

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

Dan Lipschultz
Matthew Schuerger
Katie J. Sieben
John A. Tuma

Commissioner
Commissioner
Commissioner
Commissioner

In the Matter of the Petition of Northern
States Power Company for Approval of the
2019-2021 Triennial Nuclear
Decommissioning Study and Assumptions

ISSUE DATE: January 7, 2019

DOCKET NO. E-002/M-17-828

ORDER APPROVING
DECOMMISSIONING STUDY,
DECOMMISSIONING ACCRUAL,
AND TAKING OTHER ACTION

PROCEDURAL HISTORY

Every three years since 1987, the Commission has reviewed the financial plan to decommission the Monticello and Prairie Island Nuclear Generating Facilities operated by Northern States Power Company d/b/a Xcel Energy (Xcel).¹ In the years between triennial filings, Xcel files an annual letter discussing the financial performance of funds accrued for the eventual decommissioning, known as the Nuclear Decommissioning Trust fund (NDT).

On October 5, 2015, the Commission issued an Order Approving Nuclear Decommissioning Study, Assumptions, and Annual Accrual, and Setting Filing Requirements in Docket No. E-002/M-14-761. The Commission set a \$14,030,861 annual accrual rate effective January 1, 2016 to December 31, 2018, and required Xcel to address a number of specific issues.

On December 1, 2017, Xcel filed its 2019-2021 Triennial Nuclear Plant Decommissioning Accrual petition. On April 1, 2018, Xcel filed corrections to the filing.

On June 1, 2018, the Department of Commerce (the Department) filed comments recommending approval with modifications and seeking additional information.

On June 6, 2018, the Prairie Island Indian Community (the Community) filed comments.

On July 2, 2018, Xcel filed reply comments.

¹ Minn. Stat. § 216B.11, Depreciation Rates and Practices, directs the Commission to set depreciation rates for utility property. Commission rules require utilities to file for depreciation certification at least every five years. The Commission required periodic reviews prior to 1987, but less frequently than every three years. *In the Matter of the Petition of Northern States Power Company for Depreciation Certification for Expected Decommissioning Costs for the Monticello and Prairie Island Nuclear Steam Generating Facilities*, Docket No. E-002/D-86-604, Findings of Fact, Conclusions of Law, and Order.

On October 1, 2018, the Department filed a response to Xcel's reply comments.

On October 10, 2018, Xcel filed supplemental calculations based on the Department's recommendations in its October 1 filing.

On November 29, 2018, the Commission met to consider the matter.

FINDINGS AND CONCLUSIONS

I. Background

Xcel operates three nuclear generating units in Minnesota for which the Commission requires periodic review of the utility's plans for the plants' eventual decommissioning. The Monticello Nuclear Generating Plant has been operating since September 8, 1970, under a license that is set to expire in 2030. The Prairie Island Nuclear Generating Plant (Units 1 and 2) is operated under licenses that expire in 2033 for Unit 1 and 2034 for Unit 2.

Xcel seeks Commission approval of its triennial nuclear decommissioning study, and of accrual and investment plans for its nuclear decommissioning fund for 2019-2021. This filing closely precedes the filing of the Company's 2019 Integrated Resource Plan (resource plan or IRP).²

The primary purpose of the periodic review is to determine a reasonable estimate of the cost to decontaminate and remove the nuclear facilities at the end of their operating lives. Based on that cost estimate, the Commission approves accrual and investment plans intended to establish a fund sufficient to pay decommissioning costs when incurred. Historically, the Commission has sought to ensure that rates charged for generation reasonably reflect the expected cost to decontaminate and decommission the facilities, spread over the expected lives of the plants.

In 2011, the Minnesota Legislature directed the Company to include in its decommissioning accrual filings a cost analysis assuming used nuclear fuel will be stored in the state for 60 years, 100 years, and 200 years.³ This is the third decommissioning filing subject to this requirement.

