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BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF NORTH DAKOTA

NORTHERN STATES POWER COMPANY
ADVANCE PRUDENCE – ACQUISITION OF THE 375 MW MANKATO ENERGY CENTER AND THE 345 MW MANKATO ENERGY CENTER II

CASE NO. PU-18-___

APPLICATION FOR ADVANCE DETERMINATION OF PRUDENCE

I. INTRODUCTION

Northern States Power Company, doing business as Xcel Energy (NSP or Xcel Energy or the Company), submits to the North Dakota Public Service Commission (Commission) this Application for an Advance Determination of Prudence (ADP) (Application) for the Company to acquire from Southern Power Company[1] the Mankato Energy Center, LLC, which owns the existing 375 MW Mankato Energy Center (MEC I), and Mankato Energy Center II, LLC, which owns the 345 MW expansion project (MEC II) scheduled to go in-service in June 2019.

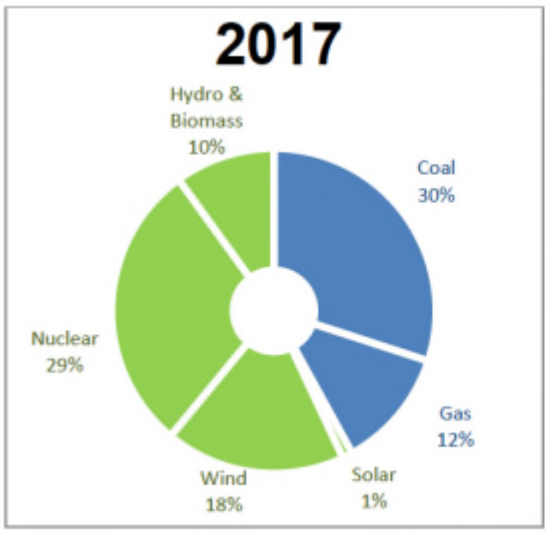
In August 2018, Xcel Energy learned that Southern Power was planning to sell MEC I and MEC II (collectively, the MEC Facility). Since these units were already committed to the NSP System via power purchase agreements (PPAs), the Company evaluated the potential costs and benefits of taking ownership of the plant relative to the current PPA arrangements (which would continue if a third-party purchased the plant).[2] That analysis demonstrated that taking ownership over the MEC Facility was likely to produce benefits for the Company's customers over the life of the MEC Facility in lieu of continuing with the existing PPAs.

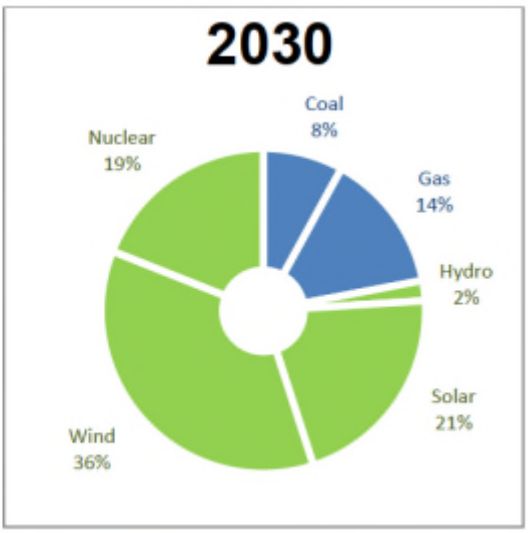
In addition to financial considerations, NSP identified a number of other benefits associated with the transaction, including operational control, increased planning flexibility, renewable integration support, and the ability to take advantage of existing transmission rights. The Company also viewed the transaction as an opportunity to secure ownership control of an asset that is already part of our supply portfolio, and to mitigate risk associated with PPA expirations and the potential for higher cost replacement energy and capacity. The Company therefore entered into negotiations

[1] Southern Power Company is a wholly-owned affiliate of Atlanta, Georgia-based Southern Company.
[2] MEC I has been providing capacity and energy to the NSP System under a 20-year PPA since 2006 and MEC II is committed to the Company under a second 20-year PPA that will take effect in June 2019.

with Southern Power, which ultimately resulted in the Membership Interest Purchase Agreement (MIPA) for the facility.

Natural gas generation has become increasingly important as renewables penetrate the Midcontinent Independent System Operator, Inc. (MISO) footprint and NSP System. As shown in the figures below, because these resources are already serving the NSP System, the Company's proposal to own MEC I and MEC II would increase the Company's current natural gas generation resources to approximately 14 percent of Xcel Energy's total generation resources in 2030, compared with 12 percent today.





This is consistent with greater reliance on dispatchable natural gas resources across the industry, particularly as wind resources (including additional wind in North Dakota) have become so cost-effective. For these same reasons, Xcel Energy's proposal to take ownership of this resource is consistent with the Company's commitment to significantly reduce its carbon emissions, discussed in more depth in Section IV.C.2 of this Application.

The Company's Strategist modeling of the acquisition demonstrates customer benefits on a revenue requirements basis. Specifically, our modeling demonstrates at least $66 million in "present value of revenue requirements" (PVRR) savings on an NSP System-wide basis compared to the existing PPA structure. These benefits are, in significant part, due to the competitively-priced energy Xcel Energy can expect to generate as the MEC Facility is dispatched to compliment the large amount of renewables the Company projects to have on the system in the future.

The Company's ownership proposal will provide increased planning flexibility for the Company as the Company moves through the 2020s and 2030s and needs to address

the aging of its existing baseload fleet, such as the nuclear units reaching the end of their current licenses. Moreover, Company ownership will mitigate the risk associated with the termination of the MEC I PPA in 2026. Securing our capacity position in this time frame is a proactive step to protect the Company's customers from market risk. Additionally, the efficient heat rate of a combined cycle (CC) facility will mitigate customers' exposure to market risks by providing a market hedge which is stronger than constructing combustion turbines.

Further, NSP believes this transaction presents a significant opportunity to secure the benefits of this attractively-priced resource for our customers over the long-term. As discussed in more detail later in this Application, the purchase price for MEC is lower than other comparable CC transactions that have recently taken place in our region and within $100 million of the capacity payment component of the existing PPAs that Xcel Energy would owe (on a present value basis) if this transaction did not take place. This comparative data indicates that the proposed transaction is fairly priced and prudent.

The opportunity for the Company to take ownership over an integral generation asset that is already delivering power to the NSP System is a significant opportunity to drive down overall system costs and to keep customer bills low. For these reasons, the Company believes the proposed acquisition of MEC I and MEC II is prudent. Xcel Energy therefore respectfully requests that the Commission grant an ADP for the transfer of ownership of the MEC I and MEC II facilities to the Company.

