ENCLOSURE 2

DECEMBER 2014 TRIENNIAL NUCLEAR PLANT DECOMMISSIONING ACCRUAL FILING TO MINNESOTA PUBLIC UTILITIES COMMISSION

38 pages follow

Xcel Energy®

414 Nicollet Mall
Minneapolis, MN 55401

December 1, 2014

—Via Electronic Filing—

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

RE: PETITION
2016-2018 TRIENNIAL NUCLEAR PLANT DECOMMISSIONING ACCRUAL
DOCKET NO. E002/M-14-761

Dear Dr. Haar:

Northern States Power Company, doing business as Xcel Energy, submits a Petition for approval of our 2016-2018 Triennial Nuclear Decommissioning Accrual and supporting materials. We propose a January 1, 2016 effective date for the new decommissioning accrual.

We have electronically filed this Petition and supporting materials with the Minnesota Public Utilities Commission, and copies have been served on the parties on the attached service list. In addition, a one page summary of the filing has been provided to persons on the attached service list. The one-page summary provided also contains directions on how to access an electronic copy of the full filing via the Commission's website.

Please contact me at allen.krug@xcelenergy.com or (612) 330-6270 if you have any questions regarding this filing.

Sincerely,

/s/

ALLEN D. KRUG
ASSOCIATE VICE PRESIDENT, STATE REGULATORY POLICY
RATES AND REGULATORY AFFAIRS

Enclosures
c: Service List

State of Minnesota
Before the
Minnesota Public Utilities Commission

Beverly Jones Heydinger	Chair
David Boyd	Commissioner
Nancy Lange	Commissioner
Dan Lipschultz	Commissioner
Betsy Wergin	Commissioner

IN THE MATTER OF THE PETITION OF NORTHERN STATES POWER COMPANY, A MINNESOTA CORPORATION FOR APPROVAL OF THE 2016-2018 TRIENNIAL NUCLEAR DECOMMISSIONING ACCRUAL	DOCKET NO. E002/M-14-761 **PETITION**

OVERVIEW

Pursuant to Minn. Stat. § 216B.11 and § 216B.2445 and Minn. R. 7825.0500 through 7825.0800, and prior Minnesota Public Utilities Commission (Commission) Orders, Northern States Power Company, doing business as Xcel Energy, submits our Petition for approval of the 2016-2018 Nuclear Decommissioning Accrual. The Company requests the Commission:

- Approve our decommissioning study and assumptions as a reasonable estimate of the amount of funds necessary to support decommissioning at the end of our nuclear facilities' operating lives;
- Approve an annual accrual, to meet the needs of the Company's 60-Year spent fuel scenario, of approximately $14.0 million for decommissioning and $2.0 million for end-of-life (EOL) nuclear fuel starting January 1, 2016 for the calendar years 2016 thru 2018 while maintaining the current approved amount for 2015; and
- Apply a portion of future settlement payments received from the United States Department of Energy (DOE) to the accrual, eliminating the need to begin charging customers to fund the deficit, and crediting the remainder of the Settlement funds to customers.

While the Company is not requesting a material change in accrual amounts in this filing, the Company is requesting Commission approval of changes in investment assumptions. Specifically, the Company requests Commission approval of the following three investment assumption changes in order to improve the expected

earnings of the investment portfolio to ensure that decommissioning funding needs are met without excess costs to customers:

- Discontinue contributions to the Escrow Fund and transfer the fund balance to the Qualified Trust funds (Qualified Trust). The discontinuation would eliminate the tax and performance drag this fund has on the overall return;
- Transition investments to bonds six years before decommissioning cash flows rather than the seven years as previously assumed; and
- Change the investment mix and the authority to update the mix as needed for the Qualified Trust to allow the Company an opportunity to realize higher returns by increasing the portfolio's exposure to equities. Updates to the portfolio mix would be reported in the annual compliance filings provided by the Company.

Consistent with Minn. Stat. § 216B.2445, the Company provides scenarios assuming spent fuel will be stored in the State for 60 years, 100 years, and 200 years following cessation of operations at the plant. Pursuant to the Commission's Order in our previous Triennial Nuclear Decommissioning Accrual filing, we have modified the 100-year and 200-year scenarios to include the cost of switching out the dry cask storage units every 50 years.[1] In addition, we are including a scenario assuming spent fuel will be stored in the state for 36 years. This scenario follows the Blue Ribbon Commission on America's Nuclear Future (BRC) report recommendations for the prompt development of centralized interim storage.

The overall goal of the decommissioning accrual schedule is designed to ensure that the customers who benefit from nuclear power pay the costs associated with that power at the time it is generated. The basis of the decision framework remains sound and we will ensure that the accruals are as accurate as possible for Commission decision-making. We also will include analysis for those scenarios reasonably reflective of current circumstances and those that the legislature has specifically directed the Company and Commission to evaluate.

In this Petition, we outline:

- The calculation of the decommissioning accrual, including an explanation of the primary factors that have changed since the last filing;
- The status of the fund balances to date and the influence this has on the overall accrual; and
- Funding alternatives for the decommissioning accrual.

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[1] *In the Matter of Northern States Power Company d/b/a Xcel Energy for Approval of the 2012-2014 Triennial Nuclear Plant Decommissioning Accrual,* Docket No. E002/M-11-939, ORDER APPROVING NUCLEAR DECOMMISSIONING PLAN AND MODIFYING REFUND PLAN (December 4, 2012).

The assumptions included in the decommissioning study reflect the proposed change in investment strategy noted above. The proposed annual accrual of $14.0 million is contingent on all assumptions used for the calculation being approved. In the event that any of these assumptions are not accepted, the accrual amount will need to be adjusted to reflect changes in the calculation.

I. SUMMARY OF FILING

A one-paragraph summary of the filing accompanies this Petition pursuant to Minn. R. 7829.1300, subp. 1.

II. SERVICE ON OTHER PARTIES

Pursuant to Minn. Stat. § 216.17, subd.3, Xcel Energy has electronically filed this document. A summary of the filing has been served on all parties on the attached service list

III. GENERAL FILING INFORMATION

Pursuant to Minn. R. 7825.3200, 7825.3500, and 7829.1300, subp. 3. Xcel Energy provides the following required information:

A. Name, Address, and Telephone Number of Utility

Northern States Power Company
Xcel Energy
414 Nicollet Mall
Minneapolis, MN 55401
(612) 330-5500

B. Name, Address, and Telephone Number of Utility Attorney

Kari L. Valley
Assistant General Counsel
Xcel Energy
414 Nicollet Mall, 5th Floor
Minneapolis, MN 55401
(612) 215-4526

C. Date of Filing and Date Proposed Accrual Will Take Effect

This Petition is being filed December 1, 2014. Xcel Energy requests that upon Commission approval the new accrual become effective beginning January 1, 2016.

D. Statute Controlling Schedule for Processing the Filing

Under Minn. R. 7829.0100, subp. 11, this request for approval of decommissioning accrual is a "miscellaneous" filing because no determination of the Xcel Energy general revenue requirements is necessary. There is no specific statute that prescribes the amount of time the Commission has to rule on this Petition.

E. Utility Employee Responsible for the Filing

Allen D. Krug
Associate Vice President, State Regulatory Policy
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IV. DECOMMISSIONING ACCRUAL

A. Introduction

The primary objective of a decommissioning docket is to arrive at a reasonable estimate of what it will cost to decontaminate and remove the nuclear facilities at the end of the operating lives of the nuclear plants. Once an estimate is established, the Commission determines the amount of expense to accrue annually to accumulate a fund sufficient to pay the decommissioning costs when incurred.

The Commission historically has been concerned that rates charged for current production reflect the expected cost to decontaminate and decommission the facilities, spread over the remaining lives of the plants. The Commission approves the decommissioning study and an associated accrual when it finds that the analysis is a reasonable approximation of the expected decommissioning costs and in the public interest.[2]

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[2] *See In the Matter of Northern States Power Company d/b/a Xcel Energy's Petition for Approval of the 2005 Review of Nuclear Plant Decommissioning*, Docket No. E002/M-05-1648, ORDER SETTING END-OF-LIFE DATES AND OTHER GUIDELINES FOR NUCLEAR DECOMMISSIONING ACCRUAL at 6 (March 23, 2006).

The assumptions included in this accrual analysis result in a reasonable estimate of future decommissioning costs and we request that the Commission approve the proposed study and resulting accrual.

B. Scenarios Evaluated

Consistent with previous filings, in this filing, the Company examines the impact of assumptions in the engineering cost estimate, costs associated with spent fuel storage following plant shutdown, escalation, inflation and earnings rates, fund investment structure, and recovery period.

The Company has computed the corresponding decommissioning accruals for 2016 for the 36-year, 60-year, 100-year, and 200-year cost estimate scenarios. The 100-year and 200-year scenarios assume that spent fuel storage dry casks will be replaced every 50 years.

We did not include a replacement of dry casks for the 60-year scenario because recent activities by the Nuclear Regulatory Commission (NRC) indicate that cask life is at least 60 years and might be 100 years, or longer. This is supported by the NRC's recent actions to process the renewal of the licenses of multiple Independent Spent Fuel Storage Installations (ISFSI)[3], including for Prairie Island, a total operation period of 60 years (a 20-year initial license plus a 40-year renewal) of operation. Under the renewed ISFSI licenses, cask monitoring and maintenance activities are reviewed and approved by the NRC and provide reasonable assurance that the casks will continue to store used nuclear fuel safely for a minimum of 60 years.

