EXHIBIT 3

PUBLIC DOCUMENT
NOT-PUBLIC AND TRADE SECRET DATA EXCISED

Direct Testimony
Christopher J. Shaw

STATE OF NORTH DAKOTA
BEFORE THE
NORTH DAKOTA PUBLIC SERVICE COMMISSION

In the Matter of the Application of Northern States Power Company
for an Advance Determination of Prudence for Repowered Wind Portfolio

Case No. PU-20-____
Exhibit___(CJS-1)

Policy

October 13, 2020

PUBLIC DOCUMENT
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I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND TITLE.

A. My name is Christopher J. Shaw. I am a Regulatory Policy Manager for Northern States Power Company – Minnesota (NSP or Xcel Energy or the Company).

Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I have worked for Xcel Energy since November 2015, initially as a Principle Rate Analyst. I began my current position in August 2018.

Prior to joining Xcel Energy, I worked for the Minnesota Department of Commerce and the Minnesota Attorney General's Office. My statement of qualifications is provided as Exhibit___(CJS-1), Schedule 1.

Q. WHAT ARE YOUR CURRENT RESPONSIBILITIES?

A. In my current role, I work with the Resource Planning team on the development of resource plans and acquisitions for the five-state integrated Upper Midwest Northern States Power Company system (NSP System), which provides electric service to customers in North Dakota, South Dakota, Minnesota, Wisconsin, and Michigan. This includes assisting the Company in making reasonable and prudent acquisition decisions for electric generation resources.

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

A. The purpose of my testimony is to provide support for the Company's request for an Advance Determination of Prudence (ADP) for the proposed repowering of the Border Winds, Grand Meadows Wind, Nobles Wind, and Pleasant Valley Wind facilities. In my testimony, I detail the transaction and discuss the policy issues related to the matter, and address the prudence of the proposed repowering in support of the Company's ADP Application (Application).

Q. HOW IS YOUR TESTIMONY STRUCTURED?

A. My testimony covers the following topics:

- Regulatory Matters;
- Description of the Repowering Projects;
- Prudence of the Repowering Projects; and
- Presentation of Witnesses.

II. REGULATORY MATTERS

Q. PLEASE DESCRIBE THE COMPANY'S REQUIREMENTS WITH RESPECT TO THIS ADP.

A. North Dakota Century Code (N.D.C.C.) section 49-05-16 allows a public utility to seek an ADP from the Commission at the utility's discretion. However, 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.[1] Additionally, under the Revised Second Amended Comprehensive Settlement Agreement in Case No. PU-12-813, the Company requires an ADP for all PPAs over 50 MW before such costs can be included for recovery in the Company's FCR.[2] In Case No. PU-12-59, Xcel Energy committed to filing its ADP applications within 14 days of seeking similar approvals in Minnesota.[3] Section 49-05-16(7) of the North Dakota Century Code provides that there is a rebuttable presumption that resource additions within North Dakota are prudent.

Q. IS THE COMPANY MEETING NORTH DAKOTA FILING REQUIREMENTS WITH THIS APPLICATION AND SUPPORTING TESTIMONY?

A. Yes. This Application complies with the requirements of N.D.C.C. § 49-05-16 and the Settlement Agreements in Case Nos. PU-07-776 and PU-12-813. Additionally, in accordance with our commitment in Case No. PU-12-59, the

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[1] *N. States Power Co. Elec. Rate Increase Application*, Case No. PU-07-776, ORDER ADOPTING SETTLEMENT AGREEMENT at 6 of Settlement Agreement (Dec. 31, 2008).
[2] *N. States Power Co. Elec. Rate Increase Application*, Case No. PU-12-813, ORDER ADOPTING SETTLEMENT at 10 of attached Second Amended Comprehensive Settlement Agreement (Feb. 26, 2014).
[3] *N. States Power Co. Advance Prudence – Geronimo Wind Application*, Case No. PU-12-59, LETTER OF COMMITMENT (Nov. 5, 2012).

Company is submitting the Application within 14 days of filing a petition seeking approval for the wind repowering projects in Minnesota, which occurred on September 29, 2020. Finally, the Application and supporting testimony demonstrate the prudence of the Company's acquisition of the facility.

