PUBLIC DOCUMENT –
NOT PUBLIC DATA HAS BEEN EXCISED

DIRECT TESTIMONY
AAKASH H. CHANDARANA

STATE OF NORTH DAKOTA
BEFORE THE
NORTH DAKOTA PUBLIC SERVICE COMMISSION

NORTHERN STATES POWER COMPANY
ADVANCE PRUDENCE – ACQUISITION OF 302.4 MW
WIND GENERATION APPLICATION

CASE NO. PU-17-____

Policy Testimony

Exhibit__ (AHC-1)

October 10, 2017

PU-17-372 Filed: 10/10/2017 Pages: 18
Prefiled Direct Testimony of Aakash H. Chanarana - redacted

Northern States Power Company

David Sederquist

PUBLIC DOCUMENT –
NOT PUBLIC DATA HAS BEEN EXCISED

TABLE OF CONTENTS

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND TITLE.

A. My name is Aakash H. Chandarana. I am the Regional Vice President for Rates and Regulatory Affairs for Northern States Power Company-Minnesota (NSP or Xcel Energy or the Company). In this role, I am responsible for the Company's regulatory filings with the utility commissions in Minnesota, North Dakota, and South Dakota, including proceedings related to rates, resource planning, and service quality filings.

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

A. Prior to joining Xcel Energy, I was a partner at the Briggs and Morgan, P.A. law firm. My practice focused on the energy industry, primarily the state and federal regulation of utilities. I represented utilities in commercial transactions involving generation interconnection agreements, power purchase agreements, and other related types of transactions. I also assisted my clients in regulatory proceedings, including state electric rate cases, and transmission interconnection disputes at the Federal Energy Regulatory Commission.

In 2013, I joined Xcel Energy as its Lead Assistant General Counsel – Regulatory North. In that role, I was the lead regulatory attorney for the Company's operations in Minnesota, North Dakota, South Dakota, Wisconsin, and Michigan. In January 2015, I assumed my current role.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony is to provide support for our request for an Advance Determination of Prudence (ADP) for the 302.4 MW Dakota Range I and II wind project (collectively "Dakota Range" or "Project") that we propose to be added to the integrated NSP System. In my testimony, I discuss the policy issues related to and the prudence of the Company's request.

II. THE DAKOTA RANGE PROJECT

Q. PLEASE BRIEFLY DESCRIBE THE PROPOSED DAKOTA RANGE PROJECT.

A. Dakota Range is a 302.4 MW self-build wind project located in Coddington County, South Dakota with an expected in-service date of 2021.

Q. WHY IS THE COMPANY PROPOSING TO ADD THE DAKOTA RANGE PROJECT TO THE NSP SYSTEM?

A. Dakota Range is intended to lock in long-term value for our customers. The Company's investment in wind is not driven by any renewable energy or other mandate in North Dakota or any other state served by Xcel Energy. Rather, is is the result of our analysis of market conditions, including the extension of the Federal Production Tax Credit (PTC), that provide us the opportunity to acquire wind resources at extremely attractive pricing. Our analysis indicates the addition of the Dakota Range resource will provide substantial quantitative and quantitative benefits to our customers.

Q. WHAT ARE THE PROJECTED TOTAL CONSTRUCTION COSTS FOR THE PROJECT?

A. Dakota Range is projected to include approximately **[TRADE SECRET BEGINS TRADE SECRET ENDS]** in total capital expenditures (*i.e.*, without Allowance for Funds Used During Construction), which includes the estimated transmission upgrades and interconnection costs as well as anticipated siting and permitting costs. This equates to a Levelized Cost of Energy (LCOE) of **[TRADE SECRET BEGINS TRADE SECRET ENDS]**.

Q. WHAT ARE THE BENEFITS OF THE DAKOTA RANGE PROJECT?

A. Our analysis indicates that the addition of Dakota Range to the NSP System could result in savings of approximately $182 million on a Present Value of Revenue Requirements (PVRR) basis over the asset's life. These benefits come from offsetting more costly fuel and market purchases through the use of wind energy.