In support of our Application, Xcel Energy provides the following Direct Testimony:

- Policy Testimony – Bria Shea
- Resource Planning Testimony – Philip Joseph "P.J." Martin

The remainder of this Application addresses the following:

- Description of Applicant;
- Communication and Service;
- Standard of Review;
- Authority for Relief Requested;
- Description and Purpose of the Project;
- Economic Analysis of the Project;
- Prudence of the Proposed Transfer of Ownership of MEC I and MEC II; and
- Conclusion.

II. COMPLIANCE MATTERS

A. DESCRIPTION OF APPLICANT

Xcel Energy is a Minnesota corporation duly authorized to conduct business in the State of North Dakota as a foreign corporation. The Company conducts business in the State of North Dakota as a public utility subject to the jurisdiction and regulation of the Commission pursuant to Title 49 of the North Dakota Century Code. The name and address of Xcel Energy is:

Northern States Power Company, a Minnesota corporation
414 Nicollet Mall
Minneapolis, Minnesota 55401

Xcel Energy also operates in North Dakota from the following address:

Northern States Power Company
2302 Great Northern Drive
Fargo, North Dakota 58102

The Company's Certificate of Incorporation with amendments and Certificate of Authority were filed with the Commission on September 30, 2009, and October 12, 2009, respectively, in Case No. PU-09-664. Current Certificates of Good Standing issued by the North Dakota and Minnesota Secretaries of State were filed in the same case on January 12, 2018, and are incorporated herein by reference.

Xcel Energy has service territory in five upper Midwest states including North Dakota. The Company presently serves approximately 94,000 retail electric customers in and around Fargo, Grand Forks, and Minot, North Dakota, and owns just over 250 miles of transmission lines and 14 substations in North Dakota.

B. COMMUNICATION AND SERVICE

Xcel Energy respectfully requests that the following persons be placed on the Commission's official service list for all official communications in this case:

David H. Sederquist
Senior Consultant, Regulation and Finance
Xcel Energy
2302 Great Northern Drive
Fargo, ND 58102
dave.sederquist@xcelenergy.com

Regulatory Records
Records Specialist
Xcel Energy
414 Nicollet Mall
Minneapolis, MN 55401
regulatory.records@xcelenergy.com

C. STANDARD OF REVIEW

North Dakota Century Code section 49-05-16(1)(d) authorizes the Commission to issue an ADP if it "determines that the resource addition is prudent."

This standard is similar to the "honestly and prudently invested" standard that the Commission uses for ratemaking.[3] The general prudence standard calls for determining whether the utility action was reasonable at the time it was taken under all relevant circumstances.[4] Under Section 49-05-16(1), the Commission may issue an order approving the prudence of a proposed project if four conditions are met:

> a. The public utility files with its application a projection of costs to the date of the anticipated commercial operation of the resource addition;
>
> b. The public utility files with its application a fee in the amount of one hundred seventy-five thousand dollars . . . .;
>
> c. The commission provides notice and holds a hearing, if appropriate, in accordance with section 49-02-02; and
>
> d. The commission determines that the resource addition is prudent. For facilities located or to be located in this state the commission, in determining whether the resource addition is prudent, shall consider the benefits of having the resource addition located in this state.

[3] *See* N.D.C.C. § 49-06-02.
[4] *See* Charles F. Philips, Jr., *The Regulation of Public Utilities – Theory and Practice* at 292 (Public Utility Reports 1988); *see also* David. J. Muchow & William A. Mogel, *Energy Law and Transactions* at § 4.02[3][b] (2009).

D. AUTHORITY FOR RELIEF REQUESTED[5]

North Dakota Century Code section 49-05-16 allows for a public utility to seek an ADP from the Commission at the utility's discretion. Pursuant to the Settlement Agreement in Case No. PU-07-776, the Company is obligated to file an Application for an ADP for its acquisition of generating resources above 50 MW.[6] Xcel Energy has committed to filing its ADP applications within fourteen days of seeking similar approvals in Minnesota.[7]

With this Application, the Company has met its filing obligations. This Application complies with the requirements of N.D.C.C. § 49-05-16 and the Settlement Agreement in Case No. PU-07-776. Additionally, the Company is submitting the Application within fourteen days of filing an application seeking approval for the MEC I and MEC II transactions in Minnesota, which occurred on November 27, 2018.

III. DESCRIPTION AND PURPOSE OF THE PROJECT

A. BACKGROUND

1. Description of Plant

The Mankato Energy Center is located on approximately 25 acres of property in the city of Mankato in Blue Earth County, Minnesota. The Company's 345 kV and 115 kV Wilmarth Substation is located adjacent to Mankato and is utilized for electrical interconnection. Natural gas supply is via a dedicated 20-inch diameter natural gas lateral which interconnects with Northern Natural Gas' interstate pipeline, located approximately 5 miles from Mankato. Cooling water for the plant utilizes reclaimed water supplied by the City of Mankato's Water Resource Recovery Facility under a long-term supply agreement with an initial term of 25 years and 4 optional 10 year extensions.

[5] Pursuant to the Jurisdictional Determination provided on May 14, 2015, in Case No. PU-15-173, the Company does not require Commission approval for the MEC Facility transaction pursuant to N.D.C.C. § 49-04-06.
[6] *N. States Power Co. Elec. Rate Increase Application*, Case No. PU-07-776, ORDER ADOPTING SETTLEMENT AGREEMENT at 6 of attached Settlement Agreement (Dec. 31, 2008).
[7] *N. States Power Co. Advance Prudence – Geronimo Wind Application*, Case No. PU-12-59, LETTER OF COMMITMENT (Nov. 5, 2012).

Image 1: Mankato Energy Center

The existing MEC I is a 375 MW one-on-one CC natural gas facility that was completed in 2006 by Calpine Corporation. Since that time, it has operated under a 20-year PPA with Xcel Energy to supply capacity and energy to the NSP System. An oversized steam turbine was inherent in the original design of MEC I and allows for efficient reconfiguration of the facility to a two-on-one CC facility via the addition of a single combustion turbine and steam generator.

Before starting construction of MEC II, Calpine Corporation sold the MEC I facility and MEC II expansion rights to Southern Power in late 2016. MEC II expands the existing MEC I facility by 345 MW via the addition of a new combustion turbine and steam generator that is scheduled to reach commercial operation by June of 2019. The capacity and energy from the MEC II expansion project is committed to Xcel Energy under a second 20-year PPA commencing at the planned in-service date in June 2019.

Image 2: Aerial View Mankato Energy Center

A significant attribute of the MEC Facility relates to the relatively new condition of each of its two combustion turbines. The original MEC I combustion turbine was a Siemens 501FD2 class machine that Southern Power upgraded to a Siemens 501FD3 configuration in the spring of 2017. Those upgrades were made as part of a major overhaul of the combustion turbine and addressed known operational issues with the previous FD2 combustion turbine, and also provided a small improvement in performance (heat rate and capacity). The MEC II combustion turbine is a Siemens 501FD4 (now referred to as SGT6-5000F4) class machine that was acquired in unused condition by Southern Power in late 2016. Both combustion turbines are under long-term parts and service agreements with Siemens which come with significant warranty coverage on major components through 2051. Additionally, each combustion turbine generator has a 10-year warranty under the Siemens long-term parts agreement. With the performance improvements attributed to the newer vintage combustion turbines, the total capacity of the combined MEC I and MEC II system is expected at 760 MW. Additionally, the units achieve a lower heat rate resulting in improved fuel usage when compared with their predecessor FD2 class machines.