II. Summary of Commission Findings

In this order, the Commission will approve the decommissioning study and annual accruals for 2019-2021. The Commission will also approve, beginning in 2020, a \$44.4 million Annual Decommissioning Accrual, subject to possible revision based on a subsequent accrual filing to be made on July 15, 2019, which will update inputs and considers the possible implications of:

² Xcel expects to consider the long-term future of its nuclear plants in the 2019 resource plan (as all three units will reach the end of their respective license lives during the fifteen-year planning period), including continued operation through the end of their licensed lives, possible early retirements of one or more units, and/or possible life extensions.

³ Minn. Stat. § 216B.2445, subd. 1(b).

- Department of Energy continuing refunds for dry cask storage during the decommissioning process;
- The use of the SAFSTOR decommissioning method;⁴ and
- The possible use of third-party contractors for nuclear decommissioning.

Further, the Commission will approve Xcel's proposed NDT investment mix, which the Commission has concluded is appropriate for the nuclear decommissioning fund, and the NDT's transition of investments to bonds five years before decommissioning cash flows are planned to occur. And the Commission will require Xcel to return to ratepayers the Department of Energy (DOE) settlement funds for spent nuclear fuel storage damages for 2017. Finally, the Commission will establish requirements for future triennial filings.

III. Xcel's Triennial Decommissioning Filing

In its current triennial decommissioning filing, Xcel requested that the Commission:

- Approve the Company's decommissioning study and assumptions as compliant with the Company's obligations under Minnesota statutes, Commission rules, and prior Commission precedent;
- Continue the current approved annual accrual of \$14.0 million, to meet the needs of the Company's 60-year spent fuel scenario with no re-casking of the fuel, for 2019 through 2021, while strategic decisions about the future of the nuclear units are decided in Xcel's 2019 IRP;⁵
- Approve an annual accrual of \$2.0 million for end-of-life (EOL) nuclear fuel for the calendar year 2019 through 2021; and
- Permit the Company to hold settlement payments received from the DOE in an interest-bearing account until the 2019 IRP is resolved, at which time the Commission can decide whether to apply those funds to the nuclear development trust fund or return the funds to customers.

Xcel also requested that the Commission approve the following changes to fund-investment assumptions:

⁴ The NRC defines SAFSTOR as a method of decommissioning in which a nuclear facility is placed and maintained in a condition that allows the facility to be safely stored and subsequently decontaminated to levels that permit release for unrestricted use.

⁵ Since the three nuclear units will reach the end of their respective license lives during the fifteen-year planning period to be evaluated in the 2019 IRP, Xcel also discussed possible alternatives to be considered in that docket, including early retirements, life extensions, and different decommissioning approaches such as the DECON or SAFSTOR approach.

- Transitioning investments to bonds five years before decommissioning rather than the six years as previously assumed; and
- Changing the investment mix to reduce allocations to certain alternative asset classes and increase allocations to fixed income investments.

Consistent with prior triennial plan orders, the Company included discussions of the DOE settlements funds, recovery of spent-fuel management costs, the financial risk of premature decommissioning, and investment performance of decommissioning fund investments.

The 2014 triennial filing order required Xcel to analyze various decommissioning scenarios and their respective accruals. Compared to 2014, all estimates have risen significantly. Xcel analyzed a range of 20 scenarios, ten based on the decommissioning accrual increasing in 2019 and ten based on the accrual remaining unchanged until 2021. Xcel evaluated the impacts of the assumptions used in each scenario, including those relating to engineering costs, spent fuel storage after plant shutdown, decommissioning fund earnings rates, and length of recovery period.⁶

Finally, in this filing Xcel considered, for the first time since 2002, use of the SAFSTOR approach for removal and decontamination of radiological components as well as the DECON⁷ alternative it has used in the past. Xcel predicted that a shift to the SAFSTOR approach would defer a large majority of expense farther into the future, which would allow the NDT to continue to grow.

