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December 12, 2008

Burl W. Haar
Executive Secretary
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul, Minnesota 55101-2147

RE: **Comments of the Minnesota Office of Energy Security**
Docket No. E002/M-08-1201

Dear Dr. Haar:

Attached are the comments of the Minnesota Office of Energy Security (OES) in the following matter:

Northern States Power Company d/b/a Xcel Energy's 2009 Nuclear Plant
Decommissioning Accrual.

The petition was filed on October 13, 2008. The petitioner is:

Teresa S. Madden
Vice President and Controller
Northern States Power Company d/b/a Xcel Energy
800 Nicollet Mall, Suite 2900
Minneapolis, MN 55401

The OES recommends **approval with modifications**. The OES's team of Nancy Campbell and myself is available to answer any questions the Public Utilities Commission may have.

Sincerely,

/s/ STEVE RAKOW
Rates Analyst

SR/jl
Attachment



BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

COMMENTS OF THE MINNESOTA OFFICE OF ENERGY SECURITY

DOCKET NO. E002/M-08-1201

I. INTRODUCTION

In Docket No. E002/D-86-604 the Minnesota Public Utilities Commission (Commission) ordered Northern States Power Company (Xcel or the Company) to review nuclear decommissioning financial parameters, funding methodology, Nuclear Regulatory Commission (NRC) external funding percentages, and cost estimates every three years. Xcel's previous decommissioning filing was made on October 11, 2005 (Docket No. E002/M-05-1648). The Commission issued its *Order Setting End-of-Life Dates and Other Guidelines for Nuclear Decommissioning Accrual and Requiring Compliance Filing* (Order) regarding Xcel's 2005 decommissioning filing on March 23, 2006. The Order:

- set end-of-life dates of:
 - 2020 for Monticello;
 - 2013 for Prairie Island Unit 1; and
 - 2014 for Prairie Island Unit 2;
- set a cost escalation rate of 3.61 percent;
- set an earnings rate on external accounts of 5.40 percent;
- required an end-of-life nuclear fuel accrual of \$972,616;
- required Xcel to provide an update on SFAS 143 accounting in the next decommissioning filing;
- required Xcel to make its next decommissioning filing on or before October 11, 2008; and
- required Xcel to work with OES to prepare a proposed external account to submit for Commission approval.¹

¹ The proposed external account was subsequently approved by the Commission's July 20, 2006 *Order Approving Accessible Escrow Fund* (Docket No. E002/M-05-1648).

In compliance with the Order, on October 11, 2008 Xcel filed the Company's *2009 Nuclear Plant Decommissioning Accrual* (Petition). As in past decommissioning filings, Xcel hired the consultant TLG Services, Inc. (TLG) to perform site-specific decommissioning cost studies. Xcel states that if the inputs that were established in the Order were used for the Petition, then the annual decommissioning expense for 2009 would be \$32,016,646. However, Xcel proposes certain changes regarding the inputs to be used in the accrual calculations. The result of the Company's proposed changes is an annual decommissioning expense for 2009 of \$7,504,099.

Regarding Monticello, there are no decisions pending regarding the life of the plant; thus there is relatively little uncertainty in the calculation process. However, for Prairie Island the question of whether to extend the plant's life is currently pending before the Commission and the U.S. Nuclear Regulatory Commission (NRC). This fact is similar to the situation in 2005 when the decommissioning filing was made during the life extension process for Monticello. Such uncertainty introduces considerable uncertainty into the proper accrual level. Therefore, the analysis of the Minnesota Office of Energy Security (OES) addresses the uncertainty regarding Prairie Island's license life in these comments.

Below are the comments of the OES regarding Xcel's Petition.

II. OES ANALYSIS

A. ASSET RETIREMENT OBLIGATION, SFAS 143

According to the Company on page 16 of its Petition, the implementation of the Statement of Financial Accounting Standards No. 143 (SFAS 143), *Accounting for Asset Retirement Obligations* (ARO) in January of 2003 brought some changes to the accrual accounting for decommissioning. The Company also states that FASB Interpretation No. 47 (FIN 47), *Accounting for Conditional Asset Retirement Obligation* was released in March 2005 and the conditionality of the ARO has resulted in some additional accounting analysis for many of the fixed assets at Xcel Energy. Xcel states that nuclear decommissioning was never assumed to be conditional in nature, thus the ARO accounting for nuclear decommissioning established in 2003 is unaffected by FIN47.

Xcel provided a summary of its ARO accounting for nuclear decommissioning on Schedule J, page 1 of 1, of the Petition. Basically, Xcel's accounting shows net assets for nuclear ARO of approximately \$1.2 billion and net liabilities for nuclear ARO for (\$1.2 billion).