Q. HOW DOES THE DAKOTA RANGE RESOURCE ADDITION FIT WITH THE COMPANY'S RECENT APPLICATION FOR AN ADP FOR 1,550 MW OF WIND GENERATION IN CASE NO. PU-17-120?

A. As I discuss in more detail below, Dakota Range was a project bid into our September 2016 request for proposal (RFP). Although it was not selected as part of the RFP process, the increased transmission certainty that developed after it was bid into the RFP, along with our ability to lower pricing through a Company build structure, makes this an attractive resource addition for the NSP System with LCOE's within the range of, and lower than the most expensive project in, our 1,550 MW Wind Portfolio. By making this resource addition, we can further drive down overall system costs while also

mitigating development risk of the 1,550 MW portfolio should one of those projects not proceed to in-servicing.

Q. IS THE COMPANY ANTICIPATING ADDITIONAL WIND ADDITIONS IN THE NEAR FUTURE?

A. The Company believes that Dakota Range may represent one of the last opportunities for some while to achieve transmission certainty for a new development and capture sufficient PTCs to achieve material cost savings for our customers. With that said, the Company is always evaluating opportunities to drive down system costs on behalf of our customers including by the addition of low cost renewable projects. Therefore, it could be possible that we bring additional wind projects forward for the Commission's consideration in the future.

III. ACQUISITION OF DAKOTA RANGE

Q. HOW DID THE COMPANY LEARN OF DAKOTA RANGE?

A. As the Commission is aware, the Company recently filed an Application for ADP for a 1,550 MW portfolio of wind generation to be added to the integrated NSP System (Wind Portfolio) in Case No. PU-17-120. Several different proposed Dakota Range projects were submitted to the Company as part of the RFP process (which is described in detail in Case No. PU-17-120) to identify, analyze, and select the projects that would make up the Wind Portfolio.

Q. WERE ANY OF THE DAKOTA RANGE PROPOSALS SELECTED FOR INCLUSION IN THE WIND PORTFOLIO?

A. No. As discussed in more detail by Company witness Mr. P.J. Martin, none of the Dakota Range proposals were chosen as one of the final Wind Portfolio projects because the LCOE and transmission certainty of the projects did not compare as favorably as those of the selected projects.

Q. WHY IS THE COMPANY SEEKING AN ADP FOR THIS PROJECT NOW?

A. We are bringing the Project forward for the Commission's approval now for several reasons. First, since the completion of the Wind Portfolio RFP process, the price and transmission certainty of the Project have significantly improved. Second, Dakota Range very well may be one of the last new projects available to us that will have this level of transmission certainty for quite some time. Third, even when using conservative assumptions, Dakota Range will provide benefits to our customers by driving down the overall system cost of fuel.

Q. WHY DID THE COMPANY NOT REEVALUATE THE APEX BID AS PART OF THE WIND PORTFOLIO IN LIGHT OF THE INCREASED TRANSMISSION CERTAINTY AND LOWER PRICING?

A. Pursuant to the RFP process rules as well as those agreed to with the independent auditor, the Company was unable to authorize a bid modification at that time for the Wind Portfolio.

Q. HOW DID THE TRANSMISSION CERTAINTY OF DAKOTA RANGE IMPROVE?

A. Midcontinent Independent System Operator's (MISO) August 2015 Definitive Planning Phase (DPP) Study Cycle concluded—assigning a reasonable amount of network upgrade costs to Dakota Range I and II and affording the Project substantially greater transmission certainty. This had the effect of not only lowering the total expected costs of the project but also increasing our overall confidence in the project's ability to reach commercial operation. Additionally, since the time of the RFP bid, the Company has conducted additional due diligence on other outstanding issues and confirmed the viability of the Project on all fronts.

Q. HOW DID THE PRICE OF THE PROJECT IMPROVE?

A. The overall cost of the Project improved in several ways. The transmission costs associated with the project, which became more certain after completion of the MISO DPP studies, were lower than initially projected. Additionally, by changing the structure of the transaction so that the Company will purchase the Project and take responsibility for its development, we will be able to reduce the overall cost due to our experience with the construction and operation of wind farms and our ability to **[TRADE SECRET BEGINS**

TRADE SECRET ENDS]. As discussed in more detail by Company witness Mr. P.J. Martin, the current Project cost estimate of **[TRADE SECRET BEGINS**

TRADE SECRET ENDS].