III. DESCRIPTION AND PURPOSE OF THE PROPOSED REPOWERING PROJECTS

A. Project Background and Description

Q. PLEASE DESCRIBE THE PROPOSED REPOWERING PROJECTS.

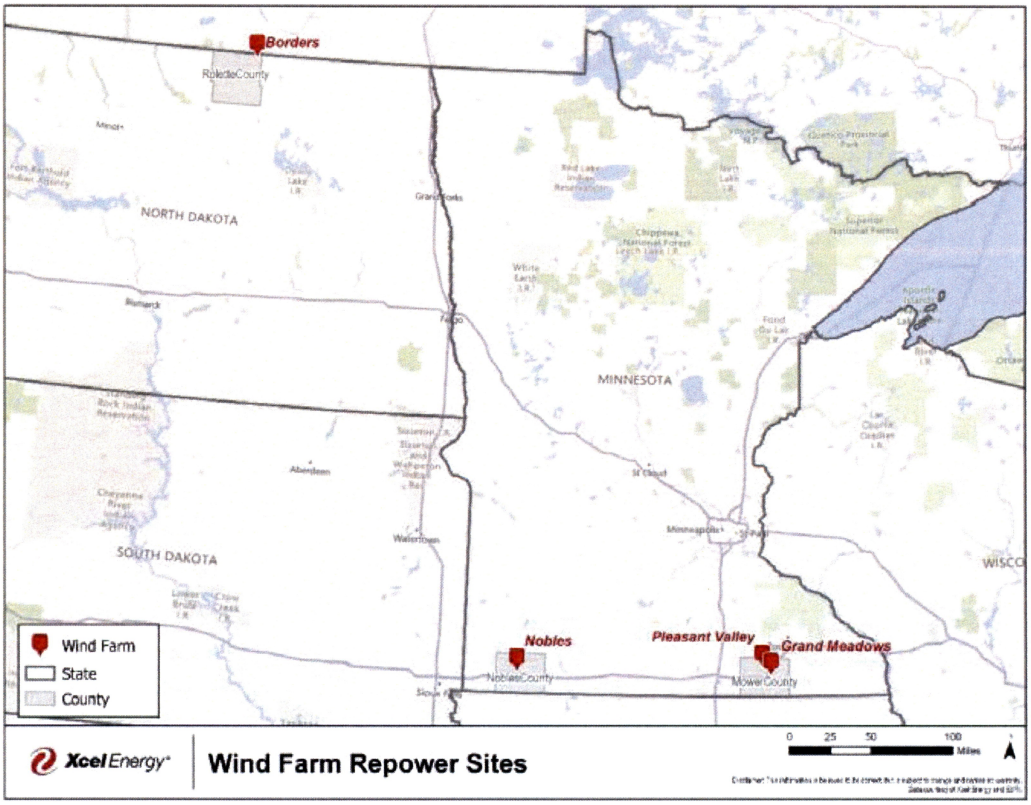
A. The Company is proposing to repower the following Company-owned wind generation facilities: Border Winds, a 150 MW facility in Rolette County, North Dakota, Grand Meadows Wind, a 100.5 MW facility in Mower County, Minnesota; Nobles Wind, a 201 MW facility in Nobles County, Minnesota; and Pleasant Valley Wind, a 200 MW facility in Mower County, Minnesota. The proposed repowering projects are all self-builds. The Company also intends to acquire additional repowered wind energy at three facilities not owned by the Company through power-purchase agreements (PPAs). Those projects, which are not a part of the Application due to their size, are: Ewington Wind, a 20 MW facility in Jackson County, Minnesota, McNeilus Wind, a 37.5 MW project in Dodge County, Minnesota, and West Ridge Wind, a 9.5 MW facility in Pipestone County, Minnesota. Together, the Company-owned and PPA projects are referred to as the Wind Repower Portfolio.

Q. For which projects is the Company requesting an ADP?

A. The Company is requesting an ADP for the four Company-owned projects: Border Winds, Grand Meadow Wind, Nobles Wind, and Pleasant Valley Wind. The Company is seeking ADPs for all four of projects as they each benefit customers, but the Commission could grant or deny ADPs for the projects on an individual basis. The Border Winds repowering is presumed to be prudent under N.D.C.C. § 49-05-16(7). We are not required to request ADPs for the three PPA, as they are each less than 50 MWs, and so the Company will address them in the Fuel Cost Rider.

Figure 1 below shows the location of the four Company-owned projects.