OES did a limited review of the accounting for SFAS 143 related to nuclear decommissioning as discussed on page 16 and Schedule J of Xcel's petition. OES considers the balance sheet accounts for SFAS 143 related to decommissioning to be helpful in giving a big picture overview of the estimated decommissioning liability and funds available to pay for decommissioning expenses in the future. OES considers the accounting for SFAS 143 related to decommissioning

to be reasonable. OES recommends that Xcel provide year-end 2010 balance sheet accounts for SFAS 143 related to nuclear decommissioning in its next decommissioning filing. OES notes that although SFAS 143 is appropriate for purposes of accounting, it is not a determination for purposes of rates.

B. DECOMMISSIONING COSTS

1. New TLG Cost Estimate

The following discusses several significant proposed changes, along with estimated effects of these proposed changes.

a. Significant Proposed Changes

The first step in the process to determine the overall accrual necessary to fund decommissioning is to estimate the cost to decommission. As mentioned above, TLG performed site-specific decommissioning cost studies which were included in the Petition. Schedule A of the Petition states that there are three key planning differences between the 2005 and 2008 cost estimates. The differences are:

- an increase in the holding period (in the spent fuel pool) for the last reload from 5.5 years to between 12 and 15 years;
- Monticello's license life was extended by 20 years from 2010 to 2030; and
- a switch in the U.S. Department of Energy (DOE) shipping schedule to allow Prairie Island fuel to be shipped first and Monticello's spent fuel second.²

Regarding the increased holding period, Section 2, page 3 of 8 of TLG's *Decommissioning Cost Analysis for the Monticello Nuclear Generating Plant*, provided with the Petition states "The fuel is transferred from the pool once it decays to the point that it meets the heat load criteria of the storage/transport containers." Therefore, the OES understands that the duration spent fuel must remain in the spent fuel pool depends upon the heat from the spent fuel and the capability of the spent fuel container to withstand the heat. This matter clearly is an issue of nuclear safety—the OES presumes that NRC and DOE will ensure that the spent fuel is sufficiently cool for the containers selected. Since Xcel's procedures are subject to the safety requirements of NRC and DOE, the OES concludes that the holding period change is reasonable. However, the OES notes that in the 2005 decommissioning proceeding the holding period (in the spent fuel pool) for the last reload from was decreased from 9 years to 5.5 years. OES recommends that, in reply comments, Xcel reconcile the increased holding period in the 2008 Petition with the decreased holding period from the 2005 petition.

² The OES notes that the same assumption that was made in the 2005 petition; see page 1 of Schedule A of Xcel's 2005 nuclear decommissioning petition.

Regarding Monticello's life extension to 2030, both the Commission and the NRC have granted Xcel the necessary approvals for an additional 20 years of operation. Therefore, the OES concludes that the change to a 2030 end-of-life date is reasonable.

Regarding the switch in shipping schedule, Section 1, page 5 of 8 of TLG's *Decommissioning Cost Analysis for the Monticello Nuclear Generating Plant*, provided with the Petition states "The contracts also provide for exchanges of acceptance allocations among utilities, priority acceptance of spent fuel from permanently shutdown reactors and emergency acceptance of spent fuel." Considering the flexibility noted by TLG, along with the OES's 2005 review of Xcel's *Contract for Disposal of Spent Nuclear Fuel and/or High-Level Radioactive Waste* with DOE and the fact that the Commission has approved such treatment in a prior decommissioning docket, the OES concludes that the 'switch in shipping schedule' change is reasonable.

The OES notes one new item regarding the proposed switch in shipping priorities from Monticello to Prairie Island; Xcel's Petition (at Schedule A, page 1 of 3) identifies a potential legal concern in that the assumption regarding shipping priorities may be counter to Minnesota Statutes. Minnesota Statutes §116C.83, subd. 4 states:

(a) The storage of spent nuclear fuel in the pool and in dry casks at a nuclear generating plant must be managed to facilitate the shipment of waste out of state to a permanent or interim storage facility as soon as feasible in a manner that allows the continued operation of the plant consistent with sections 116C.71 to 116C.83 and 216B.1645, subdivision 4.

(b) The authorization for storage capacity pursuant to this section is limited to the storage of spent nuclear fuel generated by a Minnesota nuclear generation facility and stored on the site of that facility.

