

**BEFORE THE PUBLIC SERVICE COMMISSION  
OF THE STATE OF NORTH DAKOTA**

NORTHERN STATES POWER COMPANY  
ADVANCE PRUDENCE – 151.2 MW  
DAKOTA RANGE III WIND FACILITY

CASE NO. PU-18-\_\_\_\_

**APPLICATION FOR  
ADVANCE DETERMINATION OF PRUDENCE**

**I. INTRODUCTION**

Northern States Power Company, doing business as Xcel Energy (Xcel Energy or NSP or the Company), submits to the North Dakota Public Service Commission (Commission) this Application for an Advance Determination of Prudence (ADP) for a power purchase agreement (PPA) between the Company and Dakota Range III, LLP for new wind energy generation from a 151.2 megawatt (MW) facility (Dakota Range III) located in Grant and Roberts counties, South Dakota.

NSP recently reached agreement with a large commercial and industrial customer (C&I Customer) regarding the terms of providing electric service to a site (C&I Site) planned for construction on a portion of the Company's Sherco property in Becker, Minnesota.<sup>1</sup> Under the agreement, the Company has committed to provide electric service at a negotiated rate for up to **[TRADE SECRET BEGINS . . .**

**. . . TRADE SECRET ENDS].**

A condition of the C&I Customer locating at the C&I Site is satisfaction of the C&I Customer's objective to offset its operations' energy usage with renewable energy. To meet this objective, the C&I Customer required procurement of incremental renewable energy resources for the NSP System to match energy usage at the C&I Site and, ultimately, to meet the C&I Site's capacity needs once it reaches a certain threshold load size. Recognizing that the C&I Site's load growth is difficult to predict

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<sup>1</sup> Of note, the agreements comprising the C&I Site transaction were recently executed. The Company will next be seeking approval of the agreements to serve the C&I Customer from the Minnesota Public Utilities Commission (who has sole jurisdiction over those agreements as the regulatory agency responsible for overseeing electric service in that state) in early 2019 and will supplement this proceeding with courtesy copies of the filing once made.

with certainty, the Company has the flexibility to procure renewable resources early in the term that will scale as the load grows over time.

To that end, Xcel Energy intends to procure 300 MW of wind energy before the C&I Site's commercial operation date to capture the federal production tax credit (PTC) pricing available today to cover future load growth.<sup>2</sup> The Dakota Range III PPA is the Company's first step in procuring the incremental renewable energy needed to meet the C&I Customer's objectives.

Although the C&I Customer's load will be based in Minnesota, North Dakota customers will benefit primarily from the impact that the increased Minnesota load has on the allocation of NSP System costs. Specifically, the additional load will result in the reduction of the percentage of system costs paid for by North Dakota customers under the 12CP demand allocator. Table 1, below, shows the estimated North Dakota dollar impact resulting from the demand allocator shift caused by the addition of the C&I Customer ratably, **[TRADE SECRET BEGINS . . .**

**. . . TRADE SECRET ENDS]**. The table demonstrates this impact on an incremental basis, showing the impact of 10 MW of load in year one; 75 MW of load by year five; and 150 MW of load by year ten of the agreement on the Company's North Dakota cost of service. These benefits alone provide compelling reasons for the Commission to support the Dakota Range III resource addition.

**[TRADE SECRET BEGINS . . .**

**. . . TRADE SECRET ENDS]**

Notwithstanding the need for this PPA to support the C&I Site, the Company is requesting approval of the Dakota Range III PPA as a *system* energy resource, as the attractive price of energy under the PPA will lower NSP's overall fuel costs and result

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<sup>2</sup> The Company anticipates that a likely load growth scenario is **[TRADE SECRET BEGINS . . .**  
**. . . TRADE SECRET ENDS]** for the initial 10-year term.

in significant benefits for the Company's customers. Our conservative modeling estimates savings at \$22 million system-wide on a present value of revenue requirement (PVRR) basis. The proposed PPA is therefore prudent, as it represents an opportunity to lower customers' fuel costs while at the same time facilitating the addition of a large new customer to the NSP System. The Company respectfully requests that the Commission grant the requested ADP for the Dakota Range III PPA.

In support of the Company's Application, Xcel Energy provides the following Direct Testimonies:

- Policy Testimony – Ms. Bria Shea
- Resource Planning Testimony – Mr. 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 Filing;
- Economic Analysis;
- Prudence of the Dakota Range III PPA; 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**

The Company 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, North Dakota 58102 dave.sederquist@xcelenergy.com	Regulatory Records Records Specialist Xcel Energy 414 Nicollet Mall Minneapolis, Minnesota 55401 regulatory.records@xcelenergy.com
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## **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.<sup>3</sup> The general prudence standard calls for determining whether the utility action was reasonable at the time it was taken under all relevant circumstances.<sup>4</sup> 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.

