense will be the same whether the account is under-depreciated or over-depreciated.

With a remaining life depreciation method, annual depreciation expense is calculated as follows:

$$\text{Depreciation Expense} = \frac{\text{Plant Balance x (1 – Salvage Rate) – Actual Depreciation Reserve}}{\text{Remaining Life}}$$

If an account's actual depreciation reserve is higher (lower) than its theoretical reserve, the numerator in the fraction above will be smaller (larger), and depreciation expense will be lower (higher).

Reallocation of Reserves within Functional Class

In addition to the inclusion of the amortization of reserve differences over the remaining life factored into the change from an ASL rate to an ARL rate, the Company recommended a reallocation of the depreciation reserve within each functional class. Based on the theoretical reserve by FERC account within a functional class, the Company directed the Alliance Consulting Group to reallocate the actual reserve total for each functional class. The reallocation does not change the overall actual to theoretical reserve difference for a functional class; it just redistributes it more equitably among the FERC accounts within a functional class. A reallocation rebalances the actual reserve where one account is in surplus and another is in deficit.

The reserve reallocation is determined by calculating a factor by dividing the actual reserve as of January 1, 2017 for a functional class by the total theoretical reserve for that functional class. This factor was then applied to theoretical reserve by FERC account to realign the actual reserve within the functional class.

Xcel is proposing that the reserve surplus be spread over the average remaining life of the accounts through the use of the proposed remaining life depreciation rate since the ARL depreciation rate systematically allocates the actual to theoretical reserve difference over the asset's average remaining life. Schedule J of the 2017 Depreciation Study presents the comparison of ASL to the proposed ARL both in summary and in detail by FERC account. While use of the ASL depreciation method adds to the increase in the difference between actual and theoretical reserves from year to year, the use of remaining life method effectively spreads any actual to theoretical reserve variance over the expected remaining life of the account or asset; the two formulae above confirm that difference in the treatment of the difference between the actual versus theoretical reserve.

The Department agrees with Xcel's proposal because average remaining life depreciation is different from average service life depreciation in that the average remaining life method adds a self-correcting mechanism, which accounts for any difference between theoretical and book depreciation reserve over the remaining life of each depreciable group. The remaining life method does not leave a surplus or deficit undistributed as the average service life method does. Additionally, the calculation under the average remaining life method preserves the Company's total actual depreciation reserves, but resets each individual account's actual reserve in proportion to the account's theoretical reserve.

IV. Staff Analysis

Staff agrees with Xcel and the Department's assessment that replacement of the ASL method with an ARL depreciation system to calculate annual and accrued depreciation for transmission, distribution and general property is warranted in this case. Xcel's proposed change in method in order to spread the depreciation imbalance between the theoretical and actual reserves over the remaining lives of the assets is reasonable.

Staff also agrees with Xcel and the Department that the estimated decrease in the electric utility's depreciation expense of $116,945 will be reflected in the capital true-up that is part of the Company's recently approved multi-year rate plan.[2]

Staff does not necessarily agree with Xcel's proposal that the estimated gas utility decrease in depreciation expense of $6,786,100 not be addressed until there is a future Xcel Gas rate proceeding. Xcel Energy's Gas Utility's most recent general rate case was filed in 2009 in Docket No. G-002/GR-09-1153 and the Company has not indicated that it has any intention of filing a rate case in the foreseeable future. Nor has the Company made any sort of proposal as to how it will ensure that it will address this issue in a future rate case proceeding.

In previous year's Xcel Gas Utility Infrastructure Cost (GUIC)[3] petitions, in dockets 14-336, 15-808, 16-891, the Commission has considered possibly limiting the term of the GUIC rider for

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[2] Docket No. E-002/GR-15-826, Application of Northern States Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota, FINDINGS OF FACT, CONCLUSIONS, AND ORDER, (June 12, 2017), Ordering Pt. 3.

[3] Generally, a public utility may not change its rates without undergoing a general rate case, where the Commission comprehensively reviews the utility's costs and revenues. However, the Legislature has created exceptions to this general policy, allowing utilities to implement a rate- adjustment mechanism to expedite recovery of certain costs not already reflected in base rates.