IV. Overview of Parties' Comments

A. The Department

The Department recommended that the Commission approve Xcel's decommissioning study, and generally agreed with the Company's trust fund investment strategies and assumptions. The Department also proposed certain changes to Xcel's end-of-life nuclear fuel accrual inputs. As recalculated to account for the updates to Xcel's jurisdictional allocators in various riders, the Department recommended an end-of-life nuclear fuel accrual of \$2,003,526.

The Department confirmed Xcel's decommissioning cost estimates, but disagreed with Xcel's recommendation to leave the annual nuclear decommissioning accrual rate at \$14 million. Instead, the Department recommended that the annual accrual rate should be increased to approximately \$45 million (\$31.6 million higher than the present accruals) as of January 1, 2019. The Department added that should the Commission adopt this recommendation, the Company

⁶ The scenarios included an assumption that following cessation of operations, spent fuel would be stored in Minnesota for 32, 60, 100, and 200 years, with casks being replaced every 50 years. The Company also included a 60-year scenario that does not include re-casking based on the NRC assumption that casks can be used for 100 years.

⁷ The NRC defines DECON as a method of decommissioning in which the equipment, structures, and portions of a facility and site containing radioactive contaminants are removed and safely buried in a low-level radioactive waste landfill or decontaminated to a level that permits the property to be released for unrestricted use shortly after cessation of operations.

should use the projected DOE settlement refunds to reduce the decommissioning accrual. And since the NDT's anticipated returns are higher than those received in an interest bearing account (as recommended by Xcel and the Community), depositing the funds into the NDT would likely benefit both ratepayers and the Company.

B. Prairie Island Indian Community

The Community explained that due to their close proximity to Prairie Island Units 1 and 2, they have a significant interest in ensuring that sufficient funds are available to pay the plants' and the storage facilities' future decommissioning costs. The Community questioned some of Xcel's underlying assumptions on the timelines for removing spent fuel from the site. The Community also raised concerns that nothing is currently being done to remove spent nuclear fuel from sites across the United States, and no funding has been appropriated for either a federal or interim storage facility. Finally, the Community recommended that Xcel be required to plan for the DECON alternative for decommissioning, which would result in a shorter decommissioning period than the SAFSTOR method, and to investigate use of third-party contractors for decommissioning.

V. Annual End-of-Life Nuclear Fuel Accrual and Decommissioning Accrual

A. Annual End-of-Life Nuclear Fuel Accrual

1. Positions of the Parties

Xcel explained that any unused remaining fuel at the time a nuclear plant shuts down will be casked, which is referred to as end-of-life (EOL) nuclear fuel. This unused fuel cannot be transferred to another facility, so the expense must be amortized at the end of operations. Xcel estimated the costs to be \$122.9 million, lower than the amount projected in 2014 due to changes to the Prairie Island refueling cycles, changes to Monticello's fuel management strategy, and final cycle uranium enrichment assumptions. Due to the anticipated decrease in end-of-life costs, Xcel proposed a reduction in the Minnesota jurisdictional annual accrual recovery from \$2,413,289 to \$2,040,887, based on Xcel's allocators from its 2016 test year in its multi-year rate case.

The Department reviewed Xcel's calculations and initially recommended a \$2,015,395 annual accrual based on the following changes it recommended be made to the Company's inputs:

- Use of a 28.11% tax rate instead of the 41.37% used in Xcel's initial filing;
- Use of Xcel's 2019 capital structure approved in the multi-year rate case instead of that used by the Company; and
- A return on equity of 8.99% instead of Xcel's 9.83%.

In its reply comments, the Department recommended basing the 2019 accrual on 2019 allocators, which would further reduce the end-of-life nuclear fuel accrual to \$2,003,526.

2. Commission Action

The Commission notes that the parties' calculations are not widely disparate, but finds the Department's analysis based on Xcel's 2019 allocators to be more persuasive. The Commission will therefore set an annual end-of-life nuclear fuel accrual of \$2,003,526 beginning in 2020.