#### **D. Authority for Relief Requested**

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.<sup>5</sup> Xcel Energy has committed to filing its ADP applications within fourteen days of seeking similar approvals in Minnesota.<sup>6</sup>

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<sup>3</sup> See N.D.C.C. § 49-06-02.

<sup>4</sup> 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).

<sup>5</sup> *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).

<sup>6</sup> *N. States Power Co. Advance Prudence – Geronimo Wind Application*, Case No. PU-12-59, LETTER OF COMMITMENT (Nov. 5, 2012).

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 of a PPA for Dakota Range III in Minnesota, which occurred on December 13, 2018.

### **III. DESCRIPTION AND PURPOSE OF FILING**

#### **A. Background**

The Company recently reached agreement with the C&I Customer to provide electricity for the C&I Site, currently planned for construction on a portion of Xcel Energy's Sherco Property in Becker, Minnesota. Additional information on the C&I Customer and C&I Site are provided in the Direct Testimony of Company Witness Ms. Bria Shea. Part of the agreement between Xcel Energy and the C&I Customer is the procurement of sufficient incremental renewable generation to match the C&I Site's expected annual energy use. Practically, this will be demonstrated by retiring Renewable Energy Credits (RECs) in amounts equal to the site's annual energy use. While the C&I Site is being constructed and ramping up demand, the Company can "bank" RECs for the electricity generated but not used by the C&I Site, with the intention of later using the banked RECs to offset future demand from the C&I Site. The Company's PPA with Dakota Range III, LLC is the first renewable resource in support of the C&I Site.

Until recently, Dakota Range III, LLC was a wholly-owned subsidiary of Apex Clean Energy (Apex). Apex is one of the leading developers of renewable energy facilities in the United States, with an overall development portfolio of over 13,000 MW of renewable energy. In November 2018, Apex sold Dakota Range III, LLC to ENGIE IR Holdings LLC, a subsidiary of ENGIE (ENGIE), one of the world's largest electricity providers.

Dakota Range III will be placed in-service in 2020 and therefore qualifies for a 100 percent federal PTC. The Company considered a number of comparable options from other developers and the price of energy under this PPA is comparable to (and generally less than) the resource additions recently approved by the Commission in Case Nos. PU-17-120 and PU-17-372. Dakota Range III will therefore lower the Company's overall fuel costs which results in significant benefits for customers.

## B. Project Overview

Dakota Range III is planned to be located in the same general area of Grant and Roberts counties, South Dakota as the Dakota Range I and II wind facilities the Company has agreed to purchase from Apex. Dakota Range I and II is a self-build project expected to be completed in 2021. On December 6, 2018, the Commission approved a settlement in Case Nos. PU-17-120 (1,550 MW Wind Portfolio) and PU-17-372 (302.4 MW Dakota Range Wind) finding the Dakota Range I and II project prudent.<sup>7</sup>

Dakota Range III will be placed into service in 2020—before Dakota Range I and II—and will therefore qualify for a 100 percent PTC. Also, like Dakota Range I and II, the point of interconnection and delivery for the Dakota Range III wind facility will be the Twin Brooks 345 kilovolt (kV) substation. The Dakota Range III facility will have a nameplate capacity of 151.2 MW. The project will include forty-five Vestas V136 4.2 SE Wind Turbines. The facility is expected to produce approximately [TRADE SECRET BEGINS ... ... TRADE SECRET ENDS] of wind energy annually for the duration of the PPA term.

This facility is necessary for supporting the C&I Site project, which itself should provide significant benefits to all customers. But even if the C&I Customer were to not need all of the electricity produced by the Dakota Range III wind facility, this PPA would still benefit customers. The fixed energy pricing from this PPA will lower the Company's overall fuel costs and result in significant benefits for customers. Moreover, the PPA is a pay-for-performance energy contract, so performance risk is minimized.

## C. Terms of the Transaction

### 1. Purchase Price

Xcel Energy will purchase the entire output of the project for the duration of the PPA. Pricing in this PPA is [TRADE SECRET BEGINS ... ... TRADE SECRET ENDS].