In addition, in the Generic Environmental Impact Statement for Continued Storage of Spent Fuel published in NUREG-2157 in September 2014, the NRC states, "The NRC assumes replacement of dry casks after 100 years of service life; however, replacement times will depend on actual degradation observed during continued regulatory oversight for maintaining safety during continued storage." We believe that taken together these two findings support not assuming replacement at 50 years under the 60-year scenario. The large step up in the accrual between the 60-year and the 100-year scenario is primarily due to the recasking assumption that is included in the 100-year and 200-year cost estimate.

For the new accrual, the Company has presented four scenarios in total. The decommissioning scenarios depicted in Table 1 below result in the following 2016 accrual for the Minnesota jurisdiction (MN Jurisdiction):

[3] An ISFSI is also known as a dry cask storage facility.

Table 1 – Summary of 2016-2018 Accruals

Decommissioning Period	2016-2018 Annual Accrual
36 years	$10,413,729[4]
60 years	$14,030,831
100 years	$35,541,564
200 years	$42,315,825

These accrual scenarios reflect changes to the methodology that differ from our previous assumptions, including: discontinue use of the Escrow Fund, transition to bonds later in our planning horizon, and implement a new asset mix with a higher allocation to equities. The basis for these changes is further discussed in the following section.

The Company requests that the 2015 accrual remain consistent with the accrual that was set in the last Triennial Nuclear Decommissioning Accrual Order, $14,189,132, and that the new accrual analysis be used for the years 2016 through 2018. This request allows for a complete and thorough review of the Petition and assures that the 2015 accrual year remains consistent with what was included in the 2015 Multi Year Rate Plan (MYRP) in the pending rate case, Docket No. E002/GR-13-868.

C. Primary Factors Changed Since 2011 Petition

The decommissioning analysis is comprised of mainly three discrete steps. The first is to determine a decommissioning cost estimate for a chosen scenario that equates to a period of time it is anticipated the federal government will begin accepting used nuclear fuel and when the last shipment of used nuclear fuel leaves our plants.[5] The second is to determine the earnings estimate based on the investment mix over the period of time. This includes an analysis of the expected returns on various asset classes and changing investment strategies based on when liquidity would be needed to cover decommissioning costs. The third step is to determine an annuity necessary to fully fund the costs of decommissioning each site based on the earnings estimates developed for that scenario.

This Petition examines the five primary areas that contribute to the amount needed for decommissioning at the expiration of operating licenses and are summarized as follows:

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[4] 36-year scenario accrual assumes reallocation of escrow fund balances between plants.

[5] It is assumed that the site is fully dismantled, radiologically decontaminated, and restored.

- *Changes to the engineering and other cost estimates.* We revised the engineering cost estimates, using multiple fuel storage duration scenarios. The 100- and 200-year scenarios assume replacement of spent fuel storage dry casks every 50 years. We also reviewed cost impacts on local communities.
- *Changes in assumptions about escalation/inflation of costs over time.* We evaluated multiple escalation/inflation rates: one for the operating and plant decommissioning period and one for the ISFSI and site restoration period;
- *Revisions to the expected earnings rate.* We applied multiple earnings rates, one set for each cost estimate scenario: one for the operating period and one for post shutdown period;
- *Investment structure throughout operations and decommissioning period.* We used the June 30, 2014 actual market value fund balances for the Qualified Trust and Escrow Funds adjusted for the assumed tax effect on unrealized gain and losses residing in the fund at this date;
- *Length of annuity period.* We recommend the annuity period be the remaining operating life for each nuclear unit.

A detailed discussion of each of these primary areas is provided below.

1. Engineering and Other Cost Estimates

a. Scenarios Evaluated

One issue that influences the duration and pattern of decommissioning expenditures is the procedures in place for the handling of spent fuel; mainly the period spent fuel remains in the pool and is stored on site. As with all decommissioning cost estimates, the dismantlement and removal of contaminated structures cannot be completed until all spent fuel has been removed from the reactors and storage pools and placed in dry storage containers in the ISFSI. Final release of the site from all licenses comes when all the fuel is removed from the on-site storage facility and the storage facility has been removed. The difference in the 36-year, 60-year, 100-year, and 200-year scenarios are related to the storage facility operational period and the cost to replace spent fuel dry storage casks for the 100-year and 200-year scenarios. The radiological decommissioning of the nuclear plant is constant throughout all scenarios.

In the Company's last nuclear decommissioning filing it was assumed that a federal off-site storage or disposal facility would be available in 2025 allowing spent fuel to be removed from Xcel Energy's Minnesota nuclear plant sites by 2053 at Prairie Island and 2066 at Monticello. In such a scenario, known as Prompt Removal and

Dismantlement or DECON[6], it is assumed in the cost estimate that all spent fuel used would be removed from the storage pools after approximately 12 years at Monticello and 15 years at Prairie Island to meet cool down requirements and placed in dry storage. It was assumed that the federal government would begin removing fuel from our sites while the plants are still operating and that the overall fuel removal schedule only added approximately 21 years to the overall decommissioning period at Prairie Island and 36 years at Monticello.[7]

In the current filing, it is assumed that spent fuel will be moved off-site such that all fuel will be removed from Minnesota within the required 60-year, 100-year, or 200-year timeframe specified by Minn. Stat. § 216B.2445. The 100-year and 200-year scenarios assume that spent fuel storage dry casks will need to be replaced every 50 years. Under both scenarios, the first spent fuel canister would be replaced in 2052 at Prairie Island and 2058 at Monticello.

Consistent with our previous filing, we have evaluated a 36-year scenario, assuming a centralized interim storage facility will begin operation in 2025, allowing shipments from the Prairie Island and Monticello sites to begin in 2027 with all spent fuel being removed from Minnesota by 2066. Based on the current status of the BRC's support for centralized interim storage, the 36-year scenario may represent a realistic length of time for all spent fuel to be shipped off-site to a federal facility following the shutdown of Monticello and Prairie Island, assuming that the federal facility will be capable of receiving 3,000 metric-tons heavy metal each year from all nuclear power plants nationwide.[8]

The determination of the nominal costs for total decommissioning of each unit relies upon the prompt removal of the plant facilities shortly after shut down and the estimated spent nuclear fuel acceptance schedule for transferring the spent fuel over to the federal government or another offsite facility. We extrapolate these fuel-shipping schedules from basic information provided by the federal government.

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[6] DECON is defined by the NRC 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."

[7] Since the last decommissioning filing, the NRC has resumed work on its review of the proposed Yucca Mountain repository as directed by the U.S. Court of Appeals. In October 2014, the NRC issued its Safety Evaluation Report Related to Disposal of High-Level Radioactive Wastes in a Geologic Repository at Yucca Mountain, Nevada: Repository Safety after Permanent Closure (NUREG-1949, Volume 3). A final licensing decision could come only after completion of the safety evaluation report, a supplement to the DOE's environmental impact statement, hearings, and full NRC review.

[8] For more information pertaining to the DOE's progress toward its removal of spent nuclear fuel from Minnesota's nuclear plants, see the Company's most recent Annual Nuclear Waste Management Report at Docket No. E002/CN-09-36 filed on August 08, 2014.

In developing the strategy for spent fuel shipping for the 60-year, 100-year, and 200-year scenarios, a key assumption is that for cost saving purposes, fuel would be shipped from one site first (Prairie Island), followed by shipping from the second site (Monticello). Allocations of space for shipping to a federal facility are provided on a company-wide basis and Xcel Energy has the discretion to ship spent fuel from either site first, or both sites at the same time. If spent fuel was shipped from both sites over the period of shipping, both ISFSIs would have to operate for the entire time period following shutdown, i.e. 60 years, 100 years, or 200 years. By completing shipping from one site first, followed by shipping from the second site, overall costs would be lowered because the costs of operating and securing the first site's ISFSI are eliminated approximately 13 years earlier.

This is the case for all but the 36-year scenario. Due to a need to cool the spent fuel following discharge from the reactor for a minimum of 30 years prior to shipping, the 36-year scenario assumes shipping from both sites simultaneously, resulting in the Prairie Island ISFSI operating until 2065 (31 years after plant shutdown) and the Monticello ISFSI operating until 2066 (36 years after plant shutdown). Table 2 below depicts the years that spent fuel shipping will begin and finish for the 36-year scenario and the required 60-year, 100-year, and 200-year scenarios.

Table 2 – Spent Fuel Shipping Schedules

Plant	Year of Plant Shutdown	Year Shipping Begins	Year Shipping Finishes
36-Year Scenario			
Prairie Island	2034	2027	2065
Monticello	2030	2043	2066
60-Year Scenario			
Prairie Island	2034	2051	2077
Monticello	2030	2077	2090
100-Year Scenario			
Prairie Island	2034	2091	2117
Monticello	2030	2117	2130
200-Year Scenario			
Prairie Island	2034	2191	2217
Monticello	2030	2217	2230

Our consultant, TLG Services, Inc. (TLG), performed site specific cost estimates for all the scenarios noted above. Schedules A.1-A8 show TLG's schedules of annual expenditures for each of the scenarios individually.

All of the timeframes analyzed demonstrate a need for additional accruals and that all funds in the Qualified Trust and Escrow Fund will be needed for

decommissioning. The results provide further support that the proposed accrual is sound. A more complete comparison between the cost estimates from the previous filing to this one is shown in Schedule A.