Minnesota law simply requires that Minnesota spent nuclear fuel that is stored at Xcel's Minnesota nuclear sites be managed so as to facilitate shipment to permanent or interim storage "as soon as feasible." Clearly the Commission has the authority to interpret Minnesota Statutes as they apply to this proceeding. The term that requires interpretation in this case is the word "feasible." Xcel is not trading its acceptance allocations to other utilities, but merely is reallocating them internally between the Monticello and Prairie Island sites. Therefore, overall spent fuel will be shipped from Minnesota's nuclear generating plants as soon as feasible. All that Xcel proposes is to make the shipment more economic by shipping the fuel from one independent spent fuel storage installation (ISFSI) first, allowing that ISFSI to be fully decommissioned earlier than otherwise would be the case. Therefore, the OES concludes that Xcel's proposal to plan to ship fuel from the Prairie Island ISFSI first and then from the Monticello ISFSI is consistent with Minnesota Statutes.

The OES also reviewed the other inputs used to determine the overall decommissioning cost estimate. Based upon that review, the OES concludes that the inputs used in calculating the decommissioning cost estimates are reasonable. As noted in the discussion below, the effect of these changes is a reduction overall in Xcel's decommissioning recovery.

b. Impact of Significant Proposed Changes

TLG used the inputs to calculate the decommissioning cost estimates in 2008 dollars for each nuclear unit separately. The decommissioning cost estimates as determined by TLG are:

- \$861.0 million for Monticello;
- \$719.8 million for Prairie Island Unit 1;
- \$793.9 million for Prairie Island Unit 2; or
- \$2.37 billion for all three units.

Xcel typically compares the new cost estimate to the previous cost estimate, inflated to today's dollars. At this time there are two different inflators that could be applied to the 2005 cost estimate to translate it into 2008 dollars: the inflator ordered during the 2005 decommissioning proceeding (3.61 percent), or the inflator estimated by Xcel for the Petition (2.89 percent). Depending on the inflator used to translate the 2005 cost estimate into 2008 dollars, the impact of the new cost estimate is an increase in the cost to decommission the three nuclear units of either \$501.9 million or \$540.7 million; see the Petition at Schedule A, page 2 of 3.

2. NRC Formula Minimum

OES notes that there is an NRC minimum cost calculation that is relevant for decommissioning purposes. It is important to assess whether Xcel has met NRC's minimum cost calculations to determine whether Xcel's estimates are unreasonably low. Estimates which are too low would mean that Xcel may not have sufficient funds available to decommission the units, which could place a burden on ratepayers at the time Xcel decommissions the plants. Xcel explains that this calculation can be done using two different waste burial assumptions; one is called the "blended burial option" and the other is called the "direct burial option." Using the blended burial option the NRC minimum decommissioning cost estimates (in 2008 dollars) are:

- \$485.8 million for Monticello;
- \$331.3 million for Prairie Island Unit 1; and
- \$331.3 million for Prairie Island Unit 2.³

³ See the Petition at Schedule A.4 page 1 of 1.

All 3 NRC minimum cost estimates using the blended burial option are lower than the TLG estimate. This comparison is shown in Table 1 below. Based on the information in Table 1, the OES concludes that using the TLG estimate would satisfy the NRC minimum calculation under the blended burial option.

Table 1: TLG vs. NRC Blended Burial (million dollars)

Unit	TLG	NRC-Blended	TLG Less NRC
Monticello	\$ 861.0	\$ 485.8	\$ 375.2
Prairie Island Unit 1	\$ 719.8	\$ 331.3	\$ 388.5
Prairie Island Unit 2	\$ 793.9	\$ 331.3	\$ 462.6
Total	\$2,374.7	\$ 1,148.4	\$ 1,226.3

Using the direct burial option the NRC minimum decommissioning cost estimates (in 2008 dollars) are:

- \$765.8 million for Monticello,
- \$613.8 million for Prairie Island Unit 1, and
- \$613.8 million for Prairie Island Unit 2.⁴

Again, all 3 NRC minimum cost estimates using the direct burial option are lower than the TLG estimate. This comparison is shown in Table 2 below. Based on the information in Table 2, the OES concludes that using the TLG estimate would satisfy the NRC minimum calculation under the direct burial option.

Table 2: TLG vs. NRC Direct Burial (million dollars)

Unit	TLG	NRC-Direct	TLG Less NRC
Monticello	\$ 861.0	\$ 765.8	\$ 95.2
Prairie Island Unit 1	\$ 719.8	\$ 613.8	\$ 106.0
Prairie Island Unit 2	\$ 793.9	\$ 613.8	\$ 180.1
Total	\$2,374.7	\$ 1,993.4	\$ 381.3

Since the TLG estimate is greater than the NRC formula under either the blended burial or direct burial assumption, the OES did not pursue issues stemming from the choice of burial option and the NRC minimum further.

⁴ See the Petition at Schedule A.4 page 1 of 1.