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<sup>7</sup> N. States Power Co. *Advance Prudence – 302.4 MW Dakota Range Wind Application*, Case No. PU-17-372, ORDER ON SETTLEMENT (Dec. 6, 2018).

Test energy production prior to the Commercial Operation Date (COD), discussed below, will be purchased by Xcel Energy at a rate of [TRADE SECRET BEGINS ... .. TRADE SECRET ENDS].

2. *Commercial Operation Date*

The current target COD is December 31, 2020. If the facility fails to achieve the target COD, Dakota Range III is required to pay the Company delay damages equal to [TRADE SECRET BEGINS ... .. TRADE SECRET ENDS].

3. *Term*

The term of the PPA is for 12 years from the COD. This is intended to coincide with the initial term for electric service to the C&I Site.

4. *Security*

The security amount for the PPA is [TRADE SECRET BEGINS ... .. TRADE SECRET ENDS]. The security can take the form of an escrow account or letter of credit, and may be converted to a personal guaranty after COD is achieved. The security must be posted within 30 days of the execution of the PPA.

5. *Curtailement*

The PPA includes provisions under which the Company will pay for the curtailment of generation or delivery of energy due to scheduling issues, market participation activities, economic curtailments and curtailments due to locational marginal pricing (LMP), or any other reason the Company so determines. In the event a wind curtailment is determined to be compensable, the incremental cost above the energy purchase cost would be approximately [TRADE SECRET BEGINS ... .. TRADE SECRET ENDS].<sup>8</sup>

6. *Purchase Option*

The PPA outlines several purchase options of the wind facility for the Company. First, beginning six months after the COD, the Company will have a right of first

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<sup>8</sup> This incremental cost assumes ENGIE claims the South Dakota tax rate for their PTCs.

offer (ROFO) option in the event Dakota Range III proposes to sell the facility (or a majority of the equity interest in Dakota Range III) to an unaffiliated third party, permitting the Company to acquire the wind facility on the terms set forth in any notice of the ROFO. Second, the Company has a pending facility transaction (PFT) option, whereby the Company has the right to discuss and negotiate the possible sale of the wind facility with Dakota Range III upon receiving a notice of a PFT. Third, the Company has the option to acquire the wind facility upon termination of the PPA due to an uncured default by Dakota Range III, based on the fair market value of the wind facility, as determined by an independent appraiser.

#### 7. *Other Terms and Conditions*

The PPA contains numerous other terms and conditions typical in a PPA that involves construction of new resources. These include representations by each party about their ability to enter into the transaction, force majeure provisions, dispute resolution, listing of responsibilities, milestones, provisions relating to defaults, and similar issues. Because the PPA is similar, although not identical, to other wind-only PPAs, the Company has not provided a term-by-term review in this Application.

## IV. ECONOMIC ANALYSIS

### A. Overview

The Strategist resource planning model was used to evaluate the impact of the proposed wind project on customers. Strategist simulates the operation of the NSP System and estimates the total cost of energy over the life of the project on a present value basis. The Company used Strategist to test results under a range of input assumptions. To assess the impact on customer costs, the Company simulated the operation of the NSP System through 2057, with and without the addition of the 151.2 MW Dakota Range III wind facility. The Company's analysis assumes the addition of the 1,850 MWs of wind deemed prudent pursuant to the Commission's December 6, 2018, order approving the settlement in Case Nos. PU-17-120 and PU-17-372.

Notably, wind generation has no fuel costs, so the marginal cost to produce the next unit of energy is zero. In other words, after capital and on-going O&M costs are accounted for, it costs a wind generator nothing to produce the next MWh of energy. As a result, MISO generally provides for wind production ahead of other, marginally-priced generation. Therefore, when the energy from the proposed project is

produced, it will displace energy production from other Company resources or purchased energy from the MISO market. This displacement of other generation or market purchases largely drives the benefits shown in the Company’s modeling results. The key assumptions included in the Company’s modeling results are attached to the Direct Testimony of Company witness Mr. P.J. Martin.

**B. Strategist Scenario**

The results of the Strategist analysis provide the incremental effect of the addition of the Dakota Range III project and show that this new wind resource will result in net savings for customers under all sensitivity tests conducted. Table 2, below, shows the PVRR savings.