Figure 1: Proposed Xcel Energy Company-Owned Wind Repowers



Q. PLEASE DESCRIBE THE BORDER WINDS REPOWERING IN GREATER DETAIL.

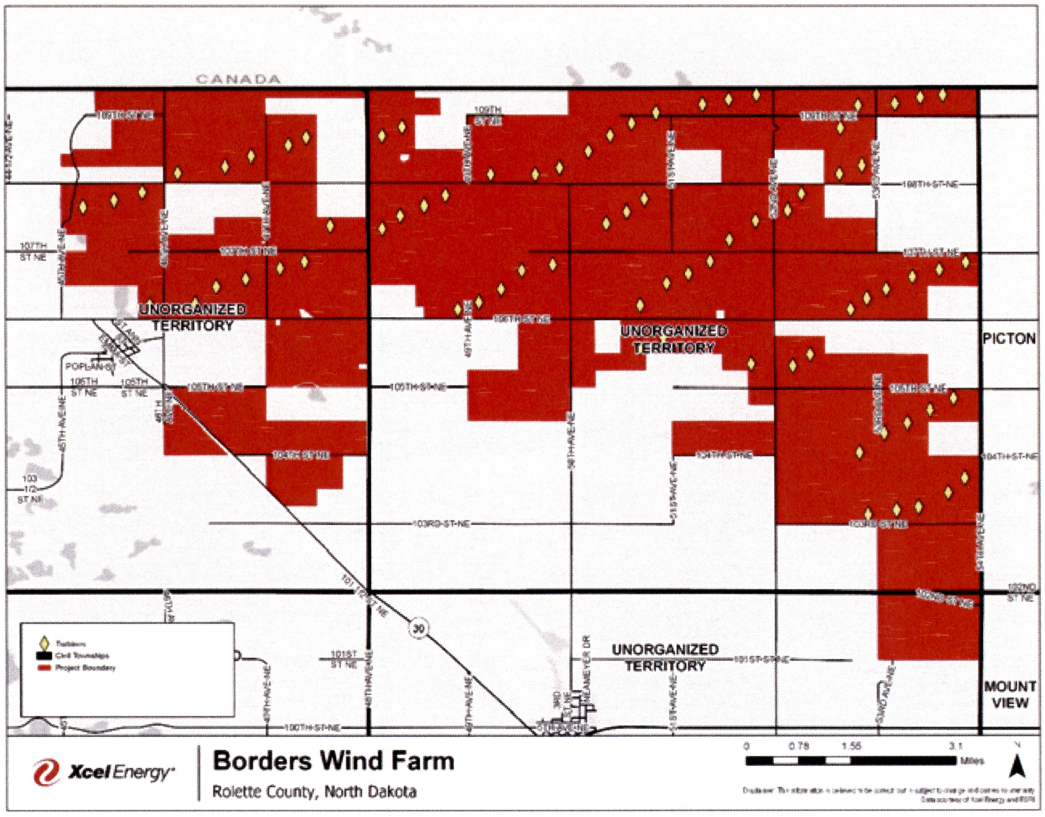
A. Border Winds is a 150 MW wind facility located on approximately 24,640 acres of land in Rolette County, North Dakota. The facility was originally placed into service in 2015, interconnecting at the Peace Garden 230 kV substation, where NSP is also the Transmission Owner. The proposed project will repower the full capacity of the facility. **[TRADE SECRET DATA BEGINS**

TRADE SECRET DATA ENDS].[4] The project will continue to use the existing interconnection. We expect the repowered project will commence operation in 2024, and that the repowering work will extend Border Winds' useful life with new components expected to last for a renewed 25-year period.

Figure 2 shows the location of the Border Winds facility and the proposed repower.

Figure 2: Border Winds Repower Location

[4] The maximum facility production MW output will be increased to more than the POI MW output per the original GIA with the turbine uprate which is allowed under FERC 845. By overbuilding the plant MW output (offsetting electrical losses in the system, planned and unplanned turbine outages or other electrical losses of the plant) but limiting the MW output at the POI per the original GIA (150MW) the facility will be able to realize more energy production during periods when the facility is not producing the maximum MW output.



Q. WHAT ARE THE EXPECTED RESULTS OF THE BORDER WINDS REPOWER?

A. The Border Winds Repower is expected to achieve a net capacity factor (NCF) of approximately **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]**, resulting in an average annual production of approximately **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** per year, depending on final layout and turbine selection. This represents an efficiency gain of nearly **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** over the existing facility's average annual gross energy production levels. Total capital costs for the Border Winds Repower are currently estimated at approximately **[TRADE SECRET DATA BEGINS**

TRADE SECRET DATA ENDS] (including Allowance for Funds Used During Construction, or "AFUDC"), which also covers the decommissioning expenses for the removed components. Given the estimated COD of 2024, we believe the project will qualify for **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** PTCs over its first ten years of repowered operation. The estimated LCOE for the project is **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]**, which represents a **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** reduction relative to the existing facility.