The upgrades to MEC I and the newer vintage expansion of MEC II have increased the ramp rate of the facility by approximately 50 percent which makes it more responsive to system energy requirements. This is also beneficial to the overall diversity of the system. In light of the improved ramp rate, the Company will be able to more efficiently ramp the plant's energy output up or down in response to the NSP

System's changing energy needs throughout the day, as renewable resources generate more or less energy due to their variable nature.

To recognize the additional capability from the facility, Xcel Energy intends to make an application with MISO to upgrade the generator interconnection agreement to 760 MW from its current 740 MW. While the Company expects this application will be approved without issue, the additional 20 MW of injection capability are not critical to plant operations or the Company's assumption of customer benefits, which materialize regardless of the additional 20 MW of interconnection capacity.

2. Existing PPAs

The Company entered into the MEC I PPA on March 11, 2004, with a term scheduled to expire 20 years following the start of commercial operations, but no later than July 31, 2026. MEC I agreed to provide 375 MW of generation under the MEC I PPA. The PPA further directs the Company to make monthly payments for capacity, dispatchability, energy, and turbine starts. The Company has been recovering the capacity payments in base rates and the energy component of the PPA through the Fuel Cost Rider (FCR) since the PPA's effective date.

The Company entered into the MEC II PPA on April 28, 2015, with a term expiring 20 years after commercial operations begin. MEC II agreed to provide 345 MW of net generating capability under the MEC II PPA. The PPA further directs the Company to make monthly payments for capacity, dispatchability, energy, and turbine starts. Unlike the MEC I PPA, the MEC II PPA does not include a commitment by the Company to dispatch a certain percentage of the facility's base capacity. Commercial operations under the MEC II PPA are scheduled to begin on June 1, 2019. Cost recovery for the MEC II PPA has not yet been approved.

3. Related Regulatory Proceedings

For MEC I, capacity payment costs have been included in base rates and fuel consumption and tolling costs have been recovered through the FCR in North Dakota for quite some time.

For MEC II, Xcel Energy filed an application with the Commission on February 13, 2015, seeking an ADP for the 345 MW of capacity and associated energy from MEC II to be added to the NSP System through a 20-year PPA with Mankato Energy Center, LLC, an affiliate of Calpine Corporation.[8] The Commission issued its

[8] *N. States Power Co. Advance Prudence – 345 MW Mankato Energy Center Application*, Case No. PU-15-96, APPLICATION FOR ADVANCE DETERMINATION OF PRUDENCE (Feb. 13, 2015).

Findings of Fact, Conclusions of Law and Order on March 23, 2016, dismissing the Company's ADP application without prejudice.[9] In its Order, the Commission reasoned that it was "premature for the Commission to base an advance determination of prudence" on evidence that there was no need for the MEC II project until at least 2023 and that "[a]pproval of this project now would require customers to pay for unneeded capacity for a significant portion of the 20-year contract term."[10]

While the Commission has previously dismissed without prejudice Xcel Energy's ADP application for MEC II, the Company's request in this Application is based on a different acquisition structure and factual circumstances. As described more fully in the next section of this Application, Xcel Energy now has an opportunity to take full ownership over both MEC I and MEC II, whereas the 2015 MEC II ADP application requested the addition of 345 MW of capacity and associated energy through a 20-year PPA. The ownership structure means that the Company will have both MEC I and II on the system for a substantially longer period of time,[11] alleviating concerns stemming from expiring PPAs. The ownership structure also means customers will get the cost benefits of the facility for not only a portion of a PPA term, but for many years, thereby being available to meet capacity needs in 2026 when the MEC I PPA expires as well as capacity needs in 2025 when other PPAs on the NSP System expire, as described further in the Direct Testimony of Mr. P.J. Martin. Taking this opportunity now is prudent and is a different value proposition than when the MEC II PPA was presented to the Commission in 2015.

Moreover, the influx of renewable energy on the MISO System indicates that load-following, large, efficient CC facilities will be necessary to maintain system stability and hedge market exposures. This is a key component of the flexibility that ownership of MEC I and II offers. Overall, the Commission should consider this Application in a different light than the ADP application filed by the Company in 2015, as the Company's request for a determination of prudence for an ownership structure is both updated and directly responsive to the concerns raised by the Commission in Case No. PU-15-96.

The Company's analysis shows that taking ownership of MEC I and MEC II under the terms of the MIPA provides long-term cost benefits for our customers relative to the Company's current PPA arrangements, mitigates future risks related to the

[9] *N. States Power Co. Advance Prudence – 345 MW Mankato Energy Center Application*, Case No. PU-15-96, FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER at 4 (Mar. 23, 2016).
[10] *N. States Power Co. Advance Prudence – 345 MW Mankato Energy Center Application*, Case No. PU-15-96, Findings of Fact, Conclusions of Law and Order at 4 (Mar. 23, 2016).
[11] The Company expects to be able to utilize MEC I through 2046 and MEC II through 2054.

expiration of the MEC I PPA, and allows for flexibility with respect to future resource planning that is not provided under a PPA. Given this ownership opportunity and the value it provides to our customers, the Company requests that this Commission grant an ADP of the transfer of ownership proposal described below.

B. TRANSFER OF OWNERSHIP AGREEMENT

1. Ownership Opportunity

In late August of 2018, Xcel Energy become aware of Southern Power's plan to sell the MEC Facility as part of Southern Company's broader strategy to raise capital and as an alternative to issuing additional equity. In response, the Company undertook efforts to explore the costs and benefits associated with our potential purchase of MEC I and MEC II in comparison to an outside third party purchasing the MEC Facility and stepping into Southern Power's role under the MEC I and MEC II PPAs. The Company's initial assessment demonstrated that customers could benefit if NSP proceeded with an offer to purchase the MEC Facility. Thereafter, Xcel Energy and Southern Power entered into a negotiation period beginning on October 2, 2018, so that the Company could negotiate directly with Southern Power and forestall the possibility of the sale of the facility to another independent power producer. The parties negotiated the terms of the transaction throughout October of 2018 and ultimately signed the MIPA on November 5, 2018.