B. Decommissioning Accrual

1. Positions of the Parties

Xcel explained that the objective of the decommissioning docket is to reach a reasonable cost estimate for decontamination and removal of nuclear facilities at the end of their operating lives and to set an accrual to accumulate sufficient funds to pay the decommissioning costs. Xcel asserted that decisions to be considered in the Company's upcoming IRP docket could have a significant impact on the decommissioning analysis and accrual calculation, and that the accrual set in the 2014 triennial filing should be maintained until a decision is reached in the 2019 IRP.

Xcel recommended that the information in this docket be used to inform the IRP docket, and requested that the Company be allowed to file its next decommissioning petition shortly after decisions are made in the 2019 IRP.

In reply comments, Xcel argued that due to the wide range of scenarios and accrual levels that could result from the 2019 IRP, maintaining the current accrual is the most reasonable approach and is in the public interest. Xcel also argued that since its initial filing it has learned that utilities going through nuclear decommissioning have been able to recover dry cask storage costs from the DOE rather than from decommissioning funds.

Further, Xcel argued that utilities are beginning to use third-party contractors to handle decommissioning, at significantly reduced decommissioning costs. Finally, Xcel argued that over the next three years it anticipates collecting some \$45 million in DOE refunds. Maintaining those funds in an interest-bearing account would cover approximately two years of the Department's recommended annual increase.

The Department reviewed Xcel's Monticello and Prairie Island (Units 1 and 2) accrual calculations for all decommissioning scenarios (using the 60-year DECON assumption), and found them to be reasonable. The Department, however, eliminated consideration of a license extension and SAFSTOR related scenarios from its analysis, and concluded that Monticello's accrual would be either \$21.4 million or \$23.7 million. Using the same reasoning for Prairie Island Unit 1 as for Monticello, the Department recommended an annual \$15.0 million increase from the present \$0.05 million accrual. Finally, for Prairie Island Unit 2, the Department recommended an annual accrual of \$9.1 million beginning in 2019, for a total accrual starting in 2019 of \$45.6 million, subsequently updated to \$44.4 million.

Finally, the Department recommended requiring Xcel to use the annual DOE settlement refunds to reduce its recommended increase in the decommissioning accrual.

2. Commission Action

The Commission notes that the decommissioning accrual based on the 60-year scenario used by the parties has more than tripled in the last three years. Based on this, the Commission finds that the Department's recommendation to commence a higher accrual by 2020 to be the most conservative and reasonable approach. Xcel has indicated that it plans to file a new rate case in late 2019. If the Company were again to file a multi-year rate plan, implementation of the higher decommissioning accrual could coincide with an increase in electric rates. However, if the next decommissioning study were to result in a lower accrual, then that reduction could be used to help offset the impact of any rate increases.

Based on these factors, beginning in 2020 the Commission will approve;

- A. An Annual End of Life Nuclear Fuel Accrual of \$2,003,526: and
- B. A \$44.4 million Annual Decommissioning Accrual subject to possible revision based on a subsequent accrual filing to be made on July 15, 2019, that updates inputs and considers the possible implications of:
 - Department of Energy continuing refunds for dry cask storage during the decommissioning process;
 - The use of the SAFSTOR decommissioning method, and
 - The possible use of third-party contractors for nuclear decommissioning

VI. Department of Energy Settlement Proceeds

A. Positions of the Parties

Through contracts with Xcel, the federal government was to assume responsibility for spent nuclear fuel and high-level radioactive waste. Xcel entered a Settlement Agreement with the Department of Energy (DOE) allowing Xcel to recover damages for the federal government's failure to take possession of spent nuclear fuel as agreed. The Commission has authorized different uses of the settlement funds over time, including rate relief in 2013 and 2014, and a bill refund in 2015 and 2016.