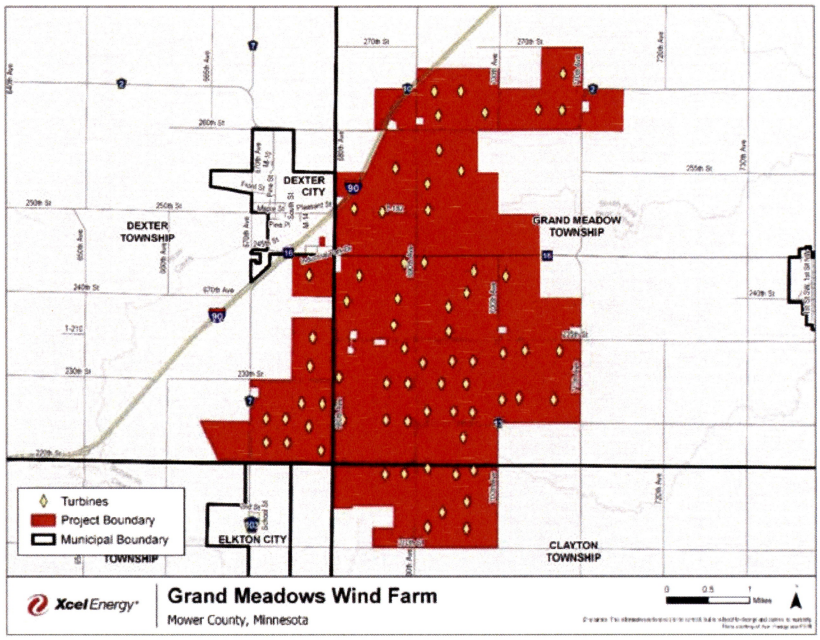
Q. CAN YOU PLEASE DESCRIBE THE GRAND MEADOWS REPOWERING IN GREATER DETAIL?

A. Grand Meadows is a 100.5 MW wind facility located on approximately 10,000 acres of land in Mower County, Minnesota. The facility was originally placed into service in 2008, interconnecting at the Pleasant Valley 161 kV substation, via a GIA between the Company and Great River Energy (GRE). The proposed project will repower the full capacity of the facility, **[TRADE SECRET DATA BEGINS**

TRADE SECRET DATA ENDS], and it will continue to use the existing interconnection under our GIA. We expect the repowered project will commence operation in 2023, and that the repowering work will extend Grand Meadows' useful life with new components expected to last for a renewed 20-year period.

Figure 3 shows the location of the Grand Meadows facility and proposed repower.

Figure 3: Grand Meadows Wind Repower Location



Q. WHAT ARE THE EXPECTED RESULTS OF THE GRAND MEADOWS REPOWER?

A. The Grand Meadows Repower is expected to achieve a net capacity factor (NCF) of approximately **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]**, resulting in an average annual production of approximately **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** per year, depending on final layout and turbine selection. This represents an efficiency gain of **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]**, relative to the existing facility's estimated average annual gross energy production. Total capital costs for the Grand Meadows Repower are currently estimated at approximately **[TRADE SECRET DATA BEGINS**

TRADE SECRET DATA ENDS] including AFUDC, which also covers decommissioning expenses for the removed components. Given the estimated COD of 2023, we believe the project will qualify for **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** PTCs over its first ten years of repowered operation. The estimated LCOE for the project is **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]**, which represents a **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** reduction in LCOE relative to the existing facility.

Q. PLEASE DESCRIBE THE NOBLES REPOWERING IN GREATER DETAIL?

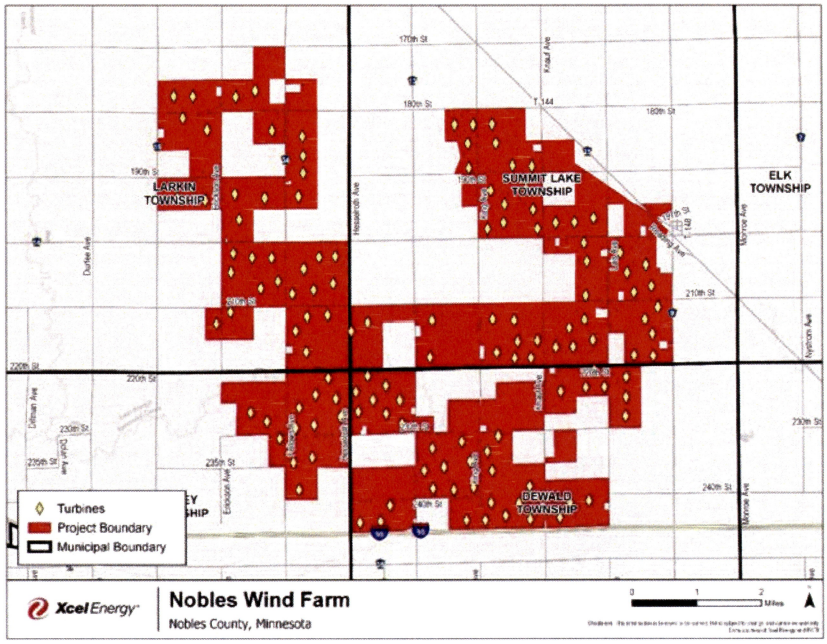
A. Nobles is a 201 MW wind facility located on approximately 27,465 acres of land in Nobles County, Minnesota. The facility was originally placed into service in 2010, interconnecting at the Nobles 34.5 kV substation, where NSP is also the Transmission Owner. The proposed project will repower the full capacity of the facility, [**TRADE SECRET DATA BEGINS**