Q. AS IT ANALYZED THE COST OF THE PROJECT, DID THE COMPANY ALSO CONSIDER ELIGIBILITY FOR FEDERAL PTCS?

A. Yes. This is an essential part of the financial considerations that makes these wind resources so economic for our customers. We expect to be able to qualify for the phased down, 80 percent, PTC for the Project as long as we can obtain the regulatory approvals in the time necessary to place Dakota Range into service by the end of 2021. For that reason, the Purchase and Sale Agreement (PSA) with APEX is contingent upon receiving an ADP from the Commission no later than September 30, 2018. Even at this phased down level, the Project still results in cost savings to customers and is a prudent addition to the NSP System.

Q. HOW WILL THE COMPANY BUILD THE DAKOTA RANGE PROJECT?

A. We will enter into balance of plant (BOP) construction contracts with third-party construction companies experienced in wind project construction. The BOP contracts will be fixed-price, which will minimize schedule and cost risk. The scope of the BOP contracts will include installation of the wind turbines and construction of the site infrastructure. Site infrastructure includes access roads, turbine foundations, an electrical cable collection system, collection substations, and an operations and maintenance building. The RFP process will be initiated in time to support the completion of all proposed projects before the 2021 PTC deadline.

Q. IS THE COMPANY CONTINUING TO REVIEW THE PROJECT?

A. Yes. To help ensure prudent management of the Project, and consistent with general industry practice, we will continue with iterations of the due

diligence review process until the closing date of the PSA. The continued due diligence process is typical and necessary to ensure the contractual deliverables for the site development are timely received, and to further support our project development, engineering, construction, and commissioning toward the planned in-service dates.

Q. ARE THERE RISKS RELATED TO THE COMPANY'S DEVELOPMENT OF THE SELF-BUILD PROJECTS?

A. Yes. As with any development project of this size and scope, there are always development risks. Xcel Energy has taken reasonable and prudent steps to identify and mitigate these risks. I discuss these risks and the Company's mitigation strategy later in my Direct Testimony.

IV. REGULATORY MATTERS

Q. IS DAKOTA RANGE CONSISTENT WITH THE COMMISSION'S APPROACH TO RESOURCE PLANNING?

A. The Commission has historically stated that its primary consideration in assessing the prudence of resource additions is that they be needed and least cost. While a load serving need doesn't arise until the mid-2020s, the proposed Project is a least-cost resource. This is because Dakota Range will drive down overall system costs over its life and add capacity to the NSP System in anticipation of the 2025 need.

Q. HAS THE COMMISSION PREVIOUSLY APPROVED WIND PROJECTS FOR SIMILAR REASONS AS THE COMPANY IS REQUESTING FOR DAKOTA RANGE?

A. Yes. The Commission approved the Courtenay, Odell, Pleasant Valley, and Border Winds projects in Case Nos. PU-13-706, PU-13-707, PU-13-708, and PU-13-742, respectively. The ADP that we seek in this proceeding is similar to the ADPs granted for those projects.

Q. WAS THE DECISION TO MOVE AHEAD WITH DAKOTA RANGE DRIVEN BY RENEWABLE ENERGY MANDATES?

A. No. Dakota Range is the result of our analysis of market conditions and the development of a low-priced Company-sponsored resource.

Q. HOW IS DAKOTA RANGE IMPLICATED IN THE COMPANY'S RESOURCE TREATMENT FRAMEWORK (RTF) PROCEEDING?

A. As part of our proposed RTF, we have suggested that it may be appropriate to not allocate the capacity, energy, revenues, and costs of certain generation resources to our North Dakota customers as part of a larger overall solution. Dakota Range was not anticipated at the time of our last RTF filing, but we believe that this Project could be part of overall discussions to resolve the RTF proceeding. As discussed in the RTF application, we look forward to engaging in discussions with the Commission and its Staff along with our stakeholders in Minnesota and other NSP states regarding how wind resources should be addressed as part of a broader solution. Consequently, the final disposition of Dakota Range could change as a result of the RTF proceeding.

