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STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION OF NORTHERN STATES POWER COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR THE 200 MW COURTENAY WIND FARM PROJECT	**Case No. PU-15-_____**
IN THE MATTER OF THE APPLICATION OF NORTHERN STATES POWER COMPANY TO TRANSFER THE CERTIFICATE OF SITE COMPATIBILITY NUMBER 36	**Case No. PU-15-_____**

APPLICATION FOR CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY AND REQUEST TO TRANSFER CERTIFICATE OF SITE COMPATIBILITY

INTRODUCTION

Northern States Power Company, doing business as Xcel Energy, submits to the North Dakota Public Service Commission this Application for a Certificate of Public Convenience and Necessity pursuant to N.D.C.C. § 49-03-01, *et al.* for the Company's development, construction, ownership, operation and maintenance of the 200 MW Courtenay Wind Farm Project. In this Application, the Company is also requesting the transfer of Certificate of Site Compatibility Number 36 from Courtenay Wind Farm LLC to the Company so that the Company may continue development of the Project.

The Courtenay Wind Farm Project (Courtenay Project) is a 200 MW resource in Stutsman County, North Dakota that the Company identified for acquisition through its February 2013 Request for Proposals (RFP) for additional wind resources. On July 26, 2013, the Company requested an Advance Determination of Prudence (ADP) for purchasing the output of the Courtenay Project through a power purchase agreement (PPA) in Case No. PU-13-706. On February 24, 2014, the Commission granted the requested ADP.[1] Because under the PPA arrangement the Company would not own the Project, no CPCN was requested by the Company or issued by the Commission.

Circumstances surrounding the Courtenay Project have changed since the PPA was approved. Unfortunately, Geronimo has not been able to secure financing or a third party partner for the Project, and all parties have determined in good faith the PPA cannot be performed in accordance with its terms. If the Company does not step in to complete the Courtenay Project, we are concerned that the project will not be built at all.

Having conducted additional due diligence, and updating our assumptions, in association with the Company's proposed ownership of the Courtenay Project, our analyses indicate that development of this resource addition remains viable under a different arrangement whereby the Company acquires, develops, and owns the Project on behalf of our customers.

Taking steps to remedy the issues threatening the Courtenay Project is consistent with the Company's commitment to seek opportunities to invest in generation within North Dakota. Rather than seeing this Courtenay Project halted, the Company believes that taking an ownership role will provide benefits to our customers and to North Dakota. Not only are the landowners and nearby communities hosting this Courtenay Project counting on the lease payments, community support and tax base provided by this Courtenay Project but the Company is also using North Dakota-based contractors and labor to construct this facility.

The proposed transaction will be in the form of the acquisition of a limited liability company (Courtenay Wind Farm LLC), a subsidiary of Courtenay Wind LLC that holds all the assets of the facility. The Company then plans to merge the LLC into Northern States Power Company and take over development of the project directly. In addition, we will enter into the necessary turbine supply and construction contracts directly with the suppliers, and complete the project and own and operate the facility by December 31, 2016 to take advantage of the available federal Production Tax Credits (PTCs).

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[1] *Northern States Power Company Advanced Determination of Prudence – Courtenay Wind Project Application*, NDPSC Case. No. PU-13-706, ORDER ADOPTING SETTLEMENT, Revised Second Amended Comprehensive Settlement Agreement at 22 (Feb. 26, 2014).

Overall, the Courtenay Project's costs are favorable under this structure, and the Courtenay Project remains an important part of our future generation portfolio. The Courtenay Project continues to offer attractive pricing and fits within our strategy of having a geographically diverse balance of Company-owned and PPA wind resources. Production at this facility will often displace more expensive generation in our system or in the wholesale market. We estimate that with this 200 MW addition, system costs will be approximately $97 million lower over time, on a present value of revenue requirements (PVRR) basis[2] than they would be if we abandoned the project. Moreover, the Company's ownership of the project offers these benefits to customers over a longer period than would be available under a PPA, and at a higher capacity factor now that we have additional information about the specific turbines to be used for the project.

To achieve these benefits, it is necessary to place the Courtenay Project in service by December 31, 2016, when eligibility for PTCs is set to expire. In turn, this requires us to begin pouring foundations in the 2015 construction season to keep the project on track. We, therefore, respectfully request that the Commission process this application promptly and issue its decision by August 31, 2015.

The remainder of this Application will provide:

I. Description of the Applicant
II. Communications and Service
III. Standard of Review
IV. Project and Transaction Description
V. Risk Identification and Mitigation
VI. Cost Effectiveness of Project
VII. Reasons Supporting Granting CPCN
VIII. Request to Transfer Certificate of Site Compatibility

I. DESCRIPTION OF THE 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

[2] Consistent with N.D.C.C. § 49-02-23, all economic modeling contained in this Application does not quantify environmental and other externality costs.

Code. The name and address of Xcel Energy is:

Northern States Power Company
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 13, 2014, and are incorporated herein by reference.

Xcel Energy has service territory in five upper Midwest states including North Dakota. We presently serve approximately 90,000 retail electric customers in and around Fargo, Grand Forks, and Minot, North Dakota. We own just over 250 miles of transmission lines and 14 substations in North Dakota.

II. COMMUNICATIONS AND SERVICE

We respectfully request 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

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

III. STANDARD OF REVIEW

North Dakota Century Code Section 49-03-01 provides that:

> An electric public utility may not begin construction or operation of a public utility plant or system, or of an extension of a plant or system without first obtaining from the commission a certificate that public convenience and necessity require or will require such construction and operation.

Before the Commission may issue a CPCN, the electric public utility must file a certified copy of its articles of incorporation, and submit evidence that it has obtained, or will make application to obtain, the consent of any other public authority whose consent is required. N.D.C.C. § 49-03-02. After notice and opportunity for hearing, the Commission may: (i) issue the certificate; (ii) refuse to issue the certificate; (iii) issue the certificate for only portions of the proposed facilities; or (iv) issue the certificate subject to such terms and conditions the Commission determines the public convenience and necessity requires.

The Commission has indicated that it considers an additional ten factors in determining whether to grant a CPCN for new electric facilities, relating to whether the facilities extend into and impact other electric service providers' service territories, and whether the facilities are unnecessarily duplicative.[3]

The overall standard applied by the Commission pursuant to statute and its ten factors is whether the proposed system addition is appropriate under all the circumstances, and whether the applicant is qualified to implement the proposed system addition.