In addition to the cost estimates from TLG, the Company has also provided a calculation of the NRC minimum funding amount applicable to Xcel Energy's facilities in Schedule B. The NRC minimum is a calculation of a generic cost to decommission based on the output of a unit and is calculated using a formula specified by the NRC. It is not intended to be a site-specific estimate of decommissioning, as it does not address specific site issues. The NRC uses this as a gauge of the minimum level of funding a licensee must have to meet the NRC's funding assurance requirements of future decommissioning. The Company does not use the NRC minimum when analyzing the need for future decommissioning funding. The 60-year cost estimates from TLG are greater than the NRC minimum calculations, thus we are funding for more than the NRC minimum.

b. Period that Spent Fuel Could Potentially Remain On-Site

Two activities provide insight into the period of time that spent fuel could remain on-site in Minnesota. The first is the activities of the BRC on America's Nuclear Future and the second is the NRC's Continued Storage of Spent Nuclear Fuel rule which went into effect on October 20, 2014.[9]

i. BRC Report

The BRC issued its report, entitled "Report to the Secretary of Energy" on January 26, 2012.[10] The report recommended, "Prompt efforts to develop a New Geologic Disposal Facility," in order to provide the needed facilities to safely dispose of spent fuel permanently.[11] In tandem with the development of a geologic disposal facility, the report also recommended, "Prompt efforts to develop one or more consolidated storage facilities," which, "would allow the federal government to begin the orderly transfer of spent fuel from reactor sites to safe and secure centralized facilities independent of the schedule for operating a permanent repository."[12]

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[9] A copy of the Federal Register Notice which published the final NRC rule entitled, "Continued Storage of Spent Nuclear Fuel" dated September 19, 2014 can be found at the following web location: http://www.gpo.gov/fdsys/pkg/FR-2014-09-19/pdf/2014-22215.pdf

[10] "Blue Ribbon Commission on America's Nuclear Future, Report to the Secretary of Energy", http://cybercemetery.unt.edu/archive/brc/20120620220235/http://brc.gov/sites/default/files/documents/brc_finalreport_jan2012.pdf, January 26, 2012

[11] Ibid, Pg. xi

[12] Ibid, Pg. xii

On January 11, 2013, in response to the BRC report, then-Secretary Chu issued the DOE's "Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste."[13] The Strategy is intended to serve as a statement of Administration policy on nuclear waste and represents an initial basis for discussions among the Administration, Congress and other stakeholders. As the DOE report summarizes, "The Administration currently plans to implement a program over the next 10 years that:

- Sites, designs and licenses, constructs and begins operations of a pilot interim storage facility by 2021 with an initial focus on accepting used nuclear fuel from shut-down reactor sites;
- Advances toward the siting and licensing of a larger interim storage facility to be available by 2025 that will have sufficient capacity to provide flexibility in the waste management system and allows for acceptance of enough used nuclear fuel to reduce expected government liabilities; and
- Makes demonstrable progress on the siting and characterization of repository sites to facilitate the availability of a geologic repository by 2048."[14]

Full implementation of this program will require legislation to enable the timely deployment of the system elements noted above. In the meantime, the DOE is undertaking activities within its existing authorization to plan for the eventual transportation, storage, and disposal of used nuclear fuel. Activities range from examining waste management system design concepts, to developing plans for consent-based siting processes, to conducting research and development on the suitability of various geologies for a repository.

Based on these two reports, it is feasible that some facility, whether it is a centralized interim storage facility or permanent geologic disposal facility, could reasonably be sited, constructed and begin receiving fuel by 2025. The projected 2025 timeframe allows time for Congress to enact any required legislative changes, and for the facility to be sited, licensed and constructed. Transportation planning to the centralized interim facility would be accomplished in parallel with the siting and construction activities. The year 2025 is the earliest that spent fuel might be moved from Minnesota nuclear power plants.

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[13] *Strategy for the Management and Disposal of Used Nuclear Fuel and High-Level Radioactive Waste*, United States Department of Energy, http://www.energy.gov/sites/prod/files/Strategy%20for%20the%20Management%20and%20Disposal%20of%20Used%20Nuclear%20Fuel%20and%20High%20Level%20Radioactive%20Waste.pdf, January 11, 2013

[14] Ibid, Pg. 2

ii. Continued Storage of Spent Nuclear Fuel Rule

Historically, Waste Confidence has been theNRC's generic determination regarding the environmental impacts of storing spent nuclear fuel beyond the licensed life for operation of a nuclear power plant. This generic analysis has been incorporated into the NRC's reviews under the National Environmental Policy Act (NEPA) for new reactor licenses, license renewals, and ISFSI licenses through the Waste Confidence Rule. On June 8, 2012, the U.S. Court of Appeals for the DC Circuit found that some aspects of the Waste Confidence Rule did not satisfy the NRC's NEPA obligations and vacated the rulemaking.[15] The court indicated that in making either a Finding of No Significant Impact based on an Environmental Assessment or in an Environmental Impact Statement, the NRC needed to add additional discussions concerning the impacts of failing to secure permanent disposal for spent nuclear fuel, and concerning the impacts of certain aspects of potential spent fuel pool leaks and spent fuel pool fires.

In response to the court's decision, the NRC suspended final licensing decisions on new reactors, reactor license renewals and spent fuel storage facility renewals. The NRC subsequently directed its staff to develop a new rule within 24 months.

On August 26, 2014, the NRC approved a final rule on the environmental effects of continued storage of spent nuclear fuel. The final rule and Generic Environmental Impact Statement (GEIS) was renamed from "waste confidence" to "continued storage of spent nuclear fuel" in response to public comment to more accurately reflect the nature and content of the rule.

The rule does not authorize, license or otherwise permit nuclear power plant licensees to store spent fuel for any length of time. Rather, the continued storage rule adopts the findings of the GEIS regarding the environmental impacts of storing spent fuel at any reactor site after the reactor's licensed period of operations. As a result, those generic impacts do not need to be re-analyzed in the environmental reviews for individual licenses. The GEIS analyzes the environmental impact of storing spent fuel beyond the licensed operating life of reactors over three timeframes: for 60 years (short-term), 100 years after the short-term scenario (long-term) and indefinitely. However, availability of a deep geologic repository within 60 years is commented on by the NRC in the Federal Register Notice of the Rule where it states on page 56254:

> The United States national policy remains disposal of spent fuel in a geologic repository, and, as stated in the GEIS, the NRC believes that the most likely scenario is that a repository will become available by the end of the short-term timeframe (60 years beyond the licensed life for operation of a reactor).

[15] *New York v. NRC*, 681 F.3d 471 (D.C. Cir. 2012)

c. Assessment of Future Costs on State and Local Communities

Minn. Stat. § 216B.2445, subd. 1(a) requires the Commission to evaluate the costs, if any, arising from storage of used nuclear fuel that may be incurred by the state of Minnesota, and any tribal community, county, city, or township where used nuclear fuel is located following the cessation of operations at a nuclear plant when considering approval of a plan for the accrual of funds for decommissioning nuclear generating facilities. Order point 17 of the Commission's December 4, 2012 Order in the last Triennial Nuclear Decommissioning Accrual filing (Docket No. 11-939) stated:

> Xcel shall work with the host communities and the Indian Community to address the Minnesota statutes requirement to evaluate the cost, if any, arising from storage of used nuclear fuel that may be incurred by the state of Minnesota, and tribal community, county, city, or township where used nuclear fuel is located following the cessation of operations at a nuclear plant. The Company shall file status reports on the progress of the meetings on October 1, 2013 and April 1, 2014.

As reported in Xcel Energy's October 1, 2013 and April 1, 2014 status reports, we have had the opportunity to meet multiple times with Monticello, the Prairie Island Indian Community (PII Community) and Red Wing to discuss information gathered by Xcel Energy, and to better understand the concerns of the host communities. As summarized in our April 1 status report, "...because there is no design basis accident that can result in radioactive releases which exceed Environmental Protection Agency Protective Action Guidelines at the site boundary, no off-site radiological emergency plan would be required by the NRC." With no off-site radiological emergency plan being necessary, there are no increased costs to the host communities attributable to the long-term operation of a standalone ISFSI above and beyond ambulance, fire or police that would be provided to other industrial facilities that are served.

As part of our ongoing dialogue with our host communities, however, we requested that the host communities identify and quantify concerns they had regarding costs that may be incurred that are not already accounted for. A summary of the concerns raised is as follows:

- The City of Monticello expressed its concern that continued storage of spent nuclear fuel would adversely affect the development and related property tax capacity of the area. The City indicated it would seek to be reimbursed from lost property taxes and would also seek a waiver of objections to assessments levied on the ISFSI that are based on lack of need or lack of benefit.

- The PII Community stated that because of the proximity of the ISFSI to the PII Community, the PII Community would continue to be involved in and monitor NRC activities (rulemakings, license amendments, environmental monitoring reports, license renewals, etc.) concerning both ISFSI operation and a potential fuel transfer facility and DOE activities related to the federal government fulfilling its obligation to remove the spent fuel. The PII Community also indicated it would continue its own off-site emergency preparedness even though it was expected there would no longer be a requirement for off-site radiological emergency planning after the plant ceases operations.
- The city of Red Wing continues to express the concerns voiced in the last Triennial Nuclear Decommissioning Accrual filing in 2011, including: a reduced tax base, the need to provide emergency response services, and impact the storage of spent nuclear fuel has on the City's ability to grow.