3. *Escalation Rate*

a. *Determining the Escalation Rate*

The second step in the process to determine the overall decommissioning cost estimate is to determine the appropriate escalation rate (or inflation factor) to use to translate the TLG decommissioning cost estimate from 2008 dollars into future dollars. In the 2005 decommissioning filing, Xcel proposed and the Commission approved the use of a Company-developed method (which produced a 3.61 percent escalation rate) as providing the best estimate of the appropriate escalation rate.

The Xcel method involves disaggregating decommissioning costs into separate categories and selecting the appropriate inflation estimate for each category. The Petition's Schedule B shows that Xcel disaggregated the cost estimate into 5 categories as follows:

- Labor, 59 percent of total costs;
- Materials and equipment, 17 percent of total costs;
- Energy, 3 percent of total costs;
- Burial, 7 percent of total costs; and
- Other, 14 percent of total costs.

In the Petition, the weights attached to the cost categories differ from the weights assigned in the 2005 decommissioning filing.⁵ The difference in the cost categories' weights is that the 2008 filing decreased the allocation to burial and increased the allocation to labor, energy, and other. The OES recalculated the weights used by Xcel using the schedule of total annual expenditures in Table 3.1 (Section 3, page 21 of 27) of TLG's *Decommissioning Cost Analysis for the Monticello Nuclear Generating Plant* and Tables 3.1 (Section 3, page 22 of 36) and 3.2 (Section 3, page 30 of 36) of TLG's *Decommissioning Cost Analysis for the Prairie Island Nuclear Generating Plant* and confirmed that Xcel's calculations were correct. Therefore, OES concludes that Xcel's weights are reasonable. The OES notes that Xcel used the following sources for the Company's estimates of inflation:

- Labor category, estimated by Employment Cost Index—Total Private Compensation (ECI);
- Materials and equipment category, estimated by Chained Price Index—Industrial Equipment;
- Energy category, estimated by Producer Price Index—Fuels, Related Products, and Power;
- Burial category, estimated from NUREG-1307, Rev. 12; and
- Other category, estimated by ECI.

⁵ In the 2005 decommissioning filing the weights assigned were labor 57 percent, materials 17 percent, energy 2 percent, burial 12 percent and other 12 percent.

In Schedule B at page 5 Xcel attributes the reduction in the escalation rate (from 3.61 percent to 2.89 percent) to inflation and long-term interest rates falling in recent years. Based upon the analysis in prior proceedings, the analysis in the Petition, and past Commission decisions the OES concludes that Xcel's proposed 2.89 percent escalation rate is reasonable.

b. Decommissioning Cost Estimates

The final step in the process for estimating the decommissioning cost is to take each year's spending in real (2008) dollars (from the TLG estimate) and multiply by the escalation rate (from the Xcel method) to determine the nominal dollars of spending that will occur in each future year. Once that information is known the nominal dollars that must be available in those future years to pay for decommissioning expenses is also known.

OES reviewed Xcel's calculations of the decommissioning cost estimates in nominal dollars and noted that Xcel used different periods of operation of the ISFSIs. Specifically, the OES compared the TLG cost numbers for Prairie Island (section 3, page 21 of 36 of TLG's Prairie Island report) to the numbers in the Petition (Schedule G.4 page 2 of 3). The result of the comparison was that there appeared to be three years missing in the Petition. That is TLG's costs run from 2013-2054 while the Petition's costs run from 2016-2054 (rather than 2016-2057).⁶ During discovery the OES asked Xcel about this and the Company responded that the ISFSI does not operate for a particular period after decommissioning; rather, the ISFSI operates until the spent fuel is shipped out. An increase in the operation time will increase the amount of spent fuel and, in turn, the duration of ISFSI operation, but Xcel concluded that a three-year extension to the operating life of the power plant (from 2013 to 2016) did not warrant an extension of the operating life of the ISFSI.⁷

In summary, OES concludes that Xcel's estimate of the nominal dollars of spending that will occur in each future year is reasonable.

⁶ The OES notes that the difference in initial year merely reflects Xcel's assumption of a three-year life extension.

⁷ In the analysis below, the OES assumed the following impacts of longer plant life (and thus the quantity of spent fuel) on the shut down date for the ISFSI at Prairie Island:

- plant shut down 2013-14, ISFSI shut down 2054;
- plant shut down 2016-17, ISFSI shut down 2054;
- plant shut down 2018-19, ISFSI shut down 2057;
- plant shut down 2020-21, ISFSI shut down 2061; and
- plant shut down 2023-24, ISFSI shut down 2072.