Q. DOES THE PROJECT REQUIRE ADDITIONAL APPROVALS FROM THE COMMISSION?

A. Consistent with the precedent set by the Commission in case No. PU-12-59, all contracts related to Dakota Range are conditioned on the Commission's grant of an ADP for the resource addition. Since the Project is located in South Dakota, no additional Commission approvals are necessary.

Should the Commission deem it necessary to issue approvals pursuant to other sections of the North Dakota Century Code for the Company to purchase, develop, and own Dakota Range, Xcel Energy respectfully requests that the Commission grant such approvals should it grant ADPs for the Project.

Q. HAS THE COMPANY FILED ITS ADP REQUEST CONSISTENT WITH ITS FILING OBLIGATIONS?

A. Yes. Dakota Range is a resource addition larger than 50 MW so the Company is obligated to file an ADP consistent with the Settlement Agreement in Case No. PU-07-776. We are making this application within fourteen days from the date we filed for approval in Minnesota, consistent with our commitments in Case No. PU-12-59. Further, consistent with the Commission's requirements in Case No. PU-12-59, the Company has included conditions precedent in our Dakota Range contracts.

V. PRUDENCE OF THE RESOURCE ADDITION

Q. ARE THE PROPOSED RESOURCE ADDITIONS PRUDENT?

A. Yes. Dakota Range will provide benefits to our customers by driving down overall system costs over the Project's life. The Company has instituted

prudent risk management into its development of the Project to help ensure that the expected benefits are realized.

Q. PLEASE SUMMARIZE THE SYSTEM COST SAVINGS EXPECTED FROM DAKOTA RANGE.

A. The Dakota Range Project presents a significant opportunity for the Company to drive down overall system costs and reduce North Dakota customers' energy expenses. This is due, in part, to the ability to capture the Federal PTCs before they are further phased down. Production at Dakota Range will displace more expensive fossil fuel generation in our system or purchases in the MISO wholesale energy market. Our modeling analysis indicated approximately $182 million in PVRR savings to the NSP System ($10 million PVRR savings for North Dakota customers) over the twenty-five year life of Dakota Range as compared to adding no wind on top of the proposed Wind Portfolio in the same period. We have analyzed Dakota Range under a number of modeling scenarios and in each and every one, adding the Project to the NSP System provides material benefits to our customers through cost savings. Company witness Mr. Martin provides more detail regarding the expected cost savings of the Project.

Q. HAS THE COMPANY IDENTIFIED ANY RISKS ASSOCIATED WITH THE PROJECT?

A: Yes. As with any large generating project, there are risks associated with the development and operation of our proposed self-build Project. However, we believe that we have identified, assessed and mitigated major risks through prudent contracting practices and that it is reasonable and in our

customers' interest for the Commission to authorize us to proceed with the Project.

Q: WHAT AREAS OF RISK HAS THE COMPANY IDENTIFIED?

A. The primary areas of risk we have identified are: (1) risks related to qualifying for the Federal PTCs; (2) construction risks; (3) transmission risks; (4) environmental risks; (5) operational risks; and (6) wind curtailment. Below, I address the Company's mitigation of each of these risks in turn.

Q. HOW HAS THE COMPANY MITIGATED PTC RISK?

A. We have acquired sufficient "safe harbor" turbines and have developed a project schedule that will allow Dakota Range to qualify for 80 percent PTCs. Mr. Martin discusses this further in his Direct Testimony.

Q. DOES THE TIMING OF OBTAINING APPROVAL FOR THE REQUESTED ADP ALSO AFFECT PTC ELIGIBILITY?

A. Yes. In order to capture the full value of the PTCs, Dakota Range must be completed and put in service by 2021. To meet our projected construction milestones, we will need to provide several months' advanced notice to our suppliers and contractors. Therefore, to meet our commitments and keep the projects on track to ensure qualification for 80 percent of the PTCs, we respectfully request that the Commission consider our request with deliberate speed.