The host communities did not identify specific costs related to the concerns raised.

Overall, the discussions have been constructive and we will continue to work with our host communities to address the issues raised. For example, we have provided the City of Red Wing contact information for host communities in other parts of the country to assist the City in developing a better understanding of the issues facing communities near stand-alone ISFSI's after plant shutdown and decommissioning. However, we note that some of the impacts identified—such as need for off-site emergency planning—do not result in costs any different from other businesses after the reactors cease operations.[16] In addition, we recognize that cities receive substantial funds from property taxes and that, when the plant is shut down and dismantled, that property tax revenue will decrease. We disagree that reduction is a cost, however. Nonetheless, the sites may continue to operate as non-nuclear power plant sites in the future and property taxes may not be reduced as a result. In addition, we note that pursuant to Minn. Stat. § 26B.1645, subd. 4, the Company has entered into a settlement agreement with the PII Community that results in direct annual payments to the PII Community.

[16] The NRC recently granted Kewaunee Nuclear Plant exemption from the emergency planning requirements for an operating nuclear facility. Kewaunee will no longer be required to maintain offsite radiological emergency preparedness plans for the 10-mile emergency planning zone. The exemption package for Kewaunee was issued October 27, 2014 and is available in the NRC's ADAMS database under accession number ML14261A223. In addition, in addressing the number of exemption requests the Commission has received and reviewed on this topic, NRC Chair Allison Macfarlane has recently expressed the need for revisions to the decommissioning rules to recognize the difference in emergency planning needs after plant operations cease. *See National Public Radio Broadcast,* Nov. 17, 2014.

d. Property Taxes Included in Cost Estimates

Taxation of utility property is fundamentally different than taxation of the property owned by any other business. Like other businesses, we pay property taxes on the value of the land we own, the buildings attached thereto, and rights-of-way. This property is all assessed at the local level. Unlike other businesses, however, we are also assessed property taxes on personal property. Specifically, we are required to pay property taxes on Operating Property, which is defined as "any tangible property that is owned or leased, except land, which is directly associated with the generation, transmission, or distribution of electricity [or] natural gas...." Minn. R. 8100.0100, subp. 11.

In Minnesota, the Department of Revenue (DOR) values all of the Company's operating property in Minnesota, as well as its gas and electric operating property that extends into North Dakota and South Dakota. Each type of property is valued as one integrated system, or unit. When the system value for each type (electric or natural gas) is determined, an allocation is then made to reflect how much of the system value is attributable to Minnesota. Allocation is based on a combination of original cost of the property in Minnesota to total system cost, as well as gross revenue in Minnesota to total system revenue.

Deductions are then made to subtract property locally assessed (land and some buildings) and exemptions (e.g., sliding scale exemption for generation efficiency, pollution control, etc.). The resulting value is then apportioned to the various taxing districts based on the original cost of the property located in those districts.

Local taxing districts then combine the market value apportioned to them with the value of the Company's locally assessed property to arrive at our tax base within the taxing district's jurisdiction. Finally, each jurisdiction then applies its own individual property tax rate to our tax base to determine our property tax liability in that jurisdiction.

As we make new investments in personal property throughout our integrated system, the market value upon which property taxes are assessed increases. This increased market value is then apportioned to the local jurisdictions that host our Monticello and Prairie Island plants. In 2012, the Company paid $8.9 million in real and personal property taxes related to Monticello and $11.9 million for Prairie Island. In 2013, the Company paid $13.1 million in property taxes related to Monticello and $13.9 million for Prairie Island. When operations at these nuclear plants cease, the operating property will be removed from the sites and will no longer be included in the DOR's market valuation. This will result in a reduction in property taxes paid when operations cease, but the property for the ISFSI will continue to be locally assessed. For the decommissioning cost estimates, the land,

structures, and the dry cask portion of the operating property taxes were assumed to continue with the structures component lasting until the structures are decommissioned and removed.

The property tax amounts for Monticello and Prairie Island provided in the decommissioning cost estimate were based on the actual liabilities for 2011 paid in 2013. The Company's consultant developed the future property tax estimates for after plant shut down based on the actual 2011 accruals for the Prairie Island ($13.9 million) and Monticello ($13.1 million) locations as reflected on the property tax statements received and paid in 2013. Table 3 shows the change in property taxes from operations to decommissioning.

Table 3 – Property Tax Estimates

	During Operations	Plant Shutdown	Plant Structures Removed
Prairie Island			
Land	$217,582	$217,582	$217,582
Structure	2,850,882	2,850,882	0
Substation	238,228	0	0
ISFSI	962,892	962,892	962,892
Generation Machinery	9,589,038	0	0
Total	$13,858,622	$4,031,356	$1,180,474
Monticello			
Land	$611,578	$611,578	$611,578
Structure	3,000,745	3,000,745	0
Substation	330,880	0	0
ISFSI	181,623	181,623	181,623
Generation Machinery	8,927,729	0	0
Total	$13,052,554	$3,793,945	$793,200

The process used in the current property tax cost estimates is the same as the method used in our previous Triennial Nuclear Decommissioning Accrual filing, Docket No. E002/M-11-939. In addition, we note that there is no double recovery of property taxes between the decommissioning accrual and those included in current rates. The collection of funds from customers today for the payment of future tax obligations does not relate to the current year property tax expense.

2. Escalation/Inflation Rate

Pacific Global Advisors (PGA), an investment consulting firm, provided the forecast analysis for the escalation/inflation rates used in this filing's accrual calculations. A more comprehensive narrative of this analysis and accompanying graphs are included in Schedule C. This narrative includes a discussion of the

economic and inflation factors, including gross national product growth, labor productivity, and other considerations utilized in estimating long-term inflation rates.

The Company is recommending a 4.36 percent escalation rate for the remaining operational period through the radiological decommissioning period for the radiological activities. During the operational years for the dry cask storage and the final site restoration the Company recommends a 3.36 percent rate of escalation. The 1 percent drop in the escalation rate during the later periods reflects the fact that increases in productivity will have a smaller impact on the escalation of costs between the radiological decommissioning activities and the ISFSI activities. These two rates were factored into the calculation of the future cost of nuclear decommissioning with the ISFSI activities beginning at the point when decommissioning of the main plant is completed. For example, under the 60-year scenario the lower rate of escalation is assumed to be used for activities that begin in 2055 for Monticello and 2054 for Prairie Island. These rates compare to escalation rates of 3.63 percent and 2.63 percent used in the 2011 filing. The overall effect of these changes in assumed escalation rates is an increase in the required accrual.

3. Forecast Earnings Rate

PGA also provided the analysis for the forecast earnings rate, which was reviewed internally for reasonableness since there is no single industry standard method for determining long term asset class forecasts. A more comprehensive narrative of this analysis and accompanying graphs are included in Schedule D. This narrative includes a discussion of the analytical method used by PGA to arrive at the assumed earnings rates used in the following analysis. This discussion includes the method of determining investment strategy, investment and economic assumptions, and the expected returns for the various classes of investments which are currently a part of the fund's investment strategy.

While there are inherent risks in any forward looking earnings and escalation/inflation forecasts, the longer it takes to complete the decommissioning, the more time the fund has to compound earnings on the amounts contributed. However, it also subjects the fund accumulation to more risk if the estimated earnings are not realized as expected.

Once again, the Company is recommending a stratification of the earnings rate between the operational period and the decommissioning period. We also are recommending two earnings rates for each facility to better match the earnings rates with the individual cost estimates and to better replicate the separation in the NRC trust funds. Each unit has its own set of earnings rates due to the difference

in the timing of cash flows and different decommissioning start dates. Table 4 below shows the expected net after-tax returns that are representative of the analysis detailed in Schedule D.

Table 4 – Earnings Rates Forecast

	60-Year Scenario			
	Approved Rates		Proposed Rates	
Nuclear Unit	Operations	Decom.	Operations	Decom.
Monticello	5.35%	4.61%	6.20%	5.51%
Prairie Island Unit 1	5.50%	4.66%	6.24%	5.35%
Prairie Island Unit 2	5.53%	4.57%	6.30%	5.23%

The increase in the expected after-tax returns is the result of changes in the proposed asset mix, the proposed discontinuation of the Escrow Fund, and a change in assumptions regarding the conversion of assets to bonds before decommissioning.

4. Investment Structure

Per the Commission's July 20, 2006 Order in Docket E002/M-05-1648, the external investments are contained within one of two funds. The Qualified Trust is a standard decommissioning fund, which cannot be refunded to customers until all decommissioning activities are completed. The Company has established an individual Qualified Trust for each nuclear operating unit to hold the decommissioning funds required by the NRC.

The second fund is the Escrow Fund. The Escrow Fund was initially established before the Company received full operating license extensions for the plants. The Escrow Fund provided flexibility as monies, via Commission order, could be withdrawn and credited to customers if it was determined excess funds had accumulated. A refund to customers of the Monticello portion of the Escrow Fund was ordered in the 2008 nuclear decommissioning triennial filing.[17]

In the current filing, the Company proposes three significant changes to the Qualified Trust and Escrow Fund: 1) adopt a portfolio mix with a slightly higher allocation to equities in an attempt to increase future earnings thereby lowering costs to customers; 2) change assumptions in timing of liquidity changes; and 3) discontinue the Escrow Fund.