2. Description of Transaction

Pursuant to the MIPA between the Company and Southern Power, Xcel Energy will acquire two limited liability companies—Mankato Energy Center, LLC and Mankato Energy Center II, LLC—which are both wholly-owned affiliates of Southern Power. Mankato Energy Center, LLC owns the existing 375 MW MEC I facility, the related PPA with NSP, site-related rights, facility equipment, and all of the required operating permits. Mankato Energy Center II, LLC owns the 345 MW MEC II expansion project, engineering designs, site-related rights, facility equipment, the related PPA, and all of the required operating permits. The completion of the MEC II expansion project and its achievement of commercial operation is a closing condition of the transaction. The Company plans to merge the LLCs into Northern States Power Company, to own and operate both MEC 1 and MEC II.

The total purchase price for this transaction is $650,000,000. The parties agree that the completion and achievement of commercial operation by MEC II is critical to moving forward with the transaction. As a result, the parties have agreed that Xcel Energy will, subject to certain conditions, **[TRADE SECRET BEGINS …**

… TRADE SECRET ENDS].

Additional key provisions of the proposed transaction are also highlighted below:

- The Company will acquire the membership interests of Mankato Energy Center, LLC and Mankato Energy Center II, LLC.
- The acquisition price includes inventory valued at approximately $4 million, spare L-0 stage blades for the steam turbine currently on order and valued at approximately $4.0 million, and the market value of the water supply agreement with the City of Mankato which is on the books and records of Mankato Energy Center, LLC with a value of approximately $9 million.
- The transaction is subject to a customary working capital adjustment to net out receivables with payables for each of the entities and account for any remaining credit balance (up to approximately $2 million) from Siemens related to exchange of parts under the 2017 upgrade of the existing combustion turbine.
- As a condition to entering into a transaction subject to a state regulatory approval process, Southern Power required that the MIPA include a reverse break-up fee of **[TRADE SECRET BEGINS … … TRADE SECRET ENDS]** This potential break-up fee would be payable by the Company in the event the transaction is not approved by state regulators as requested and becomes subject to terms and conditions that are materially detrimental to the value of the transaction to NSP. Southern Power required the break-up fee in consideration of the time and risk associated with the Company's regulatory approval process.
- Similarly, the Company was able to obtain a purchase price reduction of **[TRADE SECRET BEGINS … … TRADE SECRET ENDS]** in the event the expansion of MEC II does not attain commercial operation prior to June 1, 2019 (and assuming state regulatory approvals have been obtained). The Company would pass on any savings associated with the purchase price reduction to customers.
- Between the signing and closing of the MIPA, Southern Power will accommodate the reasonable involvement of the Company at the MEC Facility in monitoring construction and operational activities as well as witnessing all performance testing related to the expansion project in achieving commercial operation.
- As a closing condition, the expansion of the MEC II facility must attain commercial operation conditions as defined in the MEC II PPA and as certified by the independent engineer at the site, as well as successfully

complete performance tests across a broad range of operational parameters including CC operations with both MEC I and MEC II in a leading and lagging dispatch position.

- Either Southern Power or Xcel Energy can terminate the agreement in the event the closing has not occurred within 10 months following the earlier of the Company's initial filings seeking state regulatory approval and December 1, 2018.

3. Purchase Price

The agreement provides that Xcel Energy will pay Southern Power $650 million for the MEC Facility— which is approximately $100 million more than the present value of the Company's capacity payment obligations under the PPAs. This purchase price is in line with the pricing for other similar transactions, reflects Southern Power's investments in the facility, Southern Power's obligations to complete the MEC II expansion, and is comprised of reasonable components. For these reasons, this purchase is prudent.

a. Comparable Transactions

The purchase price for the MEC Facility is comparable to other CC purchases the Company has seen in this region. The MEC Facility $650 million purchase price for 760 MW CC breaks down to $855/kW.

Below are other recent CC sale transactions or proposals in the region:

- The Riverside Energy Center, which was originally constructed at 600 MW in 2004 and later sold to Wisconsin Power and Light, with expansion nearing completion that will bring its total capacity to 1,330 MW, was purchased at an average price of $827/kW.
- The Fox Energy Center, which was originally constructed at 619 MW in 2005 and later sold to Wisconsin Public Service Company, with a proposed expansion that would have brought its total capacity to 1,094 MW, was purchased at an average price of $875/kW.
- The 525 MW Nemadji Trail Energy Center was proposed by Minnesota Power at an average price of $1,333/kW.

The Company highlights the Riverside and Fox transactions because they involved original equipment of the same vintage as MEC I with a subsequent facility expansion. Further, the Company notes that several years have passed since the Riverside and Fox transactions were executed, with both occurring before the passage of the 2017

Tax Cuts and Jobs Act (TCJA). The TCJA effectively reduced the federal corporate tax rate from 35 percent to 21 percent, meaning that power plants with PPAs in place prior to the TCJA saw an immediate enhancement of value due to a reduced federal tax rate (and increased profitability) as compared with the period of time those PPAs were structured. For Riverside and Fox, the purchase price achieved in today's tax environment would likely be greater than achieved at the time of their sale a few years ago. Similarly, the value of the MEC I and MEC II contracts in the market have likely increased since Southern acquired the facility in late 2016.

b. Southern Power's Investments

Southern Power acquired MEC I and the expansion rights associated with MEC II from Calpine Corporation for an announced price of $395 million in 2016. The acquisition was subject to a working capital adjustment, which typically includes the value of inventory and accounts receivable and payable, and also included the prepaid water supply agreement.

The Company estimates based on its due diligence indicate that Southern Power then upgraded the MEC I combustion turbine in 2017 for approximately $31 million. In addition, the Company estimates that Southern Power will invest approximately $180 million in total capital in the MEC II expansion and general facility upgrades. Collectively, the Company estimates that Southern Power will have invested approximately $609 million to $622 million in the combined MEC I and MEC II facility upon completion of the expansion associated with MEC II.

c. Purchase Price Components

Under the terms of the MIPA, Southern Power retains all risks with completing the construction of the MEC II expansion and achieving commercial operation under the MEC II PPA, as well as any other closing conditions related to the transaction.

Additionally, beyond MEC I and MEC II, the purchase price also includes the value of inventory at the plant (valued at approximately $4 million), L-0 turbine blades for the steam turbine currently on order (valued at approximately $4 million), and the market value of the long-term water supply agreement with the City of Mankato. Southern Power also recently upgraded a number of facilities at the plant, including the control room, employee meeting and break areas, and facility lighting at the plant.

The water supply agreement with the City of Mankato is a key contract associated with the ongoing operation of the facility. The original construction of MEC I included over $20 million in investments in the City of Mankato's Water Resource

Recovery Facility, which in turn provided certain benefits including supply of reclaimed water to the MEC I facility at incremental cost. By continuing to partner with the City of Mankato for long-term water supply for the MEC II expansion via the existing water supply agreement, the Company has estimated the future benefit of the water supply agreement through the life of the facility at approximately $18 million when compared to procuring reclaimed water from the City of Mankato without the benefit of the existing contract.

Finally, the MEC Facility's existing interconnection rights are a valuable component of the overall transaction. In fact, the Company engaged Excel Engineering to perform a study to estimate the cost for transmission improvements that would be needed to connect a potential greenfield CC to the electric grid, and that study showed approximately $263 million in necessary upgrades. Because the MEC Facility already has secured transmission rights, it will not require any such upgrades or expenditures.

In sum, Xcel Energy believes the proposed transaction is fairly priced and will maximize the potential for customer benefits.

4. Risk Mitigation

The Company identified several risks related to the acquisition of the MEC Facility, but has found ways to mitigate these risks before the close of the transaction. First, although MEC II has largely been constructed and is only six months away from its anticipated commercial operation date, the Company viewed the achievement of commercial operation as a risk associated with the transaction. As discussed above, however, the MIPA provides that Xcel Energy will, subject to certain conditions, **[TRADE SECRET BEGINS …**

… TRADE SECRET ENDS].

Second, each of the combustion turbines for MEC I and MEC II are covered by long-term parts and service agreements (LTPA) with Siemens. The LTPA offers significant long-term benefits to the reliable operation of the MEC Facility by providing a comprehensive warranty on major equipment for each combustion turbine for 35 years (expires 2051), with Siemens providing parts and service during the term of that contract. Associated with the LTPA is a10-year extended (prorated) warranty for each combustion turbine generator. Siemens will also have a resident manager on site at the MEC Facility through 2021. The cost of the LTPA has been

included in the economic evaluation of our acquisition with risk mitigation value derived from the additional combustion turbine and generator warranties, original equipment manufacturer bulletin implementation, technical support, and remove performance monitoring.

Third, there is a certain amount of risk associated with taking ownership over any asset as large and significant as the MEC Facility. To mitigate this risk, the Company conducted a thorough operational due diligence of the MEC Facility in considering this acquisition. A team of approximately 35 individual subject matter experts representing functional areas of Energy Supply, Operations, Environmental, Permitting, Real Estate, Insurance, Tax, Human Resources Transmission, Information Technology, Security, Legal, and Regulatory were involved as part of the review. These due diligence efforts included an extensive review of the following topics and documents provided by Southern Power:

- MEC Organizational Documents;
- Financial Information;
- Governmental and Regulatory Information;
- Environmental Documents;
- Operational Matters;
- Risk Management;
- Real Estate Holdings and Information;
- Employee Matters; and
- Other Material Contracts.

As a result of these wide-scale due diligence efforts, the Company was able to adequately identify and mitigate all known or potential risks associated with the transaction within the agreements, and concluded that acquisition of the MEC Facility is prudent and in the best interest of customers.

IV. ECONOMIC ANALYSIS

A. OVERVIEW

The Strategist resource planning model was used to evaluate the economic impact of the proposed transfer of ownership on system costs. Strategist simulates the operation of the NSP System and estimates the total cost of energy over the life of the projects on a present value basis. The Company used Strategist to test results under a range of input assumptions to help ensure that the MEC Facility is a good fit for the portfolio across a range of potential outcomes. For this analysis, the Company

simulated the operation of the NSP System through 2057 and compared system costs of Company ownership of the MEC Facility to system costs when the output of the MEC Facility is purchased under the existing PPAs. This analysis indicated that customers are expected to realize significant benefits under Company ownership.

The existing CC generator, MEC I, was completed in 2006. The MEC I PPA is scheduled to expire in 2026. The 20-year term of the MEC II PPA is scheduled to begin when the expansion unit achieves commercial operation in June of 2019. Under both PPAs, the Company will pay a demand charge for the capacity provided by the MEC Facility. The capacity payment is based on the actual capacity of the plant up to a combined 720 MWs. The net present value of the demand charges in the existing PPAs is approximately $550 million. The demand charges are incurred by the Company for the capacity of the MEC Facility separate from the costs incurred for dispatchability, energy, and turbine starts discussed above.

The Strategist economic modeling analysis compares costs under the existing PPAs to costs under the ownership proposal. As discussed further below, the cost savings under the ownership proposal are achieved by avoiding the costs that would be incurred under the existing PPA as well as utilizing the MEC Facility over a longer service life. The Company expects to be able to utilize MEC I through 2046 and MEC II through 2054. Key assumptions for our economic assessment of the proposed transaction are based on the Company's most recent Minnesota resource planning process which was approved in 2017. However, given the passage of time, the expansion plan has also been updated to reflect the Company's most recent wind investments and other changed circumstances. Further details on the Strategist assumptions are attached to the Direct Testimony of Company witness Mr. Martin.

B. SCENARIOS

To assess and confirm the benefits of the transfer of ownership under a range of potential outcomes, the Company modeled two different expansion plan scenarios – the *Modified IRP* and *85-by-30 Plan* scenarios.

1. Modified IRP Scenario

The first scenario, the *Modified IRP*, presents an evaluation of the proposed transaction within the context of the previous resource plan. The *Modified IRP* scenario provides an analysis of the transfer of ownership using resource assumptions consistent with a reference case that reflects an update from the outcome of the Company's last resource planning cycle. The Strategist modeling conducted for the MEC Facility also includes the most recent load forecast, fuel price forecasts, and updated pricing for

renewable resources, among other assumptions. The contours of the *Modified IRP* assumptions are detailed in the attachment to the Direct Testimony of Mr. Martin.

2. 85-by-30 Plan Scenario

In late 2017, Xcel Energy's CEO, Ben Fowke, presented the Company's plan to generate 60 percent of NSP's generation from renewable resources and 85 percent of NSP's generation from carbon-free resources by 2030. The Company has since affirmed its commitment to achieving 85 percent of our generation from carbon-free sources by 2030 in other forums.

To evaluate the proposed transfer of ownership under a scenario consistent with Xcel Energy's 85 percent goal, the Company has included an *85-by-30 Plan* scenario. The *85-by-30 Plan* scenario includes more solar by 2030, resulting in 60 percent of generation coming from renewable resources. The *85-by-30 Plan* scenario also dispatches the A.S. King plant on an economic basis beginning in 2028 which reflects these additional renewables on the dispatch profile of the plant as opposed to its current must-run status. The renewable expansion through 2030 under the *85-by-30 Plan* scenario is further detailed in the testimony of Mr. Martin. The *85-by-30 Plan* scenario demonstrates that the acquisition of the MEC Facility results in benefits under a scenario that adds over 6,000 MW of solar, results in 60 percent of Company generation from renewable sources by 2030, and eliminates the need for incremental capacity in the 2030s.

C. SENSITIVITIES

Given the uncertainty associated with many of the key assumptions, the Company also modeled a number of sensitivities to test the benefits of the proposed transfer of ownership under a range of potential outcomes consistent with North Dakota planning philosophies. Below is a list of the sensitivities:

- Natural Gas Prices

The Company's natural gas price forecast is based on a blend of the latest market information and long-term fundamentally-based forecasts acquired from third parties. The Company has included a low and high gas sensitivity to evaluate the impacts of variations in gas prices on the proposed transfer of ownership.

- Forecasted Load

The modeling includes the most recent load forecast, which was developed in the fall of 2018. The high and low load sensitivities were developed by increasing and decreasing forecasted load one standard deviation from the median forecast.

- "Markets Off"

The Company has also included a "markets off" sensitivity where Strategist does not allow market sales or purchases (Markets-Off). Under a Markets-Off sensitivity, energy in excess of NSP load serving needs is considered "dump" energy. The Company has included sensitivities that assign a reduced value of 50 percent of the forecasted LMP to any dump energy and a sensitivity that gives no value to dump energy.

- Ongoing MEC Costs

Ongoing costs at the MEC Facility are assumed to escalate at a rate of approximately 2 percent annually. The low and high sensitivities test annual escalation rates of 1 percent and 3 percent, respectively.

The transfer of ownership proposal results in net benefits under each sensitivity shown in Tables 1 and 2, below. As noted above, significant benefits are due to the offset of the costs under the existing PPAs as well as the benefits of utilizing the MEC Facility beyond its current PPA terms. Tables 1 and 2 categorize the cost under the *Modified IRP* and *85-by-30 Plan* scenarios. Both tables show the net present value of the full modeling period (2018-2057) on a PVRR basis.

Table 1: Modified IRP Scenario

	PVRR
Capital Cost of Mankato Purchase	915
Fixed Savings of Mankato PPA	(555)
Fixed Cost/Expansion Plan Cost/(Savings)	(359)
VOM Cost/(Savings)	(47)
Fuel Cost/ (Savings)	21
Market Cost/(Savings)	(71)
PPA Starts/Own Start Fuel Cost/(Savings)	(46)
Total Cost/(Savings)	(142)

Table 2: 85-by-30 Plan Scenario

	PVRR
Capital Cost of Mankato Purchase	915
Fixed Savings of Mankato PPA	(555)
Fixed Cost/Expansion Plan Cost/(Savings)	(365)
VOM Cost/(Savings)	(28)
Fuel Cost/ (Savings)	13
Market Cost/(Savings)	(6)
PPA Starts/Own Start Fuel Cost/(Savings)	(39)
Total Cost/(Savings)	(66)

The proposed transfer of ownership results in cost/savings impacts in a number of different areas.

- Significant fixed cost savings are derived from avoided demand charges under the existing PPAs.
- Sizeable Fixed Expansion Plan Cost savings are also generated from the avoided fixed costs of procuring replacement capacity after the existing PPAs expire.
- Some variable O&M and start costs are avoided due to the structure of the PPA compared to Company ownership.
- Fuel costs increase slightly due to increased reliance on the MEC Facility to offset market purchases. Under the *85-by-30 Plan* scenario, the ability to offset market purchases is significantly reduced.

D. STRATEGIST RESULTS

Tables 3 and 4, below, provide a summary of the Strategist modeling results under the *Modified IRP* scenario and the *85-by-30 Plan* scenario:

Table 3: Modified IRP Scenario

	Continuation of PPAs	Owned MEC	Delta
Base PVRR	45,376	45,233	(142)
Base PVRR + Low Gas	43,782	43,642	(140)
Base PVRR + High Gas	48,346	48,177	(169)
Base PVRR + Low Load	42,073	41,984	(89)
Base PVRR + High Load	48,897	48,701	(196)
Base PVRR + Mkts Off, No Dump Credit	46,680	46,610	(71)
Base PVRR + Mkts Off, Dump Credit	46,157	46,086	(71)
Base PVRR + High MEC Ongoing Costs	45,376	45,266	(110)
Base PVRR + Low MEC Ongoing Costs	45,376	45,204	(172)

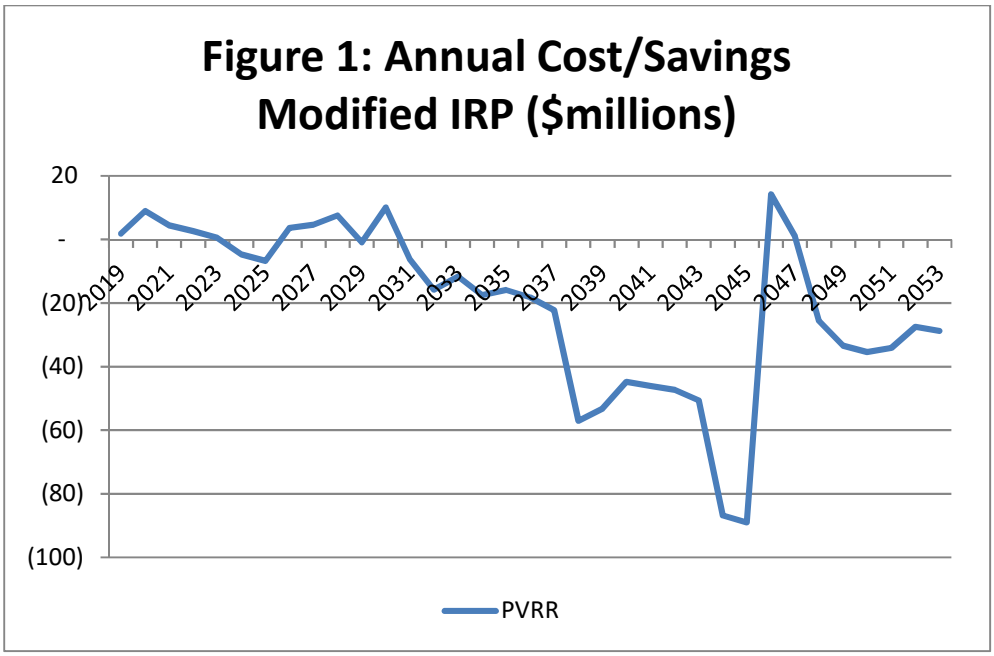
Table 4: 85-by-30 Plan Scenario

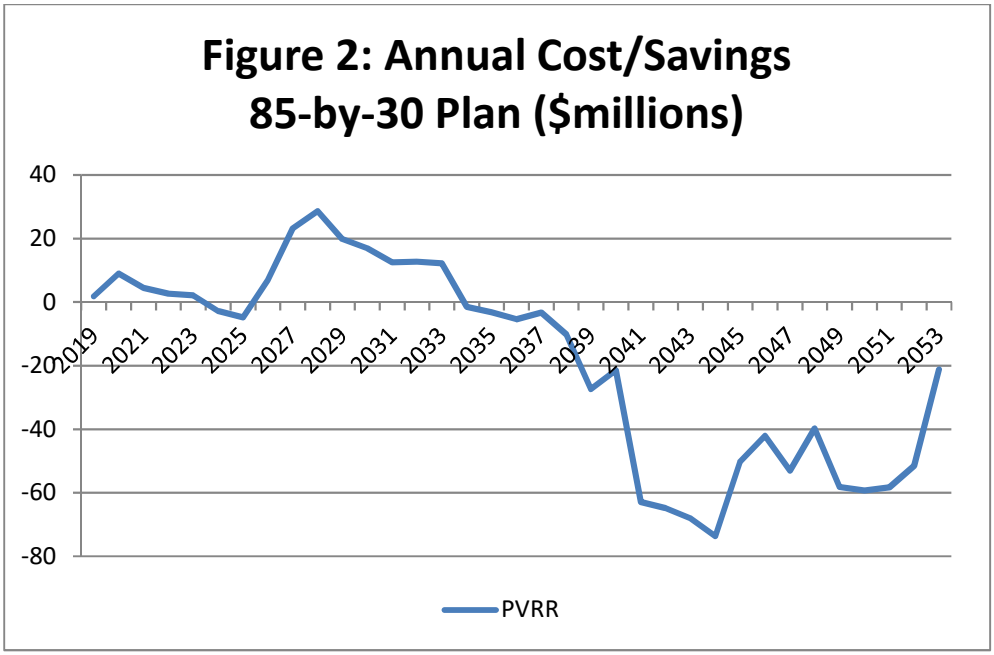
	Continuation of PPAs	Owned MEC	Delta
Base PVRR	44,693	44,627	(66)
Base PVRR + Low Gas	43,974	43,882	(92)
Base PVRR + High Gas	46,023	46,013	(10)
Base PVRR + Low Load	42,181	42,244	63
Base PVRR + High Load	47,589	47,491	(98)
Base PVRR + Mkts Off, No Dump Credit	46,803	46,897	94
Base PVRR + Mkts Off, Dump Credit	45,014	45,107	93
Base PVRR + High MEC Ongoing Costs	44,693	44,660	(33)
Base PVRR + Low MEC Ongoing Costs	44,693	44,598	(95)

E. ANNUAL IMPACTS

1. Cost Savings

To understand how the costs (savings) change over time, Figures 1 and 2 below visually portray the annual costs (savings) impacts of the transfer of ownership relative to the existing PPAs under both scenarios.





As shown above, the benefits of the transfer of ownership increase in the early 2030s, when the MEC Facility can be relied on for economic capacity and energy as the nuclear units are retired. Prior to the early 2030s, the PVRR comparison of ownership to the existing PPAs shows approximately equal annual savings.

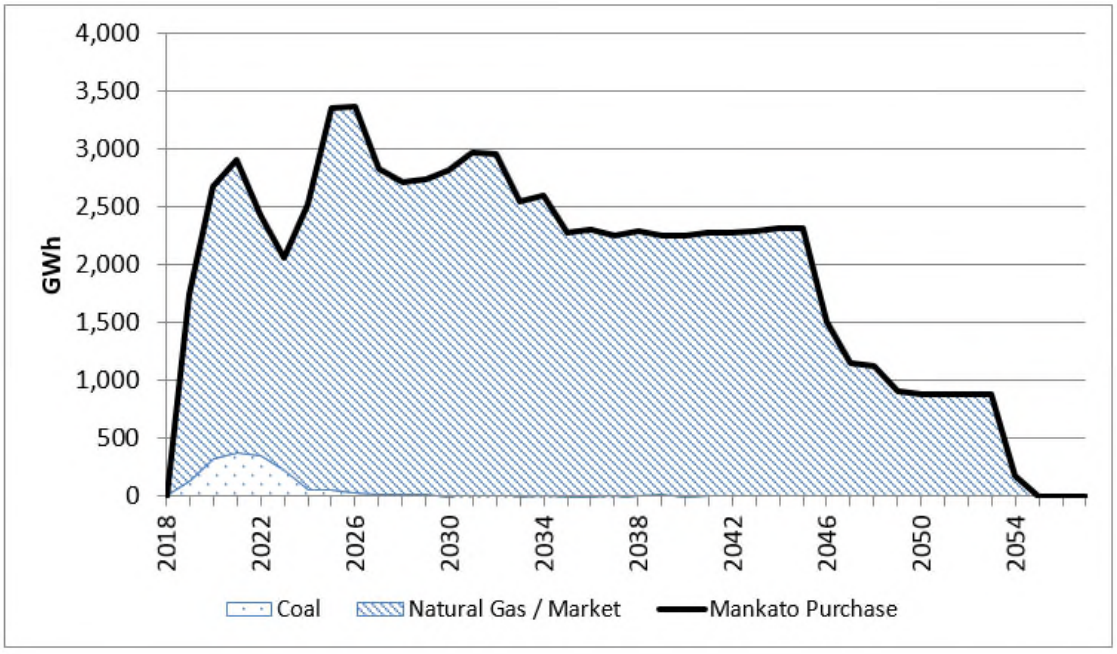
2. Capacity and Energy Position Impacts

As noted above, under the *85-by-30 Plan* scenario, additional generic capacity is not needed for the NSP System until 2034. However, the ability to utilize this existing resource provides significant benefits as the Company's fleet transitions in the 2030s.

It is important to note that the assumptions made for the *85-by-30 Plan* scenario result in considerable levels of surplus portfolio capacity length in the mid-2020s to early 2030s. The costs of carrying this surplus capacity are key drivers in the increase in annual costs displayed in Figure 2 above. However, the Company expects to be able to utilize MEC I through 2046 and MEC II through 2054, increasing the benefits to customers over a longer period as compared to the PPAs.

Figure 3, below, shows the generation and/or market purchases that are displaced by an owned MEC resource under the *85-by-30 Plan* scenario. While some coal is displaced in the near-term, the energy from the MEC Facility primarily displaces natural gas and market purchases. As a CC, the MEC Facility is more efficient than combustion turbines or older CCs and mitigates the risk of greater market purchases in the future.

Figure 3: Displaced Energy (GWh)



In addition, relatively more energy is assumed to be displaced under Company ownership, due to the expected additional capacity of the MEC Facility, discussed

above, that was not contemplated under the existing PPAs.[12] As a dispatchable resource, generation from the MEC Facility will offset higher cost and less efficient generation.

F. ESTIMATED CUSTOMER RATE IMPACTS

Based on the results of the Strategist modeling, the Company expects customer rates to decrease in the long-term as a result of the purchase. While the Company expects a slight increase for residential customers during the early years of ownership due to the purchase as compared to the PPA, our rate analysis indicates that customers will begin to experience savings resulting from the purchase beginning in 2024. To develop the rate impact analysis, the Company began with the incremental impacts of owning the MEC Facility as determined by the Strategist modeling that was conducted. Specifically, the PVRR sensitivity outputs from the *85-by-30 Plan* scenario were used. The Company believes this scenario most closely reflects the impacts to customer bills.

Using the annual system-wide cost impact from Strategist, the Company then applied a jurisdictional allocator based on a current sales forecast to determine the costs allocated to the North Dakota jurisdiction. The jurisdictional costs were then allocated to classes based on Class Cost of Service Study allocation factors approved in the Company's last North Dakota rate case order.

Table 5, below, shows the forecasted incremental impact on average monthly bills in North Dakota.

Table 5: ND Forecasted Incremental Impact on Average Monthly Bills

	Residential	Commercial Non Demand	C&I Demand Billed *
2020	$0.18	$0.24	$5.91
2021	$0.10	$0.11	$2.93
2022	$0.07	$0.05	$1.53
2023	$0.06	$0.03	$1.03
2024	-$0.02	-$0.10	-$2.18
* Customer kWh usage and rate impacts for C&I demand billed customers varies significantly			

[12] The existing PPAs require payments for monthly capacity up to 720 MWs.

V. PRUDENCE OF THE PROPOSED TRANSFER OF OWNERSHIP

The Company's proposed transfer of ownership of the MEC I and MEC II facilities is prudent. As discussed above in the economic analysis section, the proposed transaction will reduce costs to customers over the life of the plant as compared to the PPAs. A mix of PPAs and Company ownership of generation resources balances the risks and benefits for the Company and our customers. In addition, there are other benefits enabled by this proposal including the support it offers for renewable integration, transmission interconnection rights, risk mitigation from expiring PPAs, preservation of flexibility in regards to other resources, and overall system benefits. These benefits are discussed in more detail in this section of the Application. Based on the Company's analysis and the benefits of the transaction described below, the Company believes that it is prudent, reasonable, and in customers' best interests for the Commission to grant an ADP for this transfer of ownership.

A. RENEWABLE INTEGRATION SUPPORT

Natural gas generation has become increasingly important as greater renewable resources penetrate the NSP System and the MISO footprint. Securing Company ownership of the MEC Facility will provide increased planning flexibility as these renewables are added. As such, this ownership proposal is also consistent with the Company's stated goal to dramatically reduce its carbon emissions. Greater control over the MEC Facility for a longer future timeframe will provide stability and renewable integration support that benefits all NSP customers.

B. TRANSMISSION RIGHTS

As other facilities face potential retirement or leave the system due to PPA expiration in the coming years, the Company will have a need for replacement capacity and energy. As discussed above in this Application, the Company is not confident that a greenfield CC is a viable option given both the state of the current MISO queue and the cost of the potential upgrades. But even if it was, an analysis conducted by Excel Engineering shows the minimum interconnection cost estimate at approximately $263 million, making existing generation and interconnection rights extremely valuable. Because the MEC Facility already has secured transmission rights, it will not require any such upgrades or expenditures.

C. RISK MITIGATION

Company ownership mitigates market and pricing risk associated with the termination of the MEC I PPA in 2026. Expiration of the MEC I PPA causes a capacity need on the NSP System based on current forecasts. As discussed above, having to replace

the MEC I PPA would expose the Company and customers to market risk in having to procure sufficient resources to meet this need. The MISO market is tightening due to planned retirements, including our own. Thus, securing our capacity position in this time frame is a proactive step. This PPA conversion provides additional firm, flexible generation on the NSP System beyond the current terms of the PPAs, which will allow customers to benefit from an attractively-priced CC resource. Absent ownership, customers would potentially pay a higher price for replacement energy and capacity upon the expiration of the PPA.

Further, as discussed above in Section III.B.4, there is a certain amount of risk associated with taking ownership over any asset as large and significant as the MEC Facility. To mitigate this risk, the Company conducted a thorough operational due diligence of the MEC Facility in considering this acquisition, and, as a result, was able to adequately identify and mitigate all known or potential risks associated with the transaction within the agreement.

D. PRESERVATION OF FLEXIBILITY

This ownership opportunity will serve to retain and slightly increase natural gas generation levels on the Company's system, providing overall flexibility and diversity with other resources on the system.

Further, Southern Power intends to sell this generating plant that is in the MISO territory to some company or utility and, ultimately, the plant will continue to generate power and Xcel Energy will be the offtaker, at least for the near-term. Both customers and the Company will benefit from ownership which provides significant flexibility well into the future as the Company's baseload fleet ages.

E. POTENTIAL SYSTEM BENEFITS

Another potential benefit of owning these generating units rather than contracting for them through a PPA is their potential to be used for black start of the system. Black start is the process of restoring a power station to operation without relying on the external transmission network. Normally, the electric power used within the plant is provided from the station's own generators. However, if all of the plant's main generators are shut down, station service power is provided by drawing power from the grid through the plant's transmission line. But during a wide-area outage, off-site power supply from the grid will not be available. In the absence of grid power, a so-called black start needs to be performed to bootstrap the power grid into operation. Black start plans are required by the North American Electric Reliability Corporation, and the Company's plan is subject to review and approval by MISO. The NSP

System takes the lead in restoring the majority of the Minnesota/North Dakota/South Dakota bulk electric system in a black start event, with our neighboring utilities relying on us to have the larger units to stabilize the grid.

The Company's Inver Hills Generating Plant is currently the facility designated for this black start function. However, Inver Hills is scheduled to retire in the late 2020s and the MEC Facility could potentially provide black start capabilities. While this could be a valuable benefit, the Company has not yet studied its potential due to our lack of ownership.

VI. SCHEDULE

As contemplated by the MIPA, Southern will continue building MEC II with the requirement of commercial operation by June 1, 2019. In the meantime, the Company will continue through the state regulatory processes in North Dakota, as well as Minnesota, and with the Federal Energy Regulatory Commission.

Operationally, between the signing and closing of the MIPA, the following will happen:

- The Company will regularly be at the facility to monitor construction and operational activities as well as witnessing all performance testing related to the expansion project in achieving commercial operation.
- Southern Power will continue to work with the City of Mankato to enhance the water supply agreement for the facility and upon request, the Company will in good faith support and participate in those discussions provided that Southern Power shall not enter into any modification or amendment of that contract without the consent of Xcel Energy.
- An independent engineer at the site will test MEC II across a broad range of operational parameters.

With respect to the timing of approval, Xcel Energy respectfully requests that the Commission make an ADP determination regarding the transfer of ownership of the MEC I and MEC II facilities as close to June 2019 as possible, but no later than the seven month statutory timeframe provided for in N.D.C.C. § 49-05-16(2).

VII. CONCLUSION

For all of the reasons set forth above, Xcel Energy respectfully requests the Commission grant an ADP for the Company's acquisition of MEC I and MEC II.

Date: December 7, 2018

Northern States Power Company

Respectfully submitted,

/s/ *Bria Shea*

BRIA SHEA
DIRECTOR, REGULATORY AND STRATEGIC ANALYSIS