In this proceeding, the parties offered alternative uses for the settlement proceeds. Xcel and Community recommended that the 2017 DOE settlement amount be held in an interest bearing account. The Department disagreed, recommending that the 2017 settlement funds be used to reduce the annual decommissioning accrual, which it projects to increase significantly over time.

B. Commission Action

In addressing this issue, the Commission found guidance in the testimony offered by Xcel in its recent multi-year rate case,⁸ a position which differs from what the Company has proposed in

⁸ *In the Matter of the Application of Northern States Power Company for Authority to Increase Rates for Electric Service in the State of Minnesota*, Docket No. E-002/GR-15-826, Perrett Direct at 47-50.

this docket. In her direct testimony in the Company's multi-year rate case, Xcel witness Lisa H. Perkett was asked how Xcel proposed to handle the use of the settlement payments received from the DOE. In response, witness Perkett stated that the Company proposes that settlement payments received from the DOE related to spent nuclear fuel storage costs be refunded to ratepayers at the time the amount is known. Perkett further explained that the Company believes this approach addresses the Commission's order point 9 in Docket 14-761 which states:

Within 120 days of the date of this order or in the next rate case, Xcel shall make a filing to enable the Commission to determine the appropriate method for crediting any future Department of Energy Settlement proceeds resulting from the Settlement extension.

The Commission finds that the Company's approach as stated in the multi-year rate case is preferable to that recommended in this docket. Returning the settlement funds to ratepayers is reasonable, and consistent with the previous practice used to return the DOE settlement refunds to benefit ratepayers.

VII. Escalation Rates for Accrual Calculation

The NDT's investment adviser, Goldman Sachs Asset Management (GSAM) and TLG Services, Inc. (TLG), prepared a forecast analysis for the escalation/inflation rates used in the triennial filing's accrual calculations. Based on this analysis, Xcel recommended escalation rates of 4.05% for the decommissioning labor component and a 2.85% for the non-labor components.

The Department noted that the methodology used by Xcel's consultant, GSAM, differed from the methodology used in Xcel's last triennial report; however, the Department found that the new methodology is reasonable. The Department recommended that in the future Xcel use a consultant to prepare the necessary escalation analysis, rather than the Company preparing it, and the Company agreed.

The Commission agrees with the parties, and will approve Xcel's proposed escalation rate of 4.05% for the decommissioning labor component and 2.85% for the non-labor components, subject to possible change in the July 15, 2019 filings.

VIII. Nuclear Decommissioning Trust Investment Mix and Investment Strategy

A. Positions of the Parties

The Commission's February 27, 2017 order in the previous triennial docket required Xcel to reevaluate the NDT's investment mix with the purpose of reducing the investment management fees and increasing the portfolio's annual return. Xcel proposed an investments mix that removes the commodities and hedge fund real assets (commodities) categories and reallocates those funds to the fixed income category,⁹ resulting in a 60% total equity, 30% fixed income, and 10% private real estate mix.

⁹ This is demonstrated in Staff Briefing papers at p. 11, Table 6.

Xcel also requested approval to do an investment reallocation five years before decommissioning—the previous assumption had been that reallocation would occur six years before decommissioning. Xcel explained that if approved, the Company would convert only enough investments to cover each annual cash outflow, and that the change will provide greater returns without adding significant additional risk.

In its March 1, 2018 comments, the Department stated that while returns under the agency's proposed investment portfolio continue to be higher than Xcel's, the differential has decreased over time in this proceeding. The Department concluded that Xcel's performance has improved.

At the Commission meeting, the Department stated that it still did not agree with Xcel's proposed investment changes in this triennial filing, and that it continued to support small changes to the Company's proposed investment mix, including increasing the small cap allocation to 15%, eliminating the real estate holdings, and reducing the high yield bond holdings to 2.4%.

B. Commission Action

The Commission will approve the Company's proposed investment mix strategies and recommended changes to its investment allocation. The Company stated that it has recently discussed the best investment mix with the Department, and the Commission agrees that such discussions are sound policy. The Commission will require the Company to continue discussions with the Department regarding the agency's recommended changes to Xcel's investment portfolio.