TRADE SECRET DATA ENDS], and it will continue to use the existing interconnection.[5] We expect the repowered project will commence operation in 2022, and that the repowering work will extend Nobles' useful life with new components expected to last for a renewed 25-year period.

Figure 4 shows the location of the Nobles facility and proposed repower.

[5] The Company does plan to submit a Permissible Technology Advancement (PTA) request to MISO. The proposed repowering is not expected to constitute a material modification to the GIA and thus does not require an amendment.

Figure 4: Nobles Wind Repower Location



Q. WHAT ARE THE EXPECTED RESULTS OF THE NOBLES REPOWER?

A. The Nobles Repower is expected to achieve a net capacity factor (NCF) of approximately **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]**, resulting in an average annual production of approximately **[TRADE SECRET DATA BEGINS [TRADE SECRET DATA ENDS]**, depending on final layout and turbine selection. This represents an efficiency gain of approximately **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** over the existing facility's average annual gross energy production levels. Total capital costs for the Nobles Repower are currently estimated at approximately **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** including AFUDC, which also covers decommissioning expenses for the removed components. Given the estimated COD of 2023,

we believe the project will qualify for **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** percent PTCs over its first ten years of repowered operation. The estimated LCOE for the project is **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]**, which represents a **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** reduction relative to the existing facility. We note here, however, that one of our portfolio proposals included an option for Nobles that achieved **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** PTCs. As noted above, we did not advance this proposal because there remains some uncertainty regarding **[TRADE SECRET DATA BEGINS**

TRADE SECRET DATA ENDS]. That said, the Company intends to reserve the ability to achieve additional PTCs. If achieved, we expect customers will experience increased benefits.

This project will support construction employment in the area and extended local land lease and tax benefits. We estimate that the project will create around 200 temporary construction jobs over the duration of the repowering project. Over the project's expected 25 years of useful life (from the date of the repower project's COD), the local area will benefit from extended average landowner payments of approximately **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** per year, and average local property tax revenue of approximately **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** per year. In total, these benefits amount to over $2.5 million per year.

Q. PLEASE DESCRIBE THE PLEASANT VALLEY REPOWERING IN GREATER DETAIL?

A. Pleasant Valley is a 200 MW wind facility located on approximately 72,740 acres of land in Mower County, Minnesota. The facility was originally placed into service in 2015, interconnecting at the Pleasant Valley 161 kV substation, via a GIA between the Company and Great River Energy (GRE).[6] The proposed project will repower the full capacity of the facility. **[TRADE SECRET DATA BEGINS**

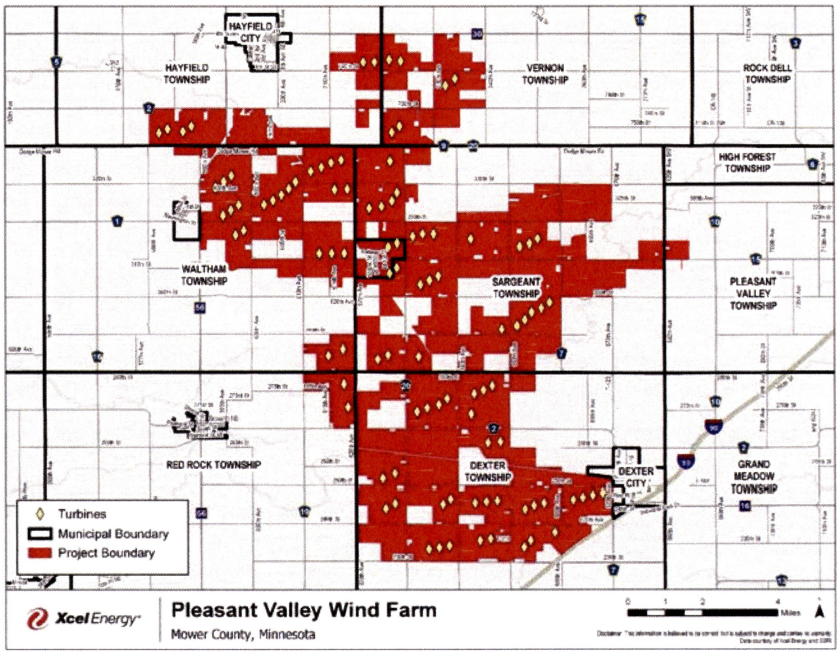
TRADE SECRET DATA ENDS].[7] The project will continue to use the existing interconnection under our GIA. We expect the repowered project will commence operation in 2024, and that the repowering work will extend Pleasant Valley's useful life with new components expected to last for a renewed 25-year period.