IV. DESCRIPTION OF PROJECT AND TRANSACTION

A. Background

The Courtenay Project was slated to be developed, constructed, owned and operated by Geronimo Energy, a wind-project developer with whom the Company has transacted on several occasions. Geronimo undertook activities toward the realization of that project, with an initial anticipated in-service date of December 31, 2014. Activities in support of the project included obtaining state and local permits needed to construct the project, purchasing long-lead-time equipment such as the substation transformers and the project transformers, and substantially developing the real estate rights necessary to construct the project undertaking

[3] Testimony of Jerry Lein of the Commission Staff, presented to the Interim Electric Industry Competition Committee, April 24, 2000. These factors are discussed in Section VII.C of this Application.

continuous activity on the Project sufficient to satisfy the relevant PTC requirements, and entering into a number of contractual relationships designed to facilitate successful development of the project.

After approval of the PPA and initial Project activities, the Project encountered several delays which adversely impacted the Courtenay Project's development schedule and caused the Courtenay Project to fail to meet critical milestones and default under the PPA.

It appears there were two primary causes for this circumstance: (i) Geronimo priced the PPA assuming it would be able to fully utilize the North Dakota Income Tax Credit; and (ii) the Courtenay Project PPA price turned out to be insufficient to support the construction of the Project and precluded Geronimo from finding another equity partner who could fund the PPA structure on reasonable terms.

The Company has put Geronimo on notice of default and has taken the steps necessary to terminate the PPA if that becomes the most appropriate outcome. However, there is no assurance the Project will be able to proceed or that the Company will be able to collect full delay damages under the PPA.

Under the circumstances, the Company would be justified in terminating the PPA for default and removing this anticipated resource from our plans. However, prior to doing so, we determined it was appropriate to consider whether purchasing the Courtenay Project may be preferable for our customers rather than terminating the PPA.

The Company engaged in a detailed review of Project specifics to assess the risks and benefits of assuming Project development and ownership. In particular, we assessed work completed to date, contractual arrangements Geronimo had previously entered into, regulatory requirements, the Project's financial viability and turbine performance and site suitability. We also conducted a detailed wind and site suitability study (*see* Attachment A) using the selected turbines and project layout, and identified the potential useful life of the Project for our customers' benefits if the Project is Company-owned. Finally, we undertook review and preliminary negotiations for entry into a turbine supply agreement (TSA) and a construction or balance of plant (BOP) contract to assess the continued viability of completing the project.

Based on these efforts and negotiations, the Company has reached several important conclusions:

- *The Courtenay wind farm project is not viable on the terms negotiated in the PPA.* We understand the PPA price was, in part, based on Geronimo's assumption that it would be entitled to capture a North Dakota tax credit that ultimately became unavailable to Geronimo. The loss of this tax benefit had a material adverse impact on the viability of the PPA pricing for the Project. We note that Geronimo's PPA proposal was based on initial estimates that have subsequently been refined, bringing greater clarity to the cost and benefit picture.

- *Geronimo cannot continue to finance construction of the Project and has not identified an alternative partner to do so under the PPA structure.* Geronimo has focused its attention on selling the Courtenay Project to Xcel Energy and has worked hard to address the Company's concerns about the structure and risks of the transaction. While Geronimo has explored the possibility of selling the Courtenay Project (and PPA) to a number of other developers, those efforts have been unsuccessful.

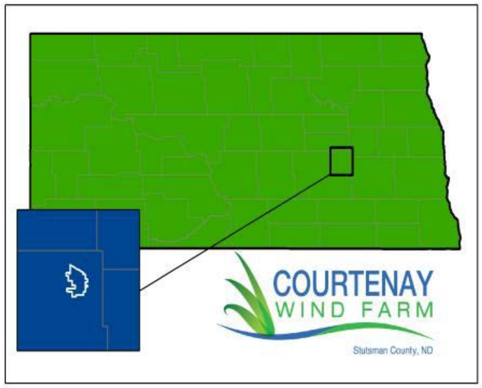
- *Under the contractual terms we have obtained with the turbine and BOP vendors, it makes economic sense to own and operate the wind farm.* As the planned off-taker of the Courtenay Project output and with the ability to add the project to rate base, the Company can manage the wind farm without the requirement for a minimum, levelized revenue stream over a limited period of operation and can maximize the long-term benefits of the Project.

- *Initiating construction of the Project this construction season facilitates meeting the 2016 PTC deadline at reasonable costs.* This timing requires us to step into the shoes of Geronimo as promptly as reasonably possible and determine whether Geronimo's key selected vendors could agree to terms and performance requirements that would support proceeding with the project.

B. Project Description

The Courtenay Project is a 200 MW wind energy generation facility. The Project is located in Stutsman County, along the edge of the Missouri Coteau in east-central North Dakota – northeast of Jamestown. The project covers 24,900 acres of land in northeastern Stutsman County. The Commission issued a Certificate of Site

Compatibility for the Courtenay Project on November 13, 2013 in Case No. PU-13-64.



Source: Geronimo

Courtenay Project assets are the sole assets of Courtenay Wind Farm LLC, which is in turn a subsidiary of Courtenay Wind LLC, a subsidiary of Geronimo Wind LLC. Under our transaction structure, the Company will purchase the membership interest of Courtenay Wind LLC, which will then be merged into the Company upon closing of the PSA. This process will thereby transfer ownership of Courtenay Wind Farms LLC and all its assets, including real estate, regulatory approvals and permits, and other assets, to Xcel Energy. The Company will reflect Project assets on its books as it would any other Company-owned generating facility construction work in progress. Xcel Energy will then oversee development and construction of the Project, and will operate the Courtenay Wind Farm upon completion.

Consistent with the Commission's Certificate of Site Compatibility, the Courtenay Project will consist of 100 Vestas wind turbine generators and associated infrastructure. Associated infrastructure includes access roads, electrical collection system, meteorological monitoring stations, a project collector substation, a transmission line, and an operations and maintenance facility. The Company has entered into a TSA with Vestas to purchase the turbines (the single largest cost of a wind facility) and contracted with Wanzek Construction from Fargo for balance of plant construction services.