The Commission also finds reasonable Xcel's proposal to begin the NDT's transition of investments to bonds five years before decommissioning cash flows are planned to occur is reasonable, and will approve it. Further, the Commission will require Xcel to continue using a consultant to calculate escalation rates in future triennial decommissioning filings. And the Commission will authorize escrow fund reporting requirements to be discontinued in future triennial decommissioning filings.

IX. Future Triennial Filing Requirements

Finally, the Commission will establish requirements for the contents of the next triennial filing to address issues left unresolved in this proceeding due in part to the timing of Xcel's upcoming IRP and to ensure the focus, depth, and quality of information is appropriate for the next comprehensive periodic review.

The Commission will continue to require Xcel to provide balance sheet accounts for Statement of Financial Accounting Standards No. 143 (SFAS 143) in its next triennial decommissioning filing with a brief narrative explaining the numbers provided on the asset retirement obligation (ARO) balance sheet for nuclear decommissioning.

As agreed by the parties, the Commission will also require Xcel to investigate and report on the use of contractors to decommission the Prairie Island Nuclear Generating Plant (PINGP) and to provide an estimate of what the length of time and cost differential would be if a contractor were used. Xcel shall also report on whether the Company ought to redistribute to retail customers the wholesale customer contribution.

Xcel may also address the use of the SAFSTOR methodology in its next decommissioning study.

Finally, the Commission discontinues its requirement for escrow fund reporting in future triennial decommissioning filings.

ORDER

1. The Commission approves Xcel's decommissioning study.
2. Beginning in 2020, the Commission approves:
 - A. an Annual End of Life Nuclear Fuel Accrual of \$2,003,526; and
 - B. a \$44.4 million Annual Decommissioning Accrual, subject to possible revision based on a subsequent accrual filing to be made on July 15, 2019 that updates inputs and considers the possible implications of:
 - Department of Energy continuing refunds for dry cask storage during the decommissioning process;
 - The use of the SAFSTOR decommissioning method; and
 - The possible use of third-party contractors for nuclear decommissioning
3. Xcel may address the use of the SAFSTOR methodology in its next decommissioning study.
4. The Commission approves escalation rates of 4.05% for the decommissioning labor component and 2.85% for the non-labor components, subject to possible change in the July 15, 2019 updated filing.
5. Xcel shall continue using a consultant to calculate escalation rates in future triennial decommissioning filings.
6. Xcel's proposed NDT investment mix is approved. Xcel shall continue discussions with the Department of Commerce regarding the agency's recommended changes to Xcel's investment portfolio.
7. Xcel's proposal to begin the NDT's investments' transition to bonds five years before decommissioning cash flows are planned to occur is approved.
8. The Commission accepts the information Xcel provided regarding premature decommissioning risk.
9. Xcel shall provide balance sheet accounts for SFAS 143 in its next triennial decommissioning filing with a brief narrative explaining the numbers provided on the ARO balance sheet for nuclear decommissioning.

10. In its next triennial decommissioning filing, Xcel shall investigate and report on the use of contractors to decommission the PINGP and to provide an estimate of what the length of time and cost differential would be if a contractor were used. Xcel shall also report on whether the Company should redistribute to retail customers the wholesale customer contribution.
11. Escrow fund reporting is no longer required in future triennial decommissioning filings.
12. Xcel shall refund the 2017 Department of Energy settlement funds to ratepayers, and promptly make a compliance filing notifying the Commission that the DOE refunds have been issued.
13. The due date for Xcel's next triennial decommissioning plan is December 1, 2020.
14. This Order shall become effective immediately.

BY ORDER OF THE COMMISSION

Daniel P. Wolf
Executive Secretary



This document can be made available in alternative formats (e.g., large print or audio) by calling 651.296.0406 (voice). Persons with hearing loss or speech disabilities may call us through their preferred Telecommunications Relay Service.