**Table 2: Incremental PVRR Savings from Reference Case (\$millions)**

	<b>2018 PVRR</b>
Fixed Cost/Expansion Plan Cost/(Savings)	<b>(16)</b>
VOM Cost/(Savings)	<b>(3)</b>
Fuel Cost/(Savings)	<b>(43)</b>
Dakota Range III PPA Cost	<b>71</b>
Market Cost/(Savings)	<b>(29)</b>
PPA Starts/Own Start Fuel Cost/(Savings)	<b>(1)</b>
<b>Total Cost/(Savings)</b>	<b>(22)</b>

As Table 2 indicates, the proposed wind project provides cost benefits to customers. Table 2 shows that reductions in system costs net of the costs of the PPA result in savings under the PVRR analysis, resulting in an overall savings on a PVRR basis for the Dakota Range III project. We note that this is exclusive of the demand allocator impacts of the C&I Customer discussed above.

In light of resource additions being added to the NSP System, there will be periods of time where the generation on the Company’s system exceeds our native load-serving requirement. During these periods, the Company is likely to make energy sales into the MISO market. Revenues from these sales will be credited to customers through the Company’s Fuel Cost Rider (FCR). Assumptions regarding the likely value of these potential sales are an important factor in predicting the likely rate impact of the proposed Dakota Range III PPA. The Company, therefore, analyzed the benefits of

Dakota Range III under three different energy market assumptions. First, interactions with the MISO energy market are modeled under the base assumptions. Second, under the “markets off, no dump credit” sensitivity, market interactions are turned off and no value is given to any generation in excess of load serving requirements. Third, under the “market off, dump energy credit” sensitivity, energy in excess of load serving requirements is given half of the forecasted market energy price.

In addition to the sensitivities related to market interactions, the Company also performed the below sensitivities to further test the cost effectiveness of the proposed resource addition:

- Natural Gas Prices

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

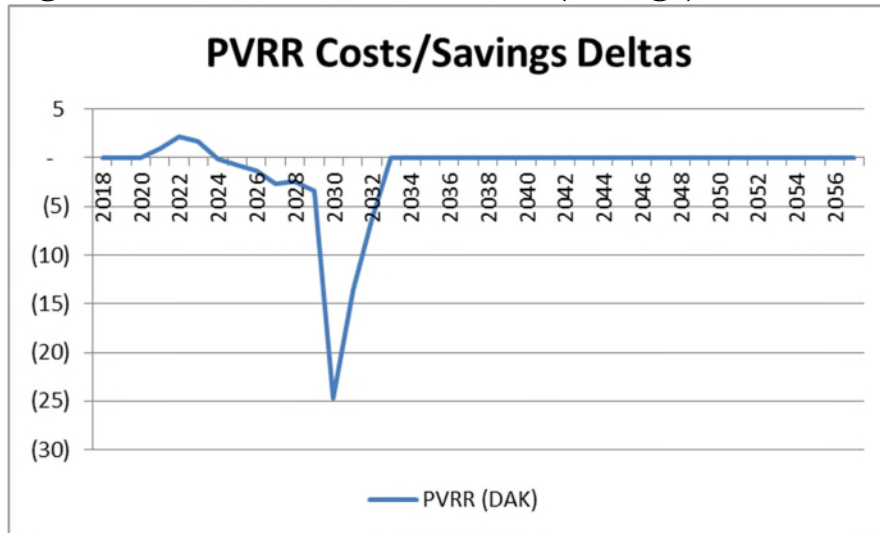
- Forecasted Load

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.

### **C. Annual Impacts**

To understand how the costs (savings) change over time, Figure 1 below visually portrays the annual costs (savings) impacts of the total portfolio as compared to the reference case for the PVRP base assumptions.

Figure 1: Annual PVRR Net Costs (Savings) in \$millions



PVRR savings shown in Figure 1 assume the Company is able to take advantage of the MISO energy market to make energy purchases and sales. As the Company will take advantage of MISO energy market transactions when in the interest of customers, NSP believes that modeling the availability of the MISO energy market provides a better indicator of the likely rate impacts to customers of the addition of Dakota Range III. However, the Company included a limit on the maximum amount of market sales based on historical data. Due to this limit on market sales, a significant amount of the wind generation due to the addition of Dakota Range III is “dumped” and does not receive any value.

While the Company has used the same limit in the past, this assumption is likely overly conservative. MISO expects the Zone 1 export limit to increase by approximately 2,500 MWs for the 2019-2020 planning year due to additional transmission lines going into service. Consequently, NSP expects less dump energy than the Company has included in the modeling, which will result in more savings, and therefore more benefits, than shown in Figure 1.