C. DECOMMISSIONING ASSETS

1. Decommissioning Funds Available Today

The first step in the process of determining the total revenues necessary for decommissioning is to determine the amount of funds currently set aside. Schedule D of the Petition explains that, since 1999, Xcel has used a “theoretical reserve amount” to account for a portion of the unrealized gains in the external funds. Prior to 1999 the amount of funds set aside was determined using the amount recorded on the Company’s books as provided by the trustee (Mellon Bank). That calculation meant the realized gains and losses were reflected in the amount available but that the unrealized gains and losses were not reflected in the amount available. Reflecting the unrealized gains would increase the book value of the investment; reflecting the unrealized losses would decrease the book value.

In the 1999 decommissioning filing, the Commission authorized a switch to calculation of a “theoretical fund balance,” which attempts to reflect a portion of the unrealized gains and losses into the amount available. In essence, the theoretical balance is calculated by applying an assumed interest rate to the amounts set aside for decommissioning. OES reviewed Xcel’s calculations and determined that, given a 5.4 percent interest rate, the calculations were correct. The OES noted in Schedule G. 3 of the Petition that, in changing the Prairie Island shutdown date from 2013-14 to 2015-17 Xcel did not reconfigure the ‘leap year adjustment’ apparent in the cost figures for several years so that the leap year adjustment appears in the correct years. Since the impact of this error is so small, about \$100 or less, OES did not pursue this issue.

As a further check on the reasonableness of Xcel’s assumed interest rate, OES compared the market value of the investments of the nuclear decommissioning trust to the theoretical balance. The market value of the investment of the nuclear decommissioning trusts can be obtained by adding up the total trust fund and escrow fund balances on pages 11 and 12 of the Petition. The total fund balance in market value terms (as of June 30, 2008) is about \$951.1 million. This amount can be compared to the theoretical balance calculation for all three units which arrives at a total of about \$960.2 million. The difference is a negative amount—about \$9.1 million. These calculations are summarized in Table 3 below.

Table 3: Market Value vs. Theoretical Balance

Unit	Theoretical Balance	External Escrow	External Trust	Actual Balance	Difference
Formula	a	b	c	d = b + c	e = d - a
Monticello	\$ 346,881,950	\$ 18,281,547	\$ 329,045,743	\$ 347,327,290	\$ 445,340
Prairie Island 1	\$ 291,854,730	\$ 28,870,960	\$ 261,652,148	\$ 290,523,108	\$(1,331,622)
Prairie Island 2	\$ 321,508,367	\$ 36,877,149	\$ 276,368,659	\$ 313,245,808	\$(8,262,559)
TOTAL	\$ 960,245,047	\$ 84,029,656	\$ 867,066,550	\$ 951,096,206	\$(9,148,841)

Table 3 shows that Xcel's theoretical balance calculations reasonably account for the actual unrealized gains and losses for Monticello and Prairie Island 1. For Prairie Island 2, the theoretical balance is somewhat high (by about \$8 million or 2.6 percent). To further test the reasonableness of the theoretical balance OES constructed two scenarios by assuming the market value of Xcel's funds dropped by 10 percent and by 20 percent. The purpose of these two scenarios is to determine the sensitivity of Xcel's theoretical reserve calculations to significant, adverse market conditions. The result of a 10 percent market drop scenario is that Xcel had a \$104.26 million deficit (market value less than the theoretical balance). The result of a 20 percent market drop scenario is that Xcel had a \$199.37 million deficit (market value less than the theoretical balance). Thus, OES concludes that the theoretical balance calculation is reasonable, but no longer has unrealized gains to cover substantial market declines.

In summary, OES continues to agree with Xcel's theoretical balance method as an appropriate means to reflect the unrealized gains and losses while smoothing out year-to-year swings in the market value of the investments. Also, OES agrees with Xcel's calculations of the theoretical balance as the amount currently available for decommissioning.

2. *Estimated Earnings Rate*

The second step to determine the revenues necessary for decommissioning is for the Company to determine an estimated earnings rate (or interest rate) for the funds set aside for decommissioning in the future. The Petition's Schedule C recommends that an earnings rate of 6.3 percent be used. The 6.3 percent rate is based upon an equity/bond split of 60 percent equity and 40 percent bonds. Xcel supports the 60 percent allocation towards equities for two reasons. First, this structure minimizes the present value of the total payments necessary at the 95th percentile, or "worst-case" conditions. Second, the Petition states:

This allocation appears reasonable from a volatility standpoint as it is among the efficient allocations with respect to the year-to-year change in contributions. Further diversification of equity has minimal impact on results.

OES agrees with this analysis and concludes that an equity/bond split of 60 percent equity and 40 percent bonds is reasonable. In schedule C Xcel states that the result of an equity/bond split of 60 percent equity and 40 percent bonds is 6.3 percent as the overall, after-tax rate of return.