Q: HOW DID THE COMPANY MITIGATE THE CONSTRUCTION RISK?

A: The Company has developed significant expertise in developing wind projects and our balance of plant (BOP) contracts will provide customary terms to reasonably mitigate construction risk.

Q. ARE THERE INTERCONNECTION AND OTHER TRANSMISSION RISKS ASSOCIATED WITH THE PROPOSED RESOURCE ACQUISITION?

A. Yes, but the interconnection and other transmission risks have been significantly reduced now that the MISO August 2015 DPP Study Cycle has been completed. Through the completion of the 2015 DPP Study Cycle, Dakota Range now has material certainty regarding the expected transmission interconnection costs for the Project. It is this certainty that allowed us to drive down project pricing and made it attractive – and prudent – to move forward with the Project.

Q. HOW HAS THE COMPANY MITIGATED POTENTIAL ENVIRONMENTAL RISKS FOR DAKOTA RANGE?

A. The developers are responsible for applicable environmental permits, licenses, and approvals from any governmental authority required under applicable laws for construction, ownership, operations, and maintenance of the site prior to transfer of ownership to the Company. Xcel Energy will obtain the necessary construction storm water permit, but all other permits are obtained by the developer prior to construction.

Q: HOW DID THE COMPANY ADDRESS ANY OPERATIONAL RISKS FOR THE PROJECT?

A: Once in service, the Project faces operational risks, principally uncertainty as to the amount of annual generation and the real-time delivery of that power to our customers, resulting from power production and curtailment.

The operational risks associated with an owned project remain with the Company. However, these risks are offset by higher estimated benefits from Company ownership. For example, to the extent that annual generation at the Company-owned projects is lower than expected, the overall cost-effectiveness of the project would decrease. Conversely, however, if annual generation is greater than expected, our customer benefits from the project would increase. With respect to curtailment, our customers will not pay for curtailments associated with emergencies or transmission system maintenance outages.

Mr. Martin discusses how we have included what we believe to be conservative assumptions in our economic analysis, and also included sensitivities that explore the impacts of a number of different downside scenarios.

Q. IS WIND CURTAILMENT A CONCERN WITH REGARD TO DAKOTA RANGE?

A. Yes. Some level of wind curtailment occurs during the life of all wind projects. We expect that, over the lifetime of the project, curtailment will be consistent with the overall Company curtailment average of approximately four percent. Mr. Martin discusses this further in his Direct Testimony.

VI. PRESENTATION OF WITNESSES

Q. WHO ARE THE WITNESSES FOR THE COMPANY IN THIS PROCEEDING?

A. In addition to my Policy Testimony, the Company sponsors the following witness:

- Philip Joseph "P.J." Martin addresses the process by which the Dakota Range resource addition was identified and developed; provides a detailed description of the Project; and provides a detailed discussion of the economic analysis and rate impacts associated with Dakota Range.

VII. CONCLUSION

Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF NORTH DAKOTA

NORTHERN STATES POWER COMPANY
ADVANCE PRUDENCE – ACQUISITION OF 302.4 MW WIND GENERATION APPLICATION

CASE NO. PU-17-____

VERIFICATION

STATE OF MINNESOTA)
)ss.
COUNTY OF HENNEPIN)

Aakash H. Chandarana, being first duly sworn on oath, deposes and says that he is the Regional Vice-President of Rates and Regulatory Affairs for Applicant Northern States Power Company, a Minnesota corporation, in the above-captioned matter, that the testimony and schedules submitted in the above-captioned matter under his name were prepared under his direction, that he knows the contents thereof, and that the same is true and correct to the best of his knowledge and belief.

Aakash H. Chandarana

Subscribed and sworn to before me on this 9th day of October, 2017.

CYNTHIA D. HARRINGTON
Notary Public, State of Minnesota
My Commission Expires
January 31, 2020

Notary Public
My Commission Expires: 1-31-2020