An analysis of the site-specific wind data was conducted by the Company's consultant, AWS Truepower, utilizing the specific turbines planned for the project.

The analysis predicted a net capacity factor of 46.1 percent[4] for the wind turbines, which was used in the Company's final levelized-cost analysis. Notably the initial PPA with Geronimo was based on a generic net capacity factor assumption of **[TRADE SECRET BEGINS… …TRADE SECRET ENDS]** provided in Geronimo's RFP bid since turbines were not yet selected at the time of the bid. We have incorporated this updated information into our economic modeling, discussed in more detail below.

The Courtenay Project will interconnect at Otter Tail Power's Jamestown substation, which connects to 115 kV transmission lines owned by Otter Tail and to the Center-Maple River Line owned by Minnkota Power Cooperative (Minnkota) and Otter Tail. Xcel Energy is presently working through FERC proceedings to ensure the existing GIA for the Project remains viable, and with Minnkota to ensure access to Minnkota's jointly-owned transmission facilities..

To capture the benefits of the PTCs, the Courtenay Project must be placed in service no later than December 31, 2016. To achieve this date, initial construction must begin in the late summer of 2015. The Company notes that its construction of the Courtenay Project cannot start until the Commission issues a CPCN for the Courtenay Project and approves the transfer of Certificate of Site Compatibility No. 36 from Courtenay Wind Farm, LLC to the Company. To help facilitate timely construction of the Project to capture the PTCs, the Company respectfully requests that the Commission issue an order on this Petition by August 31, 2015.

C. Description of the Transaction

The Courtenay Project is a distressed asset. However, the Company believes that the purchase and development of the Courtenay Project will provide benefits to our customers over the life of the Courtenay Project as well as support the development of Company owned generating facilities in North Dakota. Therefore, the transaction is structured to allow the Company to step into the shoes of Geronimo and complete development of the Courtenay Project in its current state.

To accomplish this, our development of the Courtenay Project is structured around three key contracts. The first is the Purchase and Sale Agreement (PSA) between the Company and Courtenay Wind Holdings LLC (a subsidiary of Geronimo Wind Energy) for the purchase of Courtenay Wind Farm LLC, which is the corporate

[4] A copy of this wind study is provided as Attachment A to this Petition.

entity that holds the real estate rights, permits (including the Certificate of Site Compatibility), and contracts (such as the Generator Interconnection Agreement) necessary for the development of the Courtenay Project. The second is a turbine supply agreement (TSA) with Vestas for the purchase of the wind turbine generators which will comprise the Courtenay Project. The third is the Balance of Plant (BOP) contract with Wanzek, a North Dakota based contractor, for the construction of the components of the Courtenay Project. These three contracts, coupled with the Company's oversight and construction efforts, provide the necessary components for our successful development of the Courtenay Project.[5]

The purchase of the Courtenay Project from Geronimo has been structured as the purchase of 100 percent the membership interest of Courtenay Wind Farm LLC. Upon closing of the transaction, we will then merge Courtenay Wind Farm LLC into the Company and continue development of the Courtenay Project as Northern States Power Company – Minnesota.

After reviewing several potential transaction structures, we determined that this is the most expeditious transaction structure available. Courtenay Wind Farm LLC holds hundreds of leases, permits and contracts that would be time consuming to transfer individually to the Company. By purchasing the corporate entity that holds these assets and merging the LLC into the Company, the assets transfer to the Company by operation of law. We believe this will allow the transfer of control of all of the Courtenay Project assets more efficiently than assigning these assets individually to the Company and seeking the myriad third-party consents required to do so. This is consistent with how the purchases of the Border Winds Project and Pleasant Valley Project with RES Americas were structured. The main difference is that instead of purchasing an operating wind farm, Xcel Energy will be purchasing the assets necessary to construct, own and operate a wind farm.

We note that N.D.C.C. § 49-04-06 requires the Company to obtain the approval of the Commission before acquiring the business of a limited liability company that is incorporated for, organized for, or engaged in "the same or a similar business" as the Company. The Company's analysis of this statute indicates that Commission precedent argues that Courtenay Wind Farm LLC is not engaged in the same and similar business and that, therefore, Commission approval under N.D.C.C. § 49-04-06 is not required for the Company to consummate the purchase of Courtenay

[5] The three main contracts supporting our construction of the Project are several thousand pages long, including schedules. Consequently, for administrative convenience, the Company is not providing copies of these trade secret materials with this Application. The Company is happy to provide these documents upon request.

Wind Farm LLC. On April 29, 2015 we submitted a request for a jurisdictional determination to confirm our understanding of N.D.C.C. § 49-04-06. However, to the extent the transaction described above comes within the scope of Section 49-04-06, the Company asks that the Commission grant its approval of the transaction along with its CPCN. The Commission's application of the public interest standard in the merger context looks to whether the transaction will be "injurious to the rights of the public or adversely affect other utilities."[6] Because the proposed transaction will provide benefits to our customers and does not adversely affect other utilities, the public interest standard has been met.

The Company has entered into the TSA and BOP contracts directly with our vendors. Because we are stepping into Geronimo's shoes to complete development of the Courtenay Project, we sought to utilize vendors for the wind turbines that were already approved by the Commission for the Courtenay Project when it issued the Certificate of Site Compatibility No. 36. Of the four turbines approved for use by the Commission, we selected Vestas as the best and most efficient equipment available. We negotiated a contract with our turbine supplier that we believe represents reasonable pricing and on terms and conditions that allow us to mitigate project risks we identified in due diligence and which are discussed further in Section V. below.

Geronimo had previously selected Wanzek as their BOP contractor. We believe there are many benefits in engaging a qualified North Dakota contractor for a project located in the state. Developing a relationship with a BOP contractor such as Wanzek can provide the Company with additional market options for future projects.

We estimate that the total capital expenditures for the Courtenay Project will be approximately $300 million, including Xcel Energy's anticipated development oversight and ownership transfer closing costs. Our PSA with Geronimo calls for payments of approximately **[TRADE SECRET BEGINS… …TRADE SECRET ENDS]** for purchase of the Courtenay Wind Farm, LLC and all of its assets. We further anticipate that our costs will include approximately **[TRADE SECRET BEGINS… …TRADE SECRET ENDS]** in turbine supply costs, and **[TRADE SECRET BEGINS… …TRADE SECRET ENDS]** in balance of plant contract costs.

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[6] *Re Minot Telephone Company*, FINDING OF FACT, CONCLUSIONS OF LAW AND ORDER at Finding 13, Case No. PU-156-94-11 (March 23, 1994).

Our development of the Courtenay Project is contingent on several regulatory approvals. These include: (1) receipt of a Certificate of Public Convenience and Necessity from the Commission; (2) transfer of the Certificate of Site Compatibility from Courtenay Wind Farm LLC to the Company; (3) receipt of an ADP from the Commission; and (4) approval of the Minnesota Public Utilities Commission for our ownership of the Courtenay Project under Minn. Stat. § 216B.1645, subd. 2a.

We note that while all approvals are required for us to move forward with the Courtenay Project, obtaining a CPCN and transfer of the Certificate of Site Compatibility are time sensitive approvals as they are prerequisites to actual physical construction of the Courtenay Project. Their timely receipts are necessary for us to place the Courtenay Project in-service in time to capture the federal PTCs. To that end, the Company respectfully request that the Commission consider this Application on an expedited basis and, consistent with N.D.C.C. § 49-03-01(2), respectfully requests that the Commission grant the requested CPCN no later than 20 days after issuance of a notice and opportunity for hearing should no party request a hearing. To help ensure that the Courtenay Project is successfully completed in time to capture the PTCs, we further respectfully request that the Commission grant our application by August 31, 2015

V. RISK IDENTIFICATION AND MITIGATION

As with any large generating project, there are risks associated with the development of the Courtenay Project. Before deciding to move forward with the purchase, construction and ownership of the Project, the Company performed a due diligence investigation to identify risks of moving forward and to determine if these risks could be reasonably mitigated. Our due diligence investigation concluded that the real estate, permits and contracts necessary to develop the Project were in reasonably acceptable state. However, our due diligence investigation also identified risks inherent with moving forward. We discuss each of the primary areas of risk and our mitigating actions in this section.

A. Development Risk

1. Federal PTC Risk

The December 2014 renewal of the federal PTCs provides a tax credit for those projects that began construction activities by December 31, 2014. IRS guidelines consider commencement of construction to have occurred when physical work of a significant nature has started or five percent of the total cost of the facility has been incurred and the developer makes continuous efforts to complete the facility thereafter. [7]

The Company believes the Courtenay Project will meet the requirements necessary to qualify for the PTCs, and that the risk has been reasonably mitigated. Under the PSA, Geronimo is required to provide certification that the project was under construction as defined by the IRS through the end of Geronimo's ownership of the Project.

The Project must then be placed into service by December 31, 2016 to retain reasonable certainty that it will continue to qualify for the PTCs. Because the Company is taking over the development and construction of this Project, it is incumbent upon us to ensure that its completion will occur consistent with the requirements for PTCs. We believe our TSA and BOP contracts provide reasonable terms and conditions to help ensure our third-party vendors take the actions needed to meet the PTC deadline.

The other risk related to capturing federal PTCs relates to obtaining the necessary approvals to commence construction of the Project. In addition to the approval requested in this Petition, the Company requires a CPCN and the Commission's approval of the transfer of the Certificate of Site Compatibility for the Courtenay Project before beginning physical construction. Failure to timely obtain these approvals could impede our ability to place the project in-service with sufficient time to capture the federal PTCs. Therefore, we respectfully request that the Commission issue on Order on this Application sometime by August 31, 2015.

2. Transmission and Interconnection Risks

When we entered into the PPA for the output of the Courtenay Project, its interconnection to the MISO Transmission System had not been extensively studied and the PPA projections were based on good faith estimates and

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[7] *See* IRS Notice Nos. 2013-29, 2013-60, 2014-46, 2015-25. Under IRS Notice 2015-25, placing a wind facility in service before January 1, 2017 provides certainty that a wind facility can qualify for PTCs if it has met certain threshold requirements that the Courtenay Project has met. Consequently, the Company is seeking to obtain the certainty provided by IRS Notice 2015-25 by placing the Project into service prior to January 1, 2017. That said, the Project could potentially also qualify for PTCs if it misses this in-service date under other provisions of the IRS Code and guidance. However, obtaining the certainty of a 2016 in-service date will mitigate any risks for obtaining the PTCs for the benefit of our customers.

assumptions. At this time, the interconnection study work is completed and a Generator Interconnection Agreement (GIA) has been executed for the Project. The GIA identifies the costs of Network Upgrades needed to support the Project as well as the rights and obligations of Courtenay Wind Farm LLC with respect to maintaining its interconnection. As a result, the normal risk of interconnection costs we generally seek to mitigate do not exist in this instance due to the late stage of the Courtenay Project's development. We have incorporated these costs into our economic model analyzing the Project.

However, we have identified two key transmission and interconnection risks related to the Project. We have taken steps to mitigate these risks and will not proceed to construction absent resolution of these issues.

First, MISO has filed a Notice with FERC of Termination of the GIA with FERC, which is a necessary prerequisite to terminating the interconnection agreement. MISO is seeking to terminate the GIA due to Courtenay Wind Farm LLC's failure to satisfy material milestones under the GIA.[8] To resolve this issue, Xcel Energy has requested intervention in the FERC proceeding and proposed terms to cure the default **[TRADE SECRET BEGINS…**
…TRADE SECRET ENDS].[9] We expect the FERC proceeding to be resolved by approximately May 24, 2015.

Maintaining the GIA for the Courtenay Project is a key component to successful development of the Project. Should the GIA be terminated, the Company will no longer be able to develop the Project in time to capture the federal PTCs. Therefore, we have made the preservation of the GIA a condition precedent to closing the contract with Geronimo for our purchase of the membership interests of Courtenay Wind Farm LLC.

Second, we have identified a transmission risk with respect to the need to deliver power from the Project over transmission lines owned by Minnkota Power Cooperative. The Courtenay Project will interconnect at the Jamestown Substation, which is owned by Otter Tail Power Company (Otter Tail) and

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[8] *Midcontinent Independent System Operator, Inc.*, Docket No. ER15-1363-000, Notice of Termination of Generator Interconnection Agreement (March 25, 2015).

[9] *Midcontinent Independent System Operator, Inc.*, Motion to Intervene and Protest of Xcel Energy Services Inc. on Behalf of Northern States Power Company, a Minnesota Corporation, Docket No. ER15-1363-000 (April 14, 2015).

connects to 115 kV transmission lines owned by Otter Tail and to the Center-Maple River Line owned by Minnkota Power Cooperative (Minnkota) and Otter Tail. Minnkota informed Geronimo that Minnkota's consent is required before MISO can transmit Courtenay wind over the Center-Maple River Line, and that Minnkota must be compensated under its non-jurisdictional Open Access Transmission Tariff (OATT) rather than the MISO Open Access Transmission, Energy and Operating Reserve Markets Tariff (MISO Tariff).

Geronimo has challenged Minnkota's claims for compensation and has sought declaratory judgment from the FERC regarding Minnkota's claims. The proceeding has been set for settlement procedures by FERC and the Company has been an active participant in those proceeding. Our discussions with the parties to that proceeding continue and we are cautiously optimistic that we can reach a reasonable outcome with Minnkota on this issue. We will keep the Commission informed as these proceedings continue.

We recognize that the deliverability of the Courtenay Project is a key prerequisite to our successful ownership and operation of it. Therefore, resolution of the dispute with Minnkota on terms satisfactory to the Company is a conditions precedent to our purchase of the membership interest in Courtenay Wind Farm LLC.

B. Construction and Capital Risks

The Company will carry some construction and out- year capital contribution risks for the Courtenay Project since we will own it. However, we have taken several steps to mitigate risks related to construction through contractual provisions with Geronimo and our vendors.

1. Risks Related to Purchase of Courtenay Wind Farm LLC

As noted above, we anticipate total payments to Geronimo of **[TRADE SECRET BEGINS… …TRADE SECRET ENDS]** to purchase the Project. This amount is a negotiated amount, which we believe is reasonable based on our due diligence.

Due to the unique and changed circumstances of this Project, we have likewise negotiated specific contractual terms with Geronimo to mitigate the risks of assuming development of this Project at this stage.

Given the distressed nature of the Project and Geronimo's investment to date, we concluded that it was important to move forward with the transaction early to ensure that the Company could bring its expertise to bear as soon as possible to guide the final development details. By taking ownership of Courtenay Wind Farm LLC, early, we are able to influence the development in a way that we could not accomplish by waiting.

However, we have also instituted several key conditions precedent to closing the contract, meaning that each provision must be satisfied before the closing can occur. These conditions and the efforts being taken to resolve them are discussed below.

1. *Applicability of ND Code § 49-04-06.*

   a. We must receive a determination from North Dakota the NDPSC that ND Code § 49-04-06 is not applicable to the Project.

   b. On April 29, 2015 the Company requested a jurisdictional determination with respect to the applicability of this statute to the transaction with Geronimo.

2. *Viability of GIA*

   a. Xcel Energy must be assured that the GIA remains viable through a reasonable resolution of the pending FERC docket.

   b. On April 14, 2015, Xcel Energy moved to intervene in the proceeding regarding MISO's request to terminate the GIA and offered to cure Geronimo's default causing the request to terminate.

   c. We are also working with MISO and Otter Tail to resolve the matter.

3. *Minnkota Interconnection Tariff*

   a. The issue with respect to Minnkota tariff provisions, described above, must be resolved to the Company's satisfaction. Such resolution may include a FERC Order, settlement, or other reasonable outcomes acceptable to Xcel Energy.

b. Xcel Energy is currently in discussions with Minnkota, MISO, and Geronimo to resolve this matter.

4. *Mitigation of Due Diligence Issues*

a. Xcel Energy must have adequate opportunity to complete all due diligence, including review of real estate matters, site permits, financial considerations, and the like.

b. Geronimo must use commercially reasonable efforts to cure any issues we have identified during our due diligence investigation, including real estate and permitting issues.

c. Due diligence has been completed in a cooperative and efficient manner.

Absent satisfaction of such conditions, the PSA with Geronimo will not close and no money will be paid to Geronimo. The project entity will continue to be owned by Geronimo and the Company will continue to have the PPA in place, with all defaults preserved.

Conversely, closing the PSA will occur upon completion of these conditions precedent. We note that the above conditions precedent to closing the PSA are related to the continued viability of the Project and legal requirements to consummate the transaction, but are not related to regulatory approvals for the Company's ownership and operation of the Project. We recognize that this is unusual. However, given the need to move quickly and mitigate risk, we believe it is in the Company's interest to assume control of the Courtenay Project as early as is prudent to facilitate project success.

In addition, the PSA provides that [**TRADE SECRET BEGINS…**

…TRADE SECRET ENDS]. Accordingly, we have structured the PSA to address the need for regulatory approvals and have added multiple incentives for Geronimo to ensure the Project is in service in a timely manner. We believe we have reasonably mitigated the risks associated with Geronimo's financial position, regulatory approvals outside the Commission's arena, and transmission and interconnection issues.

2. Turbine Supply Agreement

We have engaged in negotiations with Vestas for a turbine supply agreement for the Courtenay Project. Although no TSA was executed between Geronimo and the turbine supplier, time constraints in selecting vendors and initiating construction require Xcel Energy to effectively step into Geronimo's shoes and assess the viability of contracting with Geronimo's selected suppliers. Furthermore, the Certificate of Site Compatibility limits the acceptable vendors, and the GIA for the Courtenay Project is specific as to Vestas turbines. For these reasons, the Courtenay Project is unlikely to be viable with a different turbine supplier.

Fortunately, we have found the selected turbine supplier to be a positive business partner. We have had positive dealings with them in the past and they have expressed an interest in a longer-term relationship with Xcel Energy, and willingly negotiated favorable pricing and other terms with that goal in mind. Notably, Vestas offered to **[TRADE SECRET BEGINS...**

...TRADE SECRET ENDS]. In addition, our updated wind study focused on the Vestas turbine identifies an improved capacity factor of 46.1 percent, as compared to **[TRADE SECRET BEGINS... ...TRADE SECRET ENDS]** associated with Geronimo's PPA bid. The supplier also has a strong reputation in the industry for production of reliable turbines.

Further, **[TRADE SECRET BEGINS…**

…TRADE SECRET ENDS]. Such terms

further serve to mitigate risk associated with turbine supply and overall construction.

While the costs of the actual TSA will likely be somewhat higher than Geronimo assumed when it developed its PPA pricing, the overall cost impact results in the energy resource remaining cost effective, particularly in light of the higher net capacity factor we expect to obtain.

3. Wanzek Balance of Plant (BOP) Construction

Wanzek Construction, Inc. is the construction company Geronimo selected for the Courtenay Project. Wanzek is one of the few BOP vendors in the Midwest for a project of this nature, and operates out of Fargo, North Dakota. Working with Wanzek on this project enables us to further diversify our supplier relationships and creates several hundred construction jobs for this North Dakota-based company.

As with the TSA, we have negotiated contract terms that mitigate Company risk while complying with industry standards for contracts of this kind. The BOP contract is stated on a lump sum basis based on an agreed schedule, with underlying costs fundamentally fixed absent the need to accelerate construction to achieve PTC deadlines or other needs. We have further negotiated standard provisions to mitigate general construction risk. That said, risk of completion in time to capture the PTCs ultimately rests with the Company as the developer of the Project. While the costs of the Wanzek contract will likely be somewhat higher than Geronimo assumed when it developed its PPA pricing, the overall cost impact results in the Project remaining cost effective as discussed further below.

4. Environmental Risk

To the best of our knowledge, all necessary avian, bat, and protected species surveys have been completed for the Courtenay Project. We will work with the U.S. Fish and Wildlife Service (Service) to finalize an Eagle Conservation Plan (ECP) as well as a Bird and Bat Conservation Plan (BBCP) for the Project. The Company will also pursue application of a programmatic Eagle Take Permit under the Bald and Golden Eagle Protection Act, working closely with the Service on the permitting process. This permitting process will continue concurrent with construction activities for the Courtenay Project. During construction of the Courtenay Project, before a programmatic Eagle Take Permit is obtained, and pursuant to the ECP and BBCP, the Company will follow Service-approved construction best management practices to minimize and avoid potential impacts to eagles.

C. Operational Risks

Once in-service, wind projects face operational risks. These risks involve the amount of annual power generation and the real-time delivery of that power to our customers.

The operational risks associated with an owned-project remain with the Company. However these risks are offset by higher estimated benefits from Company ownership. To the extent that annual generation at Courtenay Project is lower than expected, we would be losing energy at no significant change in cost, and the overall cost-effectiveness of the project would decrease. Conversely, if annual generation is greater than expected however, our customers' benefits from the project would increase. Owned projects also have some uncertainty in annual costs for operation and maintenance.

In each of these areas, we have included what we believe to be conservative estimates of the expected on-going costs at Courtenay in our evaluation of the Courtenay Project, including **[TRADE SECRET BEGINS…**
…TRADE SECRET ENDS]. Capacity factor assumptions are at the 50 percent probability levels from the most recent wind study for the Project. We quantify both of these potential operating risks in the Cost Effectiveness section of this Petition.

VI. COST EFFECTIVENESS OF PROJECT

To evaluate the cost effectiveness of the Courtenay Project, we used the Strategist resource planning model. The Strategist Planning model 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. We use the model to test results under a range of input assumptions. To assess the Courtenay Project's impact on customer costs, we simulated the operation of the NSP System over the next 40 years with and without the addition of the 200 MW of wind generation from the Project as well as in comparison to purchasing the output of the Project through the PPA.

Wind generation has a zero marginal cost to produce the next unit of energy. In other words, after capital and ongoing operating and maintenance (O&M) costs are accounted for, it costs a wind generator nothing to produce the next MWh of energy. As the result, MISO generally provides for wind production ahead of other, higher marginally-priced, generation such as natural gas- and coal-based generation. Consequently, the more wind on the system and generating, the less traditionally-fired generation is operated. When the energy from the 200 MW Courtenay Project is produced, it displaces a similar need for the Company to either produce the energy elsewhere on its system or purchase energy from the MISO market. The Strategist analysis accounts for these cost savings as well as the impact of the capital commitments associated with the Project.

1. *Modeling Courtenay*

For Company-owned projects, the upfront purchase price must be translated into a projection of annual revenue requirement associated with financing, operations, depreciation, and taxes, including the addition of AFUDC. Projections of upfront and on-going capital investments and annual operating and maintenance expenses must also be developed.

To create a total annual cost of ownership estimate, we used a spreadsheet model with the detailed project-level assumptions and transferred that annual total cost estimate directly into Strategist. The spreadsheet model used cost of capital assumptions consistent with the Company's 2016-2030 Upper Midwest Resource Plan. In addition, the spreadsheet model assumed the Company's forecasted NOL position, which is currently expected to dissipate in the 2019-2021 timeframe. Upfront capital investments are well defined. That said, we have also modeled two capital sensitivities that we call Capital Sensitivity 1 and Capital Sensitivity 2, which reflect capital expenditures of $315 million and $330 million respectively, plus AFUDC. We note that our modeling efforts include the addition of AFUDC to these amounts.

The on-going capital investments and annual O&M expenses projections are subject to some uncertainty due to unforeseen equipment failures or changing costs within the industry. To test how variation from the base forecasts would impact the overall cost-effectiveness of the projects, we conducted sensitivity tests in Strategist of plus and minus 25 percent of projected on-going capital investments and O&M expenses.

The economic benefit of an owned wind project is highly dependent on the annual generation from the site. Each additional MWh produced by a Company-owned project increases the value of the project because the higher the production, the lower the average costs will be, and therefore, the larger the benefits. To test how average capacity factors impact the economic value of Courtenay, Strategist modeled this sensitivity using +/- 5 percent of the expected annual generation of 46.1 percent, based on our updated wind study. The base assumption for the life of the Project was 25 years (as compared to 20 years under the PPA scenario), and sensitivities were performed for 20 year and 30 year lives.

For our modeling efforts, we utilized our most recent resource planning model, which is the same one used for our 2016-2030 Upper Midwest Resource Plan. Consequently, several underlying assumptions have changed for our analysis of Company ownership of the Courtenay project in addition to capacity factor and resource life. We discuss these changes here and, below, provide an analysis of Company ownership of the Courtenay Project under the same assumptions we used when we analyzed the PPA so that our analysis is complete and transparent.

In accordance with the latest MISO effective load carrying capability (ELCC) analysis, we modeled Courtenay having a 14.8 percent accredited capacity value. However, per MISO's tariff and business practices, for the Courtenay Project to receive accreditation as a capacity resource it must have firm delivery rights either with Network Resource Interconnection Service or firm transmission service (Network Integration Transmission Service or Firm Point-to-Point Transmission Service). Our expectation for Courtenay is that these wind resources will not be given this designation until 2021 when various transmission system upgrades, including MISO's MVP projects, are complete. Our modeling efforts reflect the expected capacity accreditation in 2021.

The Strategist model does not explicitly model transmission congestion and line losses for new resources. To ensure that we are accounting for all the costs associated with our wind proposal, we included the congestion and line loss estimates from MISO's 2012 Promod models. The Promod model contains detailed information on the transmission topology in MISO, and has the ability to forecast hourly prices at individual nodes throughout the system. It is the same model that MISO used in their most recent round of transmission planning analysis, and contains all planned upgrades to the transmission system that may impact transmission congestion in the future. The difference in price between any two locations within MISO is interpreted at the combined impact of transmission system congestion and line losses.

Last, we have performed a new wind integration study as part of our most recent Resource Plan. Based on this new study, we utilized existing resource wind integration costs totaling approximately $1.10/MWh (2014$), consistent with our recent Resource Plan filing.

2. *Strategist Results*

The results of our Strategist analysis, noted in the tables below, shows that as compared to abandoning the Project, Courtenay will result in net savings for our customers under all sensitivity tests conducted.

Table 1: PVRR Results ($millions)

PVRR, Current Assumptions ($M)	Base	Low Gas	High Gas	Markets On	30 Year Operating Life	20 Year Operating Life	+5% Energy Production	-5% Energy Production	Capital Sensitivity 1	Capital Sensitivity 2	+25% On-Going Ownership Costs	-25% On-Going Ownership Costs
Base Case (No Project)	$46,015	$43,248	$50,002	$45,519	$46,015	$46,015	$46,015	$46,015	$46,015	$46,015	$46,015	$46,015
Courtenay Own	$45,918	$43,198	$49,844	$45,447	$45,909	$45,995	$45,872	$45,949	$45,935	$45,952	$45,939	$45,897

Table 2: Incremental PVRR from Base Case ($millions)

PVRR Delta, Current Assumptions ($M)	Base	Low Gas	High Gas	Markets On	30 Year Operating Life	20 Year Operating Life	+5% Energy Production	-5% Energy Production	Capital Sensitivity 1	Capital Sensitivity 2	+25% On-Going Ownership Costs	-25% On-Going Ownership Costs
Courtenay Own	($97)	($50)	($159)	($72)	($106)	($20)	($143)	($66)	($80)	($63)	($76)	($117)

Because the Courtenay Project was originally developed as a PPA, we also modeled a comparison of Company Ownership against being an offtake under the PPA under several sensitivities. Although the PPA option is no longer viable, we believe it may provide a sense of the several changes in the Project's circumstances. Company ownership compares favorably to the PPA under any sensitivity other than a 20-year life (which is somewhat offset by the residual value of owning the assets comprising the Courtenay Project):

First, we compared Company ownership versus the PPA utilizing the capacity factor assumed in the PPA. As previously noted, this capacity factor was provided in Geronimo's RFP bid and developed before specific turbines were selected and our updated wind study was completed. Second, we compared Company ownership to the PPA utilizing the updated capacity factor identified in our revised wind study. Utilizing the updated capacity factor and assuming a 25-year life (consistent with our typical assumptions for a Company-owned project), Company ownership compares favorably to the PPA under any circumstance other than a 20-year life sensitivity:

Table 3: Incremental PVRR from PPA ($ millions)

PVRR Delta, Current Assumptions ($M)	Base	Low Gas	High Gas	Markets On	30 Year Operating Life	20 Year Operating Life	+5% Energy Production	-5% Energy Production	Capital Sensitivity 1	Capital Sensitivity 2	+25% On-Going Ownership Costs	-25% On-Going Ownership Costs
Courtenay PPA	($62)	($29)	($103)	($42)	($62)	($62)	($82)	($57)	($62)	($62)	($62)	($62)
Courtenay Own	($97)	($50)	($159)	($72)	($106)	($20)	($143)	($66)	($80)	($63)	($76)	($117)
Own vs. PPA	($35)	($21)	($55)	($31)	($44)	$42	($60)	($9)	($18)	($1)	($14)	($55)

Importantly, even utilizing the assumptions we utilized when analyzing the PPA, the Courtenay Project under Company ownership provides absolute savings under all sensitivities when compared to no Courtenay Project.

As indicated in the PVRR tables above, our analysis of the updated circumstances applicable to the Courtenay Project illustrates that the Courtenay Project provides cost savings to our customers even under the conservative sensitivity cases studied.

An alternate way of presenting the Strategist results is by calculating the levelized price of the project and the other costs and benefits associated with it. Levelized prices are a fixed $/MWh price that have the same NPV as the actual cost streams generated by Strategist. For the sake of comparison, the 20 year levelized cost of the Courtenay PPA was **[TRADE SECRET BEGINS…**
…TRADE SECRET ENDS]. As mentioned previously, in addition to the direct project costs, the Strategist model also adds cost for wind integration, transmission congestion, and line losses. The primary benefit of the project is displaced generation from fossil fuel resources, but the model also tracks benefits from avoided CO_2 emissions and capacity credit. Table 4 below illustrates how the levelized costs of the agreements are more than offset by the value of avoided generation.

Table 4: Levelized Costs Analysis - $/MWh

	[TRADE SECRET BEGINS…
Revenue Requirements	
Wind Integration	
Congestion/Line Losses	
Avoided Fossil Fuel	
Capacity Credit	
	… TRADE SECRET ENDS]
Net Cost (Benefit)	($10.60)

In addition to the economic benefits, adding additional wind at favorable pricing provides a hedge against future increases in natural gas prices, market energy costs, and CO_2 regulation. This is primarily because the wind displaces thermal generation or market purchases that are subject to volatility in fuel, power and emissions costs. To illustrate the benefit of the Courtenay project, Table 5 below shows the base case volumes of natural gas, market purchases and CO_2 emissions – and the deltas against these factors for the project.

Table 5: Hedge Value

Total System 2016-2042	**CO2** *Million tons*	**Natural Gas** *bcf*	**Market Purchases** *GWh*
Base Case (No Project)	565	2,129	103,811
Add Courtenay	(15)	(58)	(8,173)

We recognize, however, that the impacts to our customers will be different under the Company's ownership as opposed to through our purchase of the output of the Project under a PPA. This is mainly due to the different rate treatment for Company owned projects (through rate base or capital riders) and PPAs (through the Fuel Cost Recovery Rider (FCR)). Due this, there will be a slight increase in expenses (and rates during the interim period while recovery is accomplished through the Renewable Energy Rider (RER)) in the first few years of Company ownership of the Courtenay Project. That said, we expect that soon after initial operation, customers' overall bills will be lower than otherwise as a result of our proposed resource acquisition. Our Strategist dispatch simulation forecasts that the cost of the Courtenay project proposed in this Petition will be more than offset by decreases in the cost of fossil fuel and other purchased energy.

To develop our rate impact estimates, we used the output of our Strategist model divided by our forecasted sales volume. Table 6 below estimates how average rates will be affected by the proposed wind project.

Table 6: Annual Rate Impact Analysis

	2015	2016	2017	2018	2019	2020
Base Rates	0.00¢/kWh	0.02¢/kWh	0.09¢/kWh	0.06¢/kWh	0.06¢/kWh	0.04¢/kWh
Fuel Clause	0.00¢/kWh	0.00¢/kWh	0.01¢/kWh	0.01¢/kWh	0.01¢/kWh	0.01¢/kWh
Avoided Fuel & Purchased Power	0.00¢/kWh	0.00¢/kWh	(0.05¢/kWh)	(0.05¢/kWh)	(0.06¢/kWh)	(0.05¢/kWh)
Net Rate Impact	**0.004¢/kWh**	**0.018¢/kWh**	**0.040¢/kWh**	**0.014¢/kWh**	**0.014¢/kWh**	**(0.008¢/kWh)**

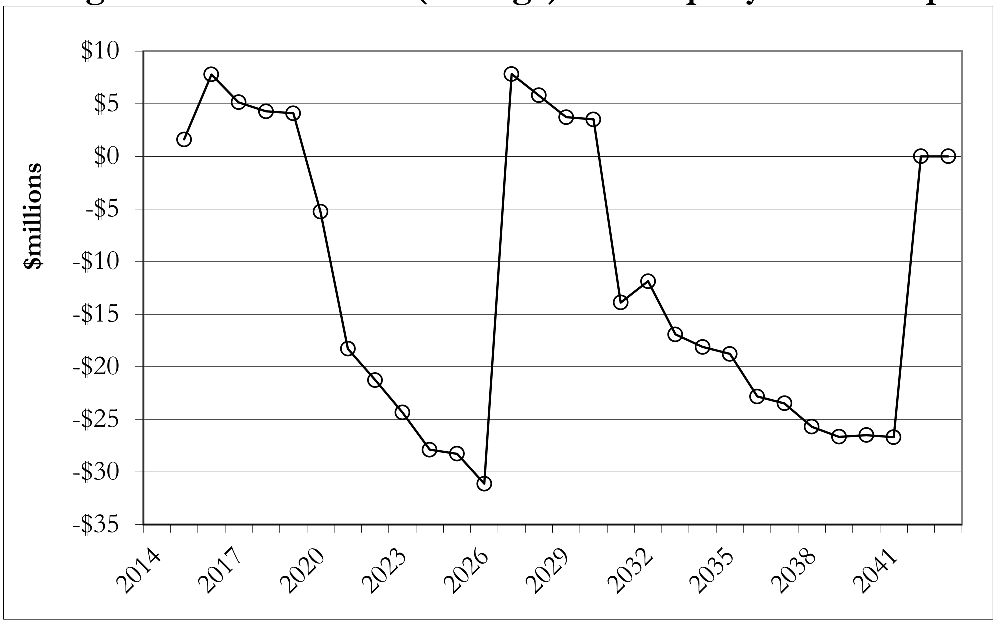
	2021	2022	2023	2024	2025	2026
Base Rates	0.01¢/kWh	0.01¢/kWh	0.00¢/kWh	0.00¢/kWh	0.00¢/kWh	-0.01¢/kWh
Fuel Clause	0.01¢/kWh	0.01¢/kWh	0.01¢/kWh	0.01¢/kWh	0.01¢/kWh	0.01¢/kWh
Avoided Fuel & Purchased Power	(0.06¢/kWh)	(0.06¢/kWh)	(0.06¢/kWh)	(0.06¢/kWh)	(0.06¢/kWh)	(0.06¢/kWh)
Net Rate Impact	**(0.038¢/kWh)**	**(0.042¢/kWh)**	**(0.050¢/kWh)**	**(0.055¢/kWh)**	**(0.056¢/kWh)**	**(0.062¢/kWh)**

	2027	2028	2029	2030	2031	2032
Base Rates	0.08¢/kWh	0.08¢/kWh	0.08¢/kWh	0.08¢/kWh	0.08¢/kWh	0.07¢/kWh
Fuel Clause	0.01¢/kWh	0.01¢/kWh	0.01¢/kWh	0.01¢/kWh	0.01¢/kWh	0.01¢/kWh
Avoided Fuel & Purchased Power	(0.06¢/kWh)	(0.07¢/kWh)	(0.07¢/kWh)	(0.07¢/kWh)	(0.11¢/kWh)	(0.10¢/kWh)
Net Rate Impact	**0.028¢/kWh**	**0.023¢/kWh**	**0.018¢/kWh**	**0.018¢/kWh**	**(0.022¢/kWh)**	**(0.016¢/kWh)**

	2033	2034	2035	2036	2037	2038
Base Rates	0.07¢/kWh	0.07¢/kWh	0.07¢/kWh	0.07¢/kWh	0.07¢/kWh	0.06¢/kWh
Fuel Clause	0.01¢/kWh	0.01¢/kWh	0.01¢/kWh	0.01¢/kWh	0.01¢/kWh	0.