Figure 5 shows the location of the Pleasant Valley facility and proposed repower.

[6] The Company does plan to submit a Permissible Technology Advancements (PTA) request to MISO. The proposed repowering is not expected to constitute a material modification to the GIA and thus does not require an amendment.

[7] The maximum facility production MW output will be increased to more than the POI MW output per the original GIA with the turbine uprate which is allowed under FERC 845. By overbuilding the plant MW output (offsetting electrical losses in the system, planned and unplanned turbine outages or other electrical losses of the plant) but limiting the MW output at the POI per the original GIA (200MW) the facility will be able to realize more energy production during periods when the facility is not producing the maximum MW output.

Figure 5: Pleasant Valley Wind Repower Location



Q. WHAT ARE THE EXPECTED RESULTS OF THE PLEASANT VALLEY REPOWER?

A. The Pleasant Valley Repower is expected to achieve a net capacity factor (NCF) of approximately **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]**, resulting in an average annual production of approximately **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** per year, depending on final layout and turbine selection. This represents an efficiency gain of **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]**, relative to the existing facility's estimated average annual gross energy production. Total capital costs for the Pleasant Valley Repower are currently estimated at approximately **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** including AFUDC, which also covers decommissioning expenses for the removed components. Given the

estimated COD of 2024, we believe the project will qualify for **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** PTCs over its first ten years of repowered operation. The estimated LCOE for the project is **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]**, which represents a **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** reduction relative to the existing facility.

This project will support construction employment in the area and extended local land lease and tax benefits. We estimate that the project will create around 200 temporary construction jobs over the duration of the repowering project. Over the project's expected 25 years of useful life (from the date of the repower COD), the local area will benefit from extended average landowner payments of approximately **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** per year, and average local property tax revenue of approximately **[TRADE SECRET DATA BEGINS TRADE SECRET DATA ENDS]** per year. In total, these benefits amount to over $3.1 million per year.

B. Selection of Proposed Repowering Projects

Q. WHY IS THE COMPANY PROPOSING THE ACQUISITION OF REPOWERED WIND GENERATION AT THIS TIME?

A. The Company regularly looks for ways to reduce its costs. Earlier this year, our Minnesota regulators asked the Company to explore projects which might provide some economic stimulus in light of the current recessionary conditions resulting from the COVID-19 pandemic. In response to that

request and in an effort to reduce costs, the Company considered a variety of investments that could both benefit our customers and support the economy in our service area. Because we believed that repowering older projects in our fleet might achieve both aims, we issued a solicitation on June 27, 2020 seeking proposals for repowering projects.

Q. WHAT TYPE OF PROCESS DID THE COMPANY USE TO EVALUATE PROPOSALS?

A. Our approach was similar to the one we used for the acquisition of the wind portfolio approved by the Commission in Case No. PU-17-120. In particular, we used a process in which both self-build options and proposals from outside developers were considered. Accordingly, the Company developed self-build bid proposals which were completed and submitted before the August 21, 2020 due date for responses to the solicitation.

Q. WHAT RESPONSE DID THE COMPANY RECEIVE TO THE RFP?

We received 11 total bids for 9 distinct projects; some bidders (including the Company's portfolios of self-build bids) provided multiple options for the same project, with varying parameters such as commercial operation date (COD) and expected production tax credit (PTC) qualification. After our first phase of review, we determined that that four of the bids we received were initially incomplete. However, all bidders were able to remedy the identified deficiencies noted at this preliminary stage, and all bids moved forward to more substantive evaluation.