[17] *In the Matter of Northern States Power Company d/b/a Xcel Energy 2009 Nuclear Plant Decommissioning Accrual*, Docket No. E002/M-08-1201, ORDER APPROVING DECOMMISSIONING PLAN, AS MODIFIED, AND REQUIRING REFUND PROPOSAL (June 12, 2009).

a. Portfolio Risk

The Company regularly analyzes the makeup of the decommissioning fund investment portfolio. As a part of this Triennial Nuclear Decommissioning Accrual filing, the Company undertook a comprehensive review of our investment allocations to evaluate portfolio changes that would be effective over the next triennial period.

In this case, the Company has performed a full analysis of multiple investment portfolios and recommends an investment mix with a higher allocation to public equities and a lower allocation to fixed income investments. This new portfolio would have a target of approximately 50 percent to public equities, versus the current actual weighting of 39 percent, and the current target of 33 percent. We have a long lead time until the Qualified Trust would actually require cash outflows to fund decommissioning expenditures, and this lead time is even longer when taking into account the timing of the major cash outlays for the decommissioning efforts that would actually occur. Thus, the decommissioning trust has always had a different liability profile and investment time horizon and thus, portfolio risk than for example, the Company's investments in our pension trust.

What has changed since the time of our last triennial filing is overall financial market conditions. In 2011, there was still significant uncertainty and volatility reflected in equity markets during the aftermath of the Great Recession. Given the equity market volatility and the Federal Reserve's policy at the time of pushing down long-term interest rates through significant long term commitments to bond repurchases, it made sense to have a more moderate weighting to public equity markets and a relatively higher allocation to fixed income assets that were appreciating in value through the Federal Reserve's policy actions. Today, the Federal Reserve has made it clear that it is ending its quantitative easing programs and as a result, fixed income investments, while providing the trust a stable source of cash flow, may erode principal value if interests rates begin to rise over the next several years as currently projected.

The portfolio's current equity exposure is above target, and in light of the reduced volatility in public equity markets since the time of our last filing, the long lead time investment horizon, and the long-term Federal Reserve policy direction, we believe that there is room to add additional equity exposure to the portfolio, but believe that there is room to add additional exposure. However, the overall portfolio mix will still remain sufficiently diversified and will allow the Company the flexibility to respond to financial market conditions in the future. Given these factors, we believe the recommended change is prudent and in the best interest of our customers. A more detailed discussion of the recommended target asset mix for

the decommissioning fund, along with an analysis of the expected returns is included in Schedule D.

The Company will continue to analyze the portfolio asset mix and make updates and changes as necessary. The portfolio mix listed in this filing is a snap shot of a point in time and could change between now and the next triennial filing.

b. Change in Liquidity Assumptions

The Company's 2011 analysis of forecasted earnings rates assumed a reallocation of investments equivalent to the respective cash outflow to bonds seven years before that cash flow was needed for decommissioning. This was done to follow a principal called "the Two-Fund Separation Theorem," which states that an efficient portfolio can be constructed of both a growth portfolio and efficient low-risk portfolio. For 2014, the Company's analysis is continuing to use this Two-Fund Separation Theorem as a guide when making future investment assumptions. However, the Company is proposing a change from reallocation seven years before cash flows to six years before cash flows.

PGA's analysis shows that over periods more than ten years, the growth portfolio is optimal and for a period five years or less fixed income is optimal. However, distinguishing a specific time frame within five to ten years is difficult as any period in that range has the same approximate risk-return trade-off. The lower risk premiums[18] and risk associated with the 2014 assumptions relative to the 2011 assumptions allows a shortening of the period without greater all-around risk. Therefore, the Company feels making this change will provide greater returns without adding significant risk. Additional details regarding this change are provided in Schedule D.

c. Discontinuation of Escrow Fund

The Escrow Fund provided an important safeguard against overfunding at a time where a license extension was expected but not yet granted. However, the tax disadvantages and limitations on investment opportunities for the Escrow Fund create disadvantages that at this point only serve to drive the required funding level higher. It is now prudent to discontinue the use of the Escrow Fund and transfer all assets in the fund to the Qualified Trust.[19]

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[18] Since investors can purchase effectively risk-free assets, the risk premium represents an expected return above the risk free rate as compensation for the risk.

[19] At the time of the planned transfer, we will reassess the prudency of the transfer based on current tax law and market conditions. Should that reassessment warrant a change in strategy, we will advise the parties.

The Escrow Fund was initially established in 2006 as a means of providing flexibility in future funding of decommissioning. Since this date, all contributions have been made to the Escrow Fund. As established, funds could be withdrawn from the Escrow Fund, by order of the Commission, if it was determined that the funds were no longer needed for expected future decommissioning costs. In comparison, the Qualified Trust has restrictions on the withdrawal of funds for anything other than approved decommissioning costs.

This flexibility of the Escrow Fund was important at the time it was created. The Company was in the midst of requesting the renewal of the operating licenses for all three units. At the time of our 2005 Triennial Nuclear Decommissioning Accrual filing, when the Escrow Fund was approved, the remaining operating license life for the units was 4.75 years for Monticello, 7.80 years for Prairie Island Unit 1, and 8.80 years for Prairie Island Unit 2. The Company was reaching a critical time in our funding of decommissioning during this filing, as the NRC requires companies to provide annual assurance that funds are available to meet decommissioning for all operating units with operating lives shorter than five years. Due to this requirement, it was imperative that the Company fund the decommissioning trust assuming that the license extension would not be received, in order to ensure that funding would be adequate if decommissioning needed to start at the earlier shutdown date. The Escrow Fund provided the same level of assurance that there would be adequate funds to decommission the plants, while mitigating the risk of over-funding.

The Company subsequently received a 20-year license extension for all three operating units. With these extensions, the Company has certainty about when decommissioning will begin in the future and the need for flexibility in funding is diminished. Meanwhile, the costs related to using the Escrow Fund continue on. One of the main drawbacks of the Escrow Fund is the tax disadvantage of the fund in comparison to the Qualified Trust. The Qualified Trust receives preferential tax treatment under Internal Revenue Service (IRS) rules. The tax rate on realized earnings in the Qualified Trust is approximately 28 percent. Meanwhile, tax rates on earnings in the Escrow Fund are equal to the Company's corporate tax rate, approximately 41 percent at this time. In addition, contributions to the Qualified Trust are immediately deductible for tax purposes, while contributions to the Escrow Fund are not.

In order to limit the tax burden, the Escrow Fund is invested entirely in municipal bonds. These investments grow largely tax free, but severely limit the overall rate of earnings on investments relative to the Qualified Trust. In addition, the market size of the Escrow Fund is relatively small when compared to the Qualified Trust, which restricts the types of investments and institutional pricing available to the

Escrow Fund. Several types of investments included in the Qualified Trust portfolio, such as private equity, private real estate, and hedge funds, require initial and ongoing investments much larger than can be practicably implemented in a cost effective manner within the Escrow Fund.

The Escrow Fund has a drag on the overall earnings potential of the fund due to its adverse tax position and resulting need for a tax efficient asset mix. In order to quantify this, the Company completed an analysis to estimate the cost of the continued use of the Escrow Fund. The first step in this analysis was completed by comparing the required annual accrual if the Escrow Fund is used and contributions are made to the Escrow Fund. This amount was then compared to the required accrual if the Escrow Fund was dissolved and all contributions were made to the Qualified Trust. The accrual difference between these two numbers came out to approximately $4 million per annum. Based on increased certainty surrounding the start date of future decommissioning, the Company feels that the benefit of flexibility granted by the Escrow Fund no longer outweighs the costs created by the tax and performance drag inherent in the composition of the Escrow Fund.

To bolster this analysis, the Company completed a stochastic analysis to try to determine the best pour-over strategy for the Escrow Fund. This stochastic analysis takes into account risks of overfunding in the future alongside the risks of underfunding for different investment and pour-over strategies. The analysis produces a probability distribution of outcomes to determine the optimal investment and pour-over strategy. Results indicate that the optimal situation for pouring over the escrow fund is when there is a funded status less than 90 percent. Since all three units are less than 90 percent funded, the analysis supports pouring the Escrow Fund assets over to the Qualified Trust. A more detailed discussion surrounding the stochastic analysis is presented in Schedule D.

5. Annuity Period

A key assumption in determining the decommissioning accrual is the recovery period. Currently, the company calculates the required accrual with the assumption that contributions to the nuclear decommissioning trust fund will cease at shutdown of each unit. All of the Company's nuclear production units now have licenses which will take them to a 60-year operating life. The remaining recovery periods for decommissioning as of January 1, 2016 are 14.75 years for Monticello, 17.80 years for Prairie Island Unit 1, and 18.80 for Prairie Island Unit 2.

D. Current Fund Balances

Annually, the Company reports the balances in the various funds in either this petition or a separate letter. The balances for both the Qualified Trust and the Escrow Fund for the MN Jurisdiction are discussed below.

1. Qualified Trust

As of June 30, 2014, the Qualified Trust book value balance for all three operating units was a total of $961 million for the MN Jurisdiction, with a total market value of $1,149 million. Table 5 below shows the book and market values by unit. A detailed presentation of each unit's balances is presented in Schedule E.