Minn. Stat. § 216B.1635 allows utilities to seek rider recovery of gas utility infrastructure costs. Gas utility infrastructure costs are costs, not already reflected in the utility's rates, that are incurred in projects involving (1) the replacement of natural gas facilities required by road construction or other public work by or on behalf of a government agency or (2) the replacement or modification of existing facilities required by a federal or state agency, including surveys, assessments, reassessment, and other work necessary to determine the need for replacement or modification of existing infrastructure.

three or four years because of concerns about Xcel Gas possibly over-earning, i.e. earning above the amount authorized in its last rate case. The Commission has also considered and adjusted the rate of return used to calculate Xcel's annual GUIC rate adjustment. In the last Xcel Gas rate case, in docket 09-1153, the authorized rate of return on equity (ROE) was 10.09 percent. In the last Xcel GUIC rider petition, in docket 16-891, the authorized rate of return on equity (ROE) for the rider was 9.04 percent.

The decrease in the Xcel gas utility's depreciation expense presents a similar situation because the decrease in depreciation expense will increase Xcel's earnings immediately - possibly above the authorized amount for its rate of return.

The Commission may want to consider requiring Xcel in a notice for supplemental comments issued in the Company's pending 2018 Gas Utility Infrastructure Cost (GUIC) recovery rider petition, in Docket G-002/M-17-787, to address this $6.8 million decrease in depreciation expense and the appropriateness of using a true-up or some other kind of adjustment to reflect this decrease in depreciation expense. If the Commission directs staff to issue a notice requiring supplemental comments from Xcel, the April 30 comment deadline in the rider docket for initial party comments could also be extended.

Decision alternatives one through six below are agreed to by Xcel and the Department.

Alternative seven is offered by staff for the Commission's consideration.

V. Decision Options

1. Approve Xcel's proposed depreciation lives and rates in the 2017 Depreciation Study, effective January 1, 2018; (DOC, Xcel)

2. Approve Xcel's request to change from an average service life (ASL) depreciation method to an effective average remaining life (ARL) depreciation method; (DOC, Xcel)

3. Require Xcel to file an annual update of remaining lives and depreciation rates for its transmission, distribution, and general accounts beginning July 31, 2018, and to file a comprehensive five-year depreciation study for its transmission, distribution, and general accounts by July 31, 2022; (DOC, Xcel) and

4. Require Xcel to return to ratepayers the Electric Utility and the electric portion of the Common Utility net decrease in depreciation expense due to the change in the

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The Commission may approve a GUIC rider if the costs proposed for recovery through the rider are prudently incurred and achieve gas facility improvements at the lowest reasonable and prudent cost to ratepayers. Costs eligible for rider recovery include not only gas utility infrastructure costs but also a rate of return on the investment, income taxes on the rate of return, incremental property taxes, incremental depreciation expense, and any incremental operation and maintenance (O&M) costs.

depreciation method through the 2018 capital true-up filing in Docket No. E-002/GR-15-826. (DOC, Xcel)

5. Accept Xcel's correction of December 22, 2017 to FERC Account 390 (Structures and Improvements) as recommended by the Department of Commerce, and require Xcel to provide corrected versions of the following:

    a. Table 1 (Depreciation Expense Impact of the Proposed Change); and
    b. Summary page of Schedule C, page 1 of 6. (DOC, Xcel)

6. Accept Xcel's correction of April 11, 2018 to FERC Account 369.[4] (DOC, Xcel)

7. Direct Staff to prepare and issue a notice for supplemental comments in Xcel's pending 2018 Gas Utility Infrastructure Cost (GUIC) proceeding, in Docket G-002/M-17-787, that requires Xcel to address the gas utility's $6.8 million decrease in depreciation expense and the appropriateness of using a true-up or some other kind of adjustment in the GUIC rider to reflect this decrease in depreciation expense.

[4] This appears to be a typographical error and has no impact on the results of Xcel's 2017 Depreciation Study.