Q. HOW DID THE COMPANY SUBSTANTIVELY EVALUATE THE PROPOSALS?

A. We examined a variety of factors, such as bidder credit worthiness, bidder development experience, whether a bid proposed to repower a facility that currently delivers energy to our system, and whether the proposed project meets required interconnection standards. Most importantly, we analyzed whether a proposed project would result in cost savings for our customers.

Q. HOW DID THE COMPANY EVALUATE WHETHER A PROJECT WOULD RESULT IN SAVINGS?

A. We ran each individual proposed project through a "pro forma" spreadsheet analysis. This analysis compares the expected costs of each repower proposal to a baseline where the existing (unrepowered) project remains in our portfolio to the end of its expected life and is replaced by a generic wind resource thereafter. Pro forma modeling allowed us to screen projects for expected benefits prior to full resource planning modeling.

In the course of this evaluation, we discovered that two of the projects bid into the solicitation were not expected to yield customer benefits at the price and terms provided. These projects were eliminated from further consideration. The pro forma analysis indicated that the four projects included with this application (and the PPA projects that included in the broader Wind Repower Portfolio) are all expected to result in customer benefits.

The pro forma analysis is discussed in greater detail in the Direct Testimony of Company witness Ms. Farah L. Mandich.

Q. WHAT STEPS DID THE COMPANY TAKE AFTER THE PRO FORMA ANALYSIS?

A. Next, the Company scored all remaining bids on key criteria outlined in our solicitation: While we did not set specific megawatt (MW) targets for our solicitation, the scoring phase continues to serve an important purpose, if – after individual review – we had discovered that the portfolio of selected projects as a whole did not result in customers savings. In that case, the lowest scoring project would be eliminated from consideration and the full portfolio remodeled, as described further below.

Q. DID THE COMPANY DO ANY PORTFOLIO ANALYSIS OF THE PROPOSED PROJECTS?

A. After finalizing the shortlist of projects for consideration, we modeled the full portfolio to determine whether it is expected to yield customer benefits, on a net present value basis. In this stage of the process, we modeled all shortlisted projects together in EnCompass and evaluated portfolio benefits (or costs) relative to a Base Case where the projects are not repowered. At this stage, if the portfolio as a whole resulted in increased costs, the lowest ranked project would be eliminated from the portfolio, and the remaining portfolio of projects re-evaluated. This process would continue until the portfolio as a whole yielded customer benefits (in other words, where the net present value of the "change case" became lower than the Base Case).

That said, the full portfolio of shortlisted projects did result in customer benefits in our EnCompass modeling, and therefore no projects fell out of consideration in this final stage. The three PPA repowering projects that are not subjects of this Application were included in the portfolio modelling. It is important to note, however, that the majority of the benefits from the

proposed repowering results from the four Company-owned projects that are the subject of the Application. These four projects are, after all, significantly larger that the PPA projects.

The EnCompass modeling is discussed in greater detail in Ms. Mandich's Direct Testimony.

C. Project Benefits

Q. WILL THE PROPOSED REPOWERINGS BENEFIT NORTH DAKOTA CUSTOMERS?

A. Yes. As discussed further in Ms. Mandich's Direct Testimony, the Company estimates the savings to customers from the Wind Repower Portfolio to be $163 million on a present value of revenue requirement (PVRR) basis. The Company's pro forma analysis also showed that each individual project benefits customers on a PVRR basis. The Company's repowering of its four facilities will keep cost-effective, renewable resource on the NSP System at a lower cost than keeping each project in service until the end of its current asset life and then replacing it with a generic wind resource.

Q. WHY DID THE COMPANY USE THE ASSUMPTION THAT GENERIC WIND RESOURCES WILL REPLACE THE PROJECTS IN QUESTION AT THE END OF THEIR ASSET LIVES?

A. Given the Company's plan to achieve and maintain our long- term carbon-reduction goals and, ultimately, realize our vision of delivering carbon-free energy by 2050, we believe this is a reasonable assumption for the likely resources that will ultimately replace these facilities in the future. We believe this is an appropriate benchmark to evaluate whether repowering would be a

cost effective outcome. We also validated our pro forma assessment in our EnCompass modeling—with no constraint on replacement resource type—to further assess the portfolio in light of currently known future plans. Consequently, replacement with generic wind in the pro forma analysis provides a true comparison with the most likely resource choice we would make in absence of these projects. We believe this most accurately reflects the true value of moving forward with the Wind Repower Portfolio.