Table 5 – Qualified Trust Balance as of June 30, 2014

Unit	Book Value	Market Value
Monticello	$360,965,328	$431,693,946
Prairie Island Unit 1	289,896,360	346,656,633
Prairie Island Unit 2	309,805,857	370,929,520
Total	$960,667,545	$1,149,280,099

2. Escrow Fund

As of June 30, 2014, the Escrow Fund book value balance for all three operating units was a total of $117 million for the MN Jurisdiction, with a total market value of $118 million. Table 6 below shows the book and market values of the Escrow Fund by unit. A detailed presentation of each unit's balance is presented in Schedule F.

Table 6 – Escrow Fund Balance as of June 30, 2014

Unit	Book Value	Market Value
Monticello	$38,694,856	$39,296,550
Prairie Island Unit 1	26,441,477	26,556,053
Prairie Island Unit 2	52,346,488	52,597,599
Total	$117,482,821	$118,450,202

3. Beginning Fund Balance for Annuity Calculation

In the 2011 Triennial Nuclear Decommissioning Accrual filing, the Commission approved the use of the market value of the Qualified Trust and Escrow Funds as the beginning balance for our annuity calculations. Due to market conditions at the time and forward looking economic and market conditions, in our previous Triennial Nuclear Decommissioning Accrual filing the Company recommended use of this market value in order to calculate the recommended decommissioning. This

recommendation was approved by the Commission with the order to continue this practice in our next triennial filing.

Using the current market value is consistent with forward looking market conditions and will provide the most justifiable and proper accrual estimate at this time. The Company calculated the tax effect on the June 30, 2014 market value based on the unrealized gains and losses in the portfolio as shown in schedule G. The funds currently have a $190 million unrealized net gain. However, not all of this unrealized gain is available to fund decommissioning costs because taxes will have to be paid on the gains when they are realized. Therefore, the June 30, 2014 market value was dampened by $53 million for the estimated tax that can be expected be paid when the unrealized gain is realized.

The Escrow Fund is one trust where investments for all three units are comingled. Accounting records are maintained to track jurisdictional and unit detail. At the time of pour over, we plan on allocating the Escrow Fund balance to the three Qualified Trusts in order to equalize, to the extent possible, the funded status for each unit. This will allow us to minimize the risk of one unit becoming overfunded while another unit is underfunded. This risk is more pronounced in the Qualified Trust as monies cannot be moved between each unit's individual trusts. If the pour over of the Escrow Fund is approved, the execution will likely take place sometime in 2016. Our intent is to time the pour over to maximize earnings in the funds and minimize costs for our customers.

To simplify the calculation in this filing, the Company did not make any assumptions about how the Escrow Fund balance would be allocated between trusts at pour over. The allocation to each unit was kept as they are shown in the Mellon statements. For example, the amount shown as Monticello's portion of the Escrow Fund was assumed to be poured over to the Monticello Qualified Trust. The Company plans on further analyzing the allocation to the individual trusts at the pour over date. The Company will submit a compliance filing within six months of the pour over date, if approved, which also will discuss the Escrow Fund reallocation.

E. Accrual Calculation

The decommissioning accrual is an annuity calculation based on the yearly expenditures, in nominal dollars, provided for each cost estimate scenario. The cost estimate is jurisdictionalized for Minnesota retail customers using 74.3399 percent as presented in the current Minnesota rate case.[20] The escalation rate is used to inflate the jurisdictional cost estimate to future years and the earnings rate

[20] Minnesota Electric Retail Rate Case, filed November 4, 2013, Docket No. E002/GR-13-868.

is used to present value those future dollars back to the start of decommissioning. Then an annuity payment is calculated such that when added to the current fund balance and grown at the assumed earnings rate, will result in this present value required at decommissioning. The annuity calculation was repeated for each of the four cost estimate scenarios and resulted in the various 2016 accruals on Table 1 of this Petition.

Tables have been provided in Schedule H for the details surrounding the proposed accrual calculation. These tables demonstrate that the amount accrued, with the levelized earnings rate, will result in the proper funds to pay for the inflated future costs for each cost estimate scenario. The end goal of this calculation is to have each unit's fund go to zero in the last year of decommissioning activity. As shown in our analysis, Schedule H, there are a range of overall contributions necessary to meet the future needs to decommission all three units depending on which ISFSI operating period is chosen. Also included in Schedule H is a table that lists the current docket information for the 60-year scenario compared to the information from the last three dockets.

V. RECOVERY OF SPENT FUEL MANAGEMENT COSTS

As described in the Company's previous Triennial Nuclear Decommissioning Accrual docket,[21] the Company currently includes the cost of managing spent fuel after cessation of operations in the decommissioning cost estimates.

In our last triennial nuclear decommissioning filing, the Minnesota Department of Commerce (Department) raised concerns about our treatment of spent fuel costs and questioned who should be covering the cost of continued storage of spent fuel on-site. The Department asked the Commission to remove the ISFSI Spent Fuel Management costs from future decommissioning cost estimates. The Commission did not agree with the Department's recommendations, and approved a decommissioning accrual that includes ISFSI Spent Fuel Management Costs. The Company agreed to further examine the treatment of these costs in the future.

In response to concerns raised by the Department in Docket No. E002/M-11-939, we committed to reviewing whether the spent fuel management costs could be split from the decommissioning fund going forward. In this section, we address the legal authority to split the funds and the DOE legal obligation for spent fuel management costs.

[21] MPUC Docket No. E002/M-11-939.

A. Legal Authority to Split the Funds

1. NRC Rules

Licensees are required by NRC regulations to decommission their nuclear power plants after they shut down. NRC requires applicants to submit reports containing: (1) a cost estimate for decommissioning the plant, (2) an indication of the method they will use to provide the funds, e.g., prepayment, external sinking fund, surety method, and (3) a description of the means of adjusting the cost estimate over the life of the plant. Additionally, Title 10 of the Code of Federal Regulations (CFR), Part 50.75(g), requires that licensees maintain records important to decommissioning until the license is terminated by the Commission. The NRC does not currently require that the spent fuel management costs be included in the decommissioning fund itself.

However, NRC rules require that the licensee provide assurance of funding within five years of the plant ceasing operations. Pursuant to 10 CFR 50.54 (bb), the Company must file with the NRC our financial assurance that we have the funds necessary to manage the spent fuel prior to shut down. The regulation states:

> For nuclear power reactors licensed by the NRC, the licensee shall, within 2 years following permanent cessation of operation of the reactor or 5 years before expiration of the reactor operating license, whichever occurs first, submit written notification to the Commission for its **review and preliminary approval** of the program by which the licensee intends to manage and provide funding for the management of all irradiated fuel at the reactor following permanent cessation of operation of the reactor until title to the irradiated fuel and possession of the fuel is transferred to the Secretary of Energy for its ultimate disposal in a repository. (emphasis added)

As noted in the Company's Reply Comments in Docket No. E002/M-11-939, the Company provided this financial assurance to the NRC on August 8, 2008 with respect to Prairie Island, and December 20, 2005 with respect to Monticello. In those filings we explained that the Company was currently including those costs in the decommissioning fund. The NRC accepted our filings.

The Company and NRC have engaged in discussions regarding the Spent Fuel Management portion of our decommissioning costs and the possibility of using a separate trust. The NRC has indicated that it is possible to split the funds on a prospective basis, but that the current method of recovery and accounting in the decommissioning trust is the preferred method. The NRC has expressed its concern that any change in how spent fuel management costs are accounted for must not affect the amount of funding set aside for decommissioning the plants

themselves. Any future split of the funds will require NRC approval and any proceeding to split the funds would be initiated by a filing accompanied by a state commission order authorizing the split.

In either case, the requirement to provide a financial plan for spent fuel management will continue and, in addition, the NRC has indicated that rulemaking on spent fuel management funding is likely in the future. The NRC has expressed that funding for spent fuel management costs is a concern for the agency and other licensees. With numerous merchant nuclear plants around the country, no federal repository and no current requirement to fund spent fuel management during operations, the concern is that there will not be funds available to manage these ISFSIs around the country. This current circumstance is driving increasing interest in adopting formal funding requirements going forward. Maintaining our current funding methodology ensures that we are on track to meet any future requirements. Including the spent fuel management costs in the decommissioning fund provides assurance to the agency, the Commission, our customers, and our neighbors that provisions are in place to ensure safe operation of the ISFSI while the issue of the federal repository is being resolved.

Finally, because the current fund includes amounts for both decommissioning and spent fuel management, if spent fuel management were separated going forward, we would need to account for these funds separately within the Qualified Trust, while also setting up new accounts for each of the three plants going forward. Similar to the Escrow Fund, new accounts for spent fuel management would not be eligible for the favorable tax treatment the Qualified Trust receives. In addition, a fund dedicated to spent fuel management costs would likely be too small to invest in a well-diversified investment portfolio similar to the Qualified Trust. Accordingly, we expect any separation of the funds to result in significantly higher costs than we experience by including those funds in the Qualified Trust.

B. DOE Legal Obligation for Spent Fuel Management Costs

Under the Nuclear Waste Policy Act of 1982 and pursuant to the Standard Contracts, the DOE is required to dispose of the spent nuclear fuel beginning January 31, 1998. The DOE has not met its obligation and the Company was among the first nuclear-power plant operators in the country to sue the Federal Government for partial breach of the agreement for the DOE to take the fuel. Pursuant to an agreement with the Government settling the lawsuit, we have recovered damages incurred for storing the waste through 2013. The Settlement Agreement has been extended to allow for recovery of damages through 2016.[22]

[22] See Company's December 1, 2014 filing regarding the extension of the DOE Settlement Agreement in Docket No. E002/M-11-807.