D. DECOMMISSIONING ACCRUAL-MONTICELLO

1. Decommissioning Accrual

Once the nominal dollar costs, the currently available funds, the earnings rate on funds set aside, and the retirement date are known the requisite annual decommissioning accrual can be estimated. At this time, there are no questions surrounding the appropriate life to use for Monticello. OES used the following sources to simulate the decommissioning accounts:

- a cost schedule inflated to future dollars (see Section B of these comments);
- the currently available decommissioning funds (see Section C1); and
- the future earnings rate on the funds available (see Section C2).

Once the account is established, the appropriate annual accrual which will leave a zero balance at the end of the decommissioning process can be calculated. At this point, the OES analyzed Monticello using the theoretical balance which includes both the external trust funds and external escrow funds. The result from the simulation is that at the end of decommissioning the Monticello accounts have a significant surplus (about \$3.8 billion), meaning there should be no annual accrual for Monticello at this time. The OES further tested this conclusion with several contingencies. First, the OES reduced the beginning balance by 20 percent (to simulate a decrease in the value of the funds due to a market downturn) and the result was still that no annual accrual was necessary (a surplus of about \$1.3 billion). Second, the OES increased the inflation rate (applied to decommissioning costs) by 1 percentage point (to 3.89 percent) and the result was also that no annual accrual was necessary (a surplus of about \$0.9 billion). Third, the OES decreased the earnings rate applied to decommissioning funds by 1 percentage point (to 5.30 percent) and the result was that no annual accrual was necessary (a surplus of about \$0.6 billion).

In summary, the OES recommends that the Commission approve the inputs to the decommissioning accrual calculations and the resulting accrual calculations for the Monticello unit with the result that no annual accrual is needed for the Monticello plant.

2. Refund Escrow Account

On page 12 of the Petition Xcel states “We believe that the financial goals have been met for the Monticello external escrow fund and that the Commission should direct the Company to proceed with the process to provide the return of these funds.” The OES tested this recommendation by analyzing the Monticello decommissioning balance without the escrow fund under several contingencies.⁸ For the base case, the result was that the account still showed a significant surplus at the end of decommissioning (about \$3.0 billion) and no accrual is necessary at this

⁸ Specifically, the same analysis was performed as in the previous section (and in Xcel’s Schedule G4) but with the 2009 beginning balance reduced from \$346.88 million to \$324.21 million.

time. First, the OES reduced the beginning balance by 20 percent (to simulate a decrease in the value of the funds due to a market downturn) and the result was that no annual accrual was necessary (a surplus of about \$0.6 billion). Second, the OES increased the inflation rate (applied to decommissioning costs) by 1 percentage point (to 3.89 percent) and the result was that no annual accrual was necessary (a surplus of about \$0.02 billion). Third, the OES decreased the earnings rate (applied to decommissioning funds) by 1 percentage point (to 5.30 percent) and the result was that no annual accrual was necessary (a surplus of about \$0.12 billion).

Based upon the above analysis, the OES recommends that the Commission approve Xcel's proposal to refund the accessible escrow account. However, if the Commission is concerned by the relatively small surplus at the end of decommissioning if the escrow account is refunded and inflation is higher than expected or earnings are lower than expected, the Commission could defer the issue of refunding the account to Xcel's next triennial filing.

E. DECOMMISSIONING ACCRUAL-PRAIRIE ISLAND

1. Four Base Scenarios for Prairie Island

Currently the actual life of the Prairie Island facility is uncertain. Depending upon the decisions that will be made regarding the Company's certificate of need application to the Commission (Docket No. E002/CN-08-510) and license renewal application to the NRC, the shut down date for two units could be either 2013 and 2014 or 2033 and 2034. Further, there is no way to ascertain at this time what future decisions eventually will be made by the Commission and NRC regarding the shut down date. Therefore, the OES calculated several scenarios regarding the annual accruals. The scenarios were selected to provide a spectrum of choices. Specifically, the scenarios assume Prairie Island shuts down in 2013 and 2014 (current license life), 2016 and 2017 (Xcel's three-year extension assumption), 2018 and 2019 (a five year extension), and 2023 and 2024 (ten-year or mid-point of a license extension). The simulations were done using the same set of information as for Monticello:

- a cost schedule inflated to future dollars (see Section B of these comments);
- the currently available decommissioning funds (see Section C1); and
- the future earnings rate on the funds available (see Section C2).

The results of these calculations are provided in Table 4. These scenarios result in a broad range of annual accruals, varying between a low of no accrual and a high of about \$26.7 million for the annual accrual.