Q. HAS THE COMPANY PERFORMED ADDITIONAL ANALYSIS?

A. Yes. Consistent with Advocacy Staff's request in the Mower County Wind ADP proceeding (Case No. PU-19-310), we also performed an additional pro forma analysis in which each proposed repowering project was compared to a baseline where the existing (unrepowered) project remains in our portfolio to the end of its expected life and is replaced by market energy. The results of the that analysis are presented in Ms. Mandich's Direct Testimony.

Q. ARE THERE OTHER ECONOMIC BENEFITS OF THE PROPOSED REPOWERING PROJECTS?

A. Yes, in addition to the benefits to our customers from reduced costs, the proposed projects will also benefit the local communities in North Dakota and Minnesota in which the projects are located. The projects will result in good-paying temporary construction jobs during the period from 2021 to 2024. In addition, the projects will result in payments to landowners and property tax payments during the extended life of the projects.

Q. HAS THE COMPANY QUANTIFIED THESE ADDITIONAL ECONOMIC BENEFITS?

A. Yes, we estimate that the four projects that are the subject of the Application will create approximately 650 well-paying temporary construction jobs in Minnesota and North Dakota. In addition, the Company-owned projects are estimated to contribute approximately $5 million directly to local economies through landowner lease payments, and an additional $3.3 million in property tax revenues.

Q. WHAT PORTION OF THOSE ADDITIONAL BENEFITS WILL BE EXPERIENCED IN NORTH DAKOTA?

A. The Border Winds repowering should result in approximately 150 temporary construction jobs in Rolette County, North Dakota. In addition, we estimate that this will generate approximately $1.4 million in lease payments and property tax payments for the community.

IV. PRUDENCE OF THE REPOWERING PROJECTS

Q. ARE THE PROPOSED REPOWERINGS PRUDENT ACQUISITIONS?

A. Yes. The Company's modeling indicates that customers will benefit from the repowering portfolio (including the PPA projects) because it will create cost savings of approximately $163 million on a PVRR basis. The pro forma analysis also showed cost saving for each of the individual projects that are the subject of this Application.

V. 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:

- Ms. Farah L. Mandich details the Company's analyses of the expected cost savings the Company expects to achieve through the wind repowering projects.

VI. CONCLUSION

Q. PLEASE SUMMARIZE YOUR CONCLUSIONS.

A. For the reasons stated above, the Company's repowering of Border Winds, Grand Meadows Wind, Nobles Wind, and Pleasant Valley Wind are prudent and ADPs should be granted for each project without conditions.

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 DETERMINATION OF PRUDENCE –
REPOWERED WIND PORTFOLIO

CASE NO. PU-20-__

VERIFICATION

STATE OF MINNESOTA)
)SS.
COUNTY OF HENNEPIN

Christopher J. Shaw, being first duly sworn on oath, deposes and says that he is the Manager of Regulatory Policy for Applicant Northern States Power Company, a Minnesota corporation, in the above-captioned matter, that the testimony submitted in the above-captioned matter under his name was 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.

Christopher J. Shaw

Subscribed and sworn to before me on this 12th day of October, 2020

MICHAEL S SORNBERGER
NOTARY PUBLIC - MINNESOTA
My Commission Expires
January 31, 2025

Notary Public
My Commission expires: Jan. 31, 2025

Christopher J. Shaw
Manager, Regulatory Policy
401 Nicollet Mall, 7th Floor
Minneapolis, Minnesota 55401
612-330-7974
christopher.j.shaw@xcelenergy.com

EXPERIENCE

Xcel Energy
Manager, Regulatory Policy 8/18-Present
Principal Rate Analyst 11/15-8/18
Developed strategy, coordinated subject matter expert analysis and prepared filings for the 2019 Upper Midwest Integrated Resource Plan (IRP), the 2016 IRP filing, Resource Treatment Framework (RTF), and resource acquisitions. Represented the Company at hearings on the IRP and other resource related proceedings.

Minnesota Department of Commerce-Division of Energy Resources
Public Utilities Rates Analyst 8/06-6/12 & 6/13-11/15
Developed and supported the recommendations of the Department of Commerce in proceedings before the Minnesota Public Utilities Commission. Performed analysis of utility regulatory filings. Appeared as an expert witness in numerous contested cases. Analyzed proposed legislation and prepared reports for the Minnesota Legislature.

Minnesota Office of the Attorney General-Anti-Trust and Utilities Division
Assistant Attorney General 6/12-6/13
Advocated for residential and small business energy consumers on behalf of the Attorney General, including advocacy in Xcel Energy's 2012 rate case.

EDUCATION

University of Wisconsin Law School, Madison, WI
J.D.

University of Wisconsin-Madison, Madison, WI
B.A.
Major: Economics-Mathematical Emphasis