The Settlement Agreement with the United States provides for compensation for costs of storing spent nuclear fuel caused by the DOE's breach, to the extent the costs are reasonable and attributable to a project traceable to the DOE's delay. However, we may not always be able to recover the costs currently included in the Settlement Agreement. The current Settlement Agreement terminates upon the payment of costs incurred through December 31, 2016. In the Settlement Agreement, the Government has preserved its defenses for future litigation, including its right to deduct from future claims any costs that Plaintiff would have paid after the termination date of the Settlement Agreement had the DOE timely commenced acceptance of spent nuclear fuel as required.

One of the Government's defenses that it continues to assert is that spent fuel storage costs would have been incurred even if the DOE met its obligations. Under the Standard Contract, the rights for the DOE's acceptance of spent fuel are based on the order (the queue) in which spent fuel was permanently removed from service (oldest fuel first). The removal of spent fuel from the plant sites is estimated at annual acceptance rates of 400 MTU/year for year one, 600 MTU/year for year two, 1200 MTU/year for year three, 2000 MTU/year for year four, and 3000 MTU/year for year five and beyond. According to the DOE, some storage costs would have been incurred even if it had begun timely acceptance of the spent nuclear fuel.

While we may disagree with some of the DOE's arguments, we nonetheless recognize that going forward these may be open issues and, as with any case, the outcome is not certain. If we rely on an uncertain recovery from the DOE and do not recover these costs during plant operations, we could end up with a significant unfunded liability to be paid by future ratepayers.

The Company will make every effort to hold the DOE accountable for its partial breach under the Standard Contracts, but we have no guarantee of future cost recovery at this time should the Settlement Agreement not be extended.

This Commission explained in Docket No. E002/M-96-1201 regarding the remaining life determination, "[t]he decommissioning expenses resulting from the generation of electric energy from these plants should be borne by the customers that received the electric energy from these plants." Recovering spent fuel management costs in the current decommissioning trust is consistent with the Commission's precedent.

Other Commissions have similarly determined that inclusion of these costs in the decommissioning fund is prudent.[23] Such Commissions have found that ratepayers who currently benefit from the plants should also bear the ultimate costs of providing service through the nuclear facilities.[24] Because the DOE's obligation for spent fuel management costs after operations have ceased has not yet been determined either through settlement or litigation, it is appropriate to recover these costs from current customers.

VI. APPLICATION OF DOE SETTLEMENT PROCEEDS TO FUND THE ACCRUAL

The Commission approved the Company's proposal to use the DOE settlement payments starting at the end of 2012. The Commission initially ordered that the full amount of future DOE refund payments be placed in the nuclear decommissioning trust fund. The amount of the DOE payment placed into the trust fund would cover the amount of accrual needed and would allow customers to avoid paying for decommissioning. The entirety of the 2012 payment, of approximately $15 million, was contributed to the nuclear decommissioning Escrow Fund. However, on December 18, 2013, the Commission issued a modification to its original order from the 2012-2014 Triennial Nuclear Plant Decommissioning Accrual filing, which allowed the Company,

> [T]o place the funds disbursed by DOE in 2013 in excess of the decommissioning accrual amount into an external escrow account until such time as the Commission further determines the appropriate use for those funds.[25]

Approximately $17.6 million of the Minnesota Retail portion of the DOE Payment received in December 2013 remained after the required accrual amount of $14.2 million was placed into the Escrow Fund. This amount was placed into a separate escrow account and the Company expects the Commission to determine the disposition of the excess funds as a part of the current Minnesota Electric Retail Rate Case (Docket No. E002/GR-13-868).

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[23] Order, *In re Progress Energy*, Docket No. 100461-EI, Fla. P.S.C. (April 30, 2012), 2012 WL 1563930 at 8 ("We find that inclusion of the costs for interim dry storage of SNF incurred after retirement of the nuclear unit is prudent. If such costs are not included, they may have to be borne by future customers that did not benefit from the power generated by the nuclear unit."); *see also* Order, *In re Florida Power & Light*, Docket No. 100458-EI, 292 PUR 4th 309, 318-319 .

[24] *In re Indiana & Michigan Elec. Co.*, Cause No. 36760, 1982 WL 969915 at 3 (Ind. P.S.C. Dec. 22, 1982) (citing *Re Western Massachusetts Elec. Co.*, 37 PUR 4th 229 (1981).

[25] *In the Matter of a Request by Northern States Power Company d/b/a Xcel Energy (Xcel) for Modification of a Prior Order Provision for 2012-2014 Triennial Nuclear Plant Decommissioning Accrual; In the Matter of a Credit Mechanism for a Department of Energy Settlement Payment with Deferred Accounting,* Docket Nos. E002/M-11-939 and E002/M-11-807, December 18, 2013

The Company will receive another payment from the DOE in early December of this year. The Minnesota retail portion of this payment is approximately $24.4 million. We plan to contribute the decommissioning accrual amount of $14.2 million into the Escrow Fund. We again are planning to place the excess settlement amount in a separate escrow account until it is determined in the rate case what to do with the amount. Table 7 below summarizes the Minnesota Retail portion of payments the Company has received from the DOE in 2012 through 2013 and the amount expected to receive in 2014.

Table 7 – Summary of DOE Settlement Payments and NDT Contributions

Year DOE Payment Received	DOE Settlement Amount[26]	Accrual Year	Contribution to NDT Escrow Fund	Excess amount[27]
2012	$15,320,579	2013	$15,320,579	$0
2013	$31,810,998	2014	$14,189,132	$17,621,866
2014	$24,411,103	2015	$14,189,132	$10,221,971

In addition, the Company and the Government have negotiated an extension to the Settlement Agreement that allows for the recovery of damages through 2016. The Company will make a future filing to determine the appropriate method for crediting any settlement proceeds from the extension to our customers.

VII. EFFECT OF THE CHANGE ON RATES

Subdivision 1 (b) of Minn. Stat. §216B.2445 requires the inclusion of an estimated ratepayer impact for each of the assumed periods. For this petition we calculated the rate impact to each of the customer classes on a $/kWh increase. This was done by allocating the estimated 2016 accruals for the various scenarios (36-year, 60-year, 100-year, and 200-year) to the customer classes using the most recent Class Cost of Service Study.

The class allocation process used the same stratification methodology approved by the Commission in Docket No. E002/M-11-807 to return the DOE Settlement dollars for used fuel storage to customers. This included an approximate 19 percent weight to capacity and an 81 percent weight to energy usage. The 2016 accrual was then divided by the energy each class used over a previous 12-month

[26] Minnesota retail jurisdiction only.

[27] The disposition of excess DOE payments not used for contributions to the nuclear decommissioning trust funds will ultimately be decided as a part of the 2013 MN Retail Electric Rate Case, Docket No. E002/GR-13-868.

period to determine a $/kWh that would be required for that class to collect its portion of the 2016 accrual. The support for this calculation is located in Schedule I.

The results of this calculation are expressed in $/month for an average customer in class as shown in Table 8 below for each of the scenarios.

Table 8 – Rate Impact

Average Customer Monthly Amount	Residential	C&I Non-Demand	C&I Demand	Lighting
36-year	$0.24	$0.34	$12.27	$0.35
60-year	$0.32	$0.46	$16.52	$0.48
100-Year	$0.81	$1.16	$41.87	$1.21
200-Year	$0.96	$1.38	$49.86	$1.43

The current rate case assumes the DOE proceeds offset the accrual through 2015. The costs of the accrual could be reflected in a future rate case if the DOE proceeds are not used to offset or are not sufficient to offset the accrual.

VIII. EOL NUCLEAR FUEL

At the time each nuclear unit is shutdown, there will be nuclear fuel remaining in the reactor that has not been fully utilized. We refer to this unused fuel as end-of-life (EOL) nuclear fuel. The unused fuel cannot be transferred to another facility, and the expense for said fuel would have to be taken at the end of operations at each unit. To avoid this spike in depreciation at the end of the useful life of each unit, the Company estimates the expected cost of unused fuel at the end of operations and amortizes the expense over the remaining life of each unit. This is done using a sinking fund method.

The Company recommends a decrease to the annual internal accrual for EOL nuclear fuel for this Triennial Nuclear Decommissioning Accrual filing. The Company is proposing to keep the 2015 accrual consistent with the last approved amount to maintain consistency in 2015 for the MYRP and to change the 2016 accrual based on the new EOL nuclear fuel factors discussed in Schedule J. This is consistent with the presentation of other potential changes in this filing. The annual accrual for 2016 is requested to be $2,020,602. This is a decrease of $505,514 over the accrual based on the factors approved in the last Triennial Nuclear Decommissioning Accrual filing.

All of the numbers for the EOL nuclear fuel accrual are for the MN Jurisdiction. This recommended decrease stems mainly from an update in the estimates of the cost of the final fuel at shutdown. The estimated amount to be recovered

decreased approximately $28 million from the estimate used in 2011. The decrease was primarily the result of improved fuel utilization in the updated multi-cycle core designs and lower projected nuclear fuel commodity prices in the future. The 2016 accrual worksheet detailing the calculation is included in Schedule J. The internal rate of return has been revised for the 2016 accrual to coincide with the new authorized rate of return from the 2012 Minnesota Electric Retail Rate Case (Docket No. E002/GR-12-961).