Table 4: Prairie Island Annual Accrual

Facility	Plant Shut Down	Annual Accrual
Prairie Island 1	2013 Shut Down	\$ 15,422,397
Prairie Island 1	2016 Shut Down	\$ 4,773,320
Prairie Island 1	2018 Shut Down	\$ 1,322,554
Prairie Island 1	2020 Shut Down	\$ -
Prairie Island 1	2023 Shut Down	\$ -
Prairie Island 2	2014 Shut Down	\$ 11,269,018
Prairie Island 2	2017 Shut Down	\$ 2,730,779
Prairie Island 2	2019 Shut Down	\$ -
Prairie Island 2	2021 Shut Down	\$ -
Prairie Island 2	2024 Shut Down	\$ -
Total	2014 Shut Down	\$ 26,691,415
Total	2017 Shut Down	\$ 7,504,099
Total	2019 Shut Down	\$ 1,322,554
Total	2021 Shut Down	\$ -
Total	2024 Shut Down	\$ -

2. *Consequences of Decommissioning Choices*

Given the range in possibilities shown in Table 4, the OES performed a sensitivity analysis to determine the impact of approval or rejection of Xcel’s certificate of need application and license renewal application on the annual accrual. This approach is similar to the analysis performed by OES in Xcel’s previous decommissioning petition for Monticello when the decommissioning filing and a license extension petition were pending at the same time.

The OES calculated the consequences of the 4 scenarios discussed above (Prairie Island shuts down in 2013-‘14, 2016-‘17, 2020-‘21, and 2023-‘24). For purposes of these scenarios, the OES assumes that Prairie Island’s certificate of need and license renewal applications would be decided in early 2010. Therefore, the calculation keeps the accrual shown in Table 4 in place for two years (2009 and 2010). Then in 2011 the life is adjusted to be either 2013-‘14 (assuming Commission and/or NRC rejection) or 2033-‘34 (assuming Commission and NRC approval) and the resulting accrual calculated. The results of the calculations of the annual accruals are provided in Table 5 below. Table 5 demonstrates that, regardless of the decision made by the Commission in this docket, there is the potential for large changes in the annual decommissioning accrual between 2010 and 2011. Thus, the choices made in this docket need to be carefully considered, as discussed further below.

Table 5: Consequences of Decommissioning Choices⁹

Assumed Life	Scenario	2009-'10	2011+	Change 2010-'11	Spread in 2011
2013-'14	Current Life				
	Later Approve CN	\$26,691,415	\$ -	\$(26,691,415)	
	Later Reject CN	\$26,691,415	\$26,691,415	\$ -	\$26,691,415
2016-'17	Xcel Proposal				
	Later Approve CN	\$ 7,504,099	\$ -	\$ (7,504,099)	
	Later Reject CN	\$ 7,504,099	\$40,870,414	\$ 33,366,314	\$40,870,414
2018-'19	Five Years				
	Later Approve CN	\$ 1,322,554	\$ -	\$ (1,322,554)	
	Later Reject CN	\$ 1,322,554	\$45,442,480	\$ 44,119,926	\$45,442,480
2023-'24	Mid-Point				
	Later Approve CN	\$ -	\$ -	\$ -	
	Later Reject CN	\$ -	\$44,927,245	\$ 44,927,245	\$44,927,245

3. Recommended Accrual

The OES observes that, depending upon the primary goals selected all of the above accruals are reasonable within a particular framework, each of which has merit. For example, the OES could recommend that the Commission not go beyond what is currently known. In that case the ‘currently known’ 2013-‘14 shut down accrual would be the correct recommendation. This scenario would be consistent with traditional accounting practice; however, a significant drawback is that the accrual would be significantly overfunded in 2011 if a 20-year life extension is ultimately approved.

The OES could also make its recommendation in this proceeding to be consistent with the OES’s recommendation and the Commission’s Order in the 2005 decommissioning docket (E002/M-05-1648). In that case the ten year extension (2023-‘24 shut down) accrual would be the correct recommendation. While this approach would ensure that the OES’s recommendations are consistent across cases, it again leaves the potential for a large swing in the accrual from 2010 to 2011.

The OES also considered making its recommendation to be consistent with the goal of minimizing the year-to-year swing (specifically, 2010 to 2011) in the accrual. This approach would be one form of risk minimization. As shown in Table 5 above, in that case the current life 2013-‘14 shut down accrual would be the correct recommendation assuming that approval and

⁹ The “Change in 2010-‘11” column is calculated as the difference between the 2009-‘10 column and the 2011+ column; the “Spread in 2011” column is calculated as the difference within the “Change 2010-‘11” column for the ‘approve CN’ and ‘reject CN’ rows.

rejection both have an equal probability of occurring. This approach would produce the smallest change between 2010 and 2011 considering both potential outcomes.

Given the significance of the effects of the decisions in this case on the monetary outcomes, the OES concludes that the goal of risk minimization in terms of the change in the year-to-year accrual is the first decision criterion. This criterion is the same criterion as was recommended by OES in the previous decommissioning docket (E002/M-05-1648) for analyzing a similar situation for Monticello. This criterion is important because, in treating ratepayers in each year as a different ‘generation,’ this approach attempts to minimize the amount of subsidies (or differing levels of accruals) between generations. This approach helps ensure that customers who use power from the facility pay a fair share of the costs, based on what is known at this time.

The OES calculated that, assuming a probability of 50/50 regarding the decisions in the CN proceeding, setting the decommissioning accrual life at 2013-’14 would be appropriate. However, considering information regarding Prairie Island from past resource planning dockets, the Commission’s decisions regarding Monticello, and the U.S. Nuclear Regulatory Commission’s decisions regarding other license extension requests the OES concludes that the probability of Prairie Island’s license life being extended is significantly higher than 50 percent. The OES calculated that at a 63 percent probability of license extension the expected values of the 2010 to 2011 change so that the expected values for the current life (2013-’14) and the 10 year extension (2023-’24) scenarios are equal. For greater probabilities the 10-year extension scenario produces the least expected value in the 2010 to 2011 change. Based upon this analysis, the OES recommends that the Commission approve the inputs to the decommissioning accrual calculations and the resulting accrual calculation for the Prairie Island unit assuming a 2023-’24 shut down date. The OES notes that in Xcel’s 2005 decommissioning filing, under similar circumstances for Monticello the Commission also approved a ten-year extension.

F. END-OF-LIFE NUCLEAR FUEL ACCRUAL

In addition to the annual accrual to fund decommissioning, the instant filing requests determination of an accrual for end-of-life nuclear fuel. The purpose of this accrual is to recover the expense associated with the unused nuclear fuel at the time of reactor shutdown. Unlike the decommissioning funds which are held in external accounts, the end-of-life nuclear fuel accrual is held in internal funds at Xcel. Xcel’s analysis in Schedule H of the Petition produced the future amounts to be recovered of \$86,483,844 for Monticello and \$55,410,917 for Prairie Island or \$141,894,761 for the three units combined. This projected recovery of \$141,894,761 compares to \$49,196,730 in the 2005 decommissioning filing. Xcel provides three explanations for the significant cost increase:

1. significant increases in the cost of nuclear fuel;
2. calculating Monticello’s costs for 2030 compared to 2010 in the prior filing; and
3. elimination of the strategy to re-use fuel assemblies from previous operating cycles.

The OES reviewed Xcel's calculations and explanations and concluded that they are reasonable given the assumptions. However, as explained above, the OES recommends a life of 2023-'24 for Prairie Island for decommissioning purposes in this filing. Applying the life of 2023-'24¹⁰ to the end-of-life nuclear fuel accrual reduces the accrual for Prairie Island from \$3.37 million to \$1.37 million. OES notes that the accrual for Monticello is \$1.37 million. Therefore, the OES recommends that the Commission approve an accrual of \$2.74 million for Monticello and Prairie Island combined.

G. PREMATURE DECOMMISSIONING RISK

In the Petition Xcel states:

In the interest of keeping the annual nuclear decommissioning update filing as relevant and concise as possible, the Company requests that the requirement of an annual update on the premature risk of nuclear operations be amended to be required in years when full nuclear decommissioning are to be completed and only when material changes to the risks or mitigating coverage for these risks take place. An investigation of premature risk would continue to be provided in the Company's triennial nuclear decommissioning filings.

Based upon review of past annual nuclear decommissioning updates filed by Xcel, the OES agrees with Xcel's request and recommends that the Commission approve Xcel's proposal.

III. OES RECOMMENDATION

First, the OES recommends that, in reply comments, Xcel reconcile the increased holding period in the Petition with the decreased holding period from the 2005 Petition. Second, the OES recommends that the Commission:

- require Xcel to provide year-end 2010 balance sheet accounts for SFAS 1431 related to nuclear decommissioning;
- approve the inputs to the decommissioning accrual calculations and the resulting accrual calculations for the Monticello unit and the result of no annual accrual;
- approve Xcel's proposal to refund the accessible escrow account; and

¹⁰ This was done by increasing the remaining life from 8.3 years to 15.3 years.

- approve the inputs to the decommissioning accrual and end-of-life calculations and the resulting accrual calculation for the Prairie Island units assuming shut down dates of 2023 and 2024; and
- approve Xcel's proposal regarding the investigation of premature risk of nuclear operations.

/jl

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