As demonstrated in Figure 1, the addition of the Dakota Range III PPA creates a net cost in 2021-2024 due to the overly-conservative limiter on sales used in the modeling assumption. However, as explained above, the Company expects that market sales made possible by transmission expansions coming on-line in 2018 should fully mitigate these minor cost increases and result in net savings to North Dakota customers. Additionally, by utilizing this low-cost wind, the Company is able to lower its overall fuel costs thereby benefitting customers regardless of market sales.

Notwithstanding the conservative modeling assumptions, Strategist still indicates that over the duration of the 12-year PPA term, customers receive significant rate benefits from avoided fuel costs beginning in 2025, as shown in Figure 1. The savings shown in the early 2030s result from one-year deferrals of several combustion turbine additions caused by the addition of Dakota Range III. Figure 1 also shows no change in costs or savings past the 12-year term of the PPA; however, if the term of the agreement was longer and assuming the same PPA pricing, the Company believes that savings would continue as the addition of the Dakota Range III resource could result in additional capacity deferrals and the Company would be displacing higher cost energy out in time.

#### **D. Estimated Customer Rate Impacts**

The Company expects that soon after initial operation, customers' overall bills will be lower as a result of the acquisition of the proposed resource, exclusive of the demand allocator impacts discussed in Section I of this Application. Based on the results of the Company's Strategist modeling, beginning in 2025, the cost of the proposed wind project will be more than offset by decreases in the cost of fuel purchases and increases in revenues from market sales. To develop the rate impact analysis, the Company began with the incremental impact of Dakota Range III as determined by the Strategist modeling that was conducted. Specifically, the Company used the outputs from the PVRR sensitivity, which include market interactions. As discussed above, it is likely that the Company will be able to make more market sales than reflected in the modeling which will increase the benefits of the Dakota Range III addition. Note that our estimated customer rate impacts do not account for the additional savings associated with the demand allocator impacts of the C&I Customer.

Using the annual system-wide costs 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 3, below, shows the forecasted incremental impact on average monthly bills in North Dakota. All customer classes are expected to see savings after 2024.

**Table 3: ND Estimated Impact on Average Monthly Bills**

<b>Year</b>	<b>Residential</b>	<b>Commercial Non Demand</b>	<b>C&amp;I Demand Billed</b>
2021	\$0.02	\$0.03	\$0.82
2022	\$0.04	\$0.06	\$1.62
2023	\$0.03	\$0.05	\$1.23
2024	\$0.00	\$0.00	\$0.06

\*Customer kWh usage and rate impacts for C&I demand billed customers varies significantly.

## V. PRUDENCE OF THE DAKOTA RANGE III PPA

The Company’s proposed Dakota Range III PPA is prudent. As explained earlier in this Application, the Dakota Range III resource is needed to facilitate the addition of a large new customer to the NSP System, which, in itself, will provide significant benefits to the Company’s customers. In particular and as demonstrated in Table 1 of this Application, North Dakota customers benefit from the demand allocator shift caused by the increased Minnesota contribution to the overall NSP System load. Without a determination that the Dakota Range III PPA is prudent, the Company will not be able to include this resource in its FCR and therefore, the low-cost energy will not “average down” the Company’s overall fuel costs and North Dakota customers will be unable to benefit from this decrease in the cost of service in North Dakota. Additionally, as discussed further by Company witness Ms. Shea, the Company believes that it would be inequitable for our North Dakota customers to enjoy the benefits of the increased load from the C&I Customer through the demand allocator if North Dakota customers are not also paying the resource costs needed to support the C&I Site.

Notwithstanding the need for Dakota Range III’s wind generation to support the C&I Site, the Company’s economic analysis of the PPA, discussed above, shows that the addition of Dakota Range III as a low-cost energy addition will lower the Company’s overall fuel costs, supporting the cost-effectiveness of the resource addition. The economical pricing of the wind alone in the PPA is enough to drive down NSP System costs, further supporting the prudence of the transaction.

Aside from the cost-effectiveness of the transaction, the PPA is structured to protect the interests of customers through several safeguards. These include specific milestone dates (and penalties for failing to meet these dates), default provisions, security fund requirements, and insurance requirements. Based on our analysis, the

Company believes that it is prudent, reasonable, and in customers' best interests for the Commission to grant an ADP for the Dakota Range III PPA.

## VI. CONCLUSION

For all the reasons set forth above, Xcel Energy respectfully requests the Commission grant an ADP for the Company's proposed Dakota Range III PPA.

Dated: December 27, 2018

Northern States Power Company

Respectfully submitted,

/s/ Bria Shea

BRIA SHEA

DIRECTOR, REGULATORY AND STRATEGIC ANALYSIS