IX. GAO REPORT ON NRC OVERSIGHT OF DECOMMISSIONING FUNDS

In order to address concerns related to the NRC's process of overseeing decommissioning funding assurance, the Government Accountability Office (GAO) completed a compressive study and issued a report in April 2012.[28] The report primarily focused on two areas: the periodical review of licensee decommissioning funding information the NRC completes and the minimum decommissioning funding formula all licensees are required to use. The review found three main areas of weakness that, "may limit the agency's ability to ensure that licensees have provided reasonable assurance that they will have adequate funds to decommission their reactors."[29] At a high level, these three weaknesses are:

- NRC's minimum decommissioning cost formula may not reliably calculate adequate decommissioning costs,
- NRC's procedures for reviewing and analyzing licensee's funding status filings are not adequately documented, and
- NRC does not regularly review licensee compliance with the investment standards in place for decommissioning funds.

The NRC has taken several actions in order to strengthen their oversight of decommissioning funding. These actions include developing additional procedures to request information when reviewing funding status report; conducting reviews at licensee offices to ensure fund balances match up with bank statements, and began a reevaluation of the minimum decommissioning funding formula. Despite these actions, the GAO still found weaknesses and recommended five actions for the NRC Commissioners to take. They are:

- Define what the NRC means by the "bulk" of the funds that licensees will need to decommission reactors,

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[28] *NRC's Oversight of Nuclear Power Reactors' Decommissioning Funds Could Be Further Strengthened,* Government Accountability Office, http://www.gao.gov/assets/590/589923.pdf., April 2012

[29] Ibid, Pg. 10

- Use cost-estimating characteristics as a guide for a high quality cost-estimating formula if the minimum formula calculation is to be changed,
- Document steps that the NRC should take in review of licensee decommissioning funding status filings,
- Continue review of fund balances in a way that is most efficient and effective for the NRC, and
- Consider reviewing a sample of licensees' investments to determine if investment standards are being met.[30]

The GAO's report addressed actions that the NRC needs to take to strengthen their review process and did not address any specific actions that licensees need to take. In this regard, the GAO report does not directly impact the activities of the Company. However, the NRC has made one on-site visit to the Company's General Office in order to review bank statements to ensure they tied to our fund balance stated in a decommissioning funded status report. In addition, the NRC has routinely requested additional information from the Company, including more detailed breakdown's of our site specific decommissioning estimates and more detailed fund balance information. In all cases, the Company has provided this information to the NRC, and we have not received any negative findings resulting from our filings. The Company will continue to monitor the funding status filing regulations of the NRC and will follow said regulations if any changes are made. The Company submits its next funding status report to the NRC in March 2015.

X. PREMATURE RISK INVESTIGATION

In the Commission's Order on the last Triennial Nuclear Decommissioning Accrual filing, the Commission directed that the Company continue to be required to provide an investigation of premature risk in its Triennial Nuclear Decommissioning Accrual filings.[31] Consistent with the Commission's prior orders, our investigation included the following aspects of the risks of premature decommissioning:

- The availability of commercial insurance.
- The availability of electric industry co-insurance.
- Any programs, which may be proposed, mandated, or administered by the NRC or any other United States Government agency.
- Specific detailed information pertaining to any steps Xcel Energy has taken to minimize any possible loss, which may occur as a result of premature decommissioning.

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[30] Ibid, Pg. 19-20

[31] *In the Matter of the Petition of Northern States Power Company d/b/a Xcel Energy for Approval of the 2012-2014 Triennial Nuclear Plant Decommissioning Accrual,* Docket No. E002/M-11-939, Order Approving Decommissioning Plan and Modifying Refund Plan, (Dec. 4, 2012).

- Xcel Energy's ability to withstand possible economic and financial trauma, which may be associated with premature decommissioning.

Schedule K contains the regular response to that request. It addresses accident and non-accident related premature decommissioning of nuclear generating facilities. Presently, insurance is unavailable for non-accident related premature decommissioning such as those caused by regulatory directives. Therefore, the insurance analysis deals with accidents.

Xcel Energy property insurance coverage of $2.25 billion would largely offset the potential impact of an accident-related decommissioning. Although accident-related decommissioning expenses are significant, the length of time involved in a clean-up process, insurance payments, tax deductibility of expenses, and related rate relief would affect the yearly expense. Although accident related premature decommissioning would affect both the Company and its customers, it is anticipated that, with acceptable regulatory decisions, the financial integrity of the Company would be maintained.

XI. ASSET RETIREMENT OBLIGATION

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. Financial Accounting Standards Board (FASB) Interpretation No. 47 (FIN 47), *Accounting for Conditional Asset Retirement Obligations* was released in March 2005. These statements are both included within the FASB Accounting Standards Codification (ASC) 410 *Asset Retirement and Environmental Obligations*. This Interpretation of the conditionality of an ARO has resulted in some additional accounting analysis for many of the fixed assets at Xcel Energy. Nuclear decommissioning was never assumed to be conditional in nature, thus the ARO accounting for nuclear decommissioning established in 2003 is unaffected by this Interpretation. Nonetheless, a summary of the ARO accounting for nuclear decommissioning is included in Schedule L for reference.

XII. COMPLIANCE MATRIX AND REQUESTED AUTHORIZATION

The Company has provided Schedule M, a Compliance Matrix, to assist in referencing specific order points from the Commission Order, Docket No. E002/M-11-939, to the discussion in this petition.

XIII. MISCELLANEOUS INFORMATION

Pursuant to Minn. R. 7829.0700, subpt. 2, Xcel Energy requests that the following persons be placed on the Commission's official service list for this matter:

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XIV. SUPPORTING DOCUMENTS

The following supporting schedules and studies have been included for filing requirement purposes and for additional support to the recommended changes:

Supporting Schedules

A	Cost Estimate Cash Flow Summary
B	NRC Minimum Calculations
C	Escalation Analysis 2014
D	External Fund Analysis 2014
E	Qualified Trust Analysis, Statements and Balances
F	Escrow Fund Analysis, Statements and Balances
G	Tax Effected Beginning Balance
H	Decommissioning Accrual Analysis
I	Customer Rate Impact Calculation
J	EOL Accrual
K	Premature Risk Investigation
L	Asset Retirement Obligation
M	Compliance Matrix
N	Decommissioning Cost Analysis for the Monticello Nuclear Generating Plant
O	Decommissioning Cost Analysis for the Prairie Island Nuclear Generating Plant

CONCLUSION

Xcel Energy respectfully requests the Commission approve our Petition for approval of the 2016-2018 Nuclear Decommissioning Accrual. As described in this filing, we specifically request Commission approval of:

- Our decommissioning study and assumptions;
- An annual accrual, to meet the needs of the Company's 60-Year spent fuel scenario, of approximately $14.0 million for decommissioning and $2.0 million for EOL nuclear fuel starting January 1, 2016 for the calendar years 2016 thru 2018 while maintaining the current approved amount for 2015; and
- The following three changes in investment assumptions:
    - Discontinue the Escrow Fund and transfer the current balance of the fund to the Qualified Trust funds;
    - Transition investments to bonds six years before decommissioning rather than the seven years previously assumed; and
    - A change in the investment mix and the authority to update that mix as needed for the Qualified Trust.

The assumptions included in this accrual analysis result in a reasonable estimate of future decommissioning costs and tie the costs of nuclear generation, including decommissioning costs, to the customers that currently benefit from this resource. The next decommissioning filing would be for the calendar years 2019 through 2021 with the submittal due December 1, 2017.

Dated: December 1, 2014

Northern States Power Company

State of Minnesota
Before the
Minnesota Public Utilities Commission

Beverly Jones Heydinger	Chair
David Boyd	Commissioner
Nancy Lange	Commissioner
Dan Lipschultz	Commissioner
Betsy Wergin	Commissioner

IN THE MATTER OF THE PETITION OF NORTHERN STATES POWER COMPANY, A MINNESOTA CORPORATION FOR APPROVAL OF THE 2016-2018 TRIENNIAL NUCLEAR DECOMMISSIONING ACCRUAL	DOCKET NO. E002/M-14-761
	SUMMARY

SUMMARY OF FILING

Please take notice that on December 1, 2014, Northern States Power Company, doing business as Xcel Energy, filed with the Minnesota Public Utilities Commission its Petition for approval of its Triennial Nuclear Decommissioning Accrual. In this Petition the Company requests Commission approval of our decommissioning study and assumptions as reasonably approximating the amount of funds necessary to support decommissioning at the end of our nuclear facilities' operating lives; approve an annual accrual of approximately $14.0 million starting January 1, 2016; and apply a portion of future settlement payments received from the Department of Energy to the accrual, resulting in no accrual. The Company also requests that the 2016 accrual for end-of-life nuclear fuel be set at $2 million for the Minnesota Jurisdiction, which results in a decrease of $505,514. The Company requests January 1, 2016 as the effective date for the proposed accrual amounts. The Petition fully complies with the requirements of Minn. Stat. § 216B.2445 and includes a discussion of the premature decommissioning risks as required.

The full version of this filing can be found via the Commission's website at http://mn.gov/puc/. Select "Search eDockets," enter the year (14) and the docket number (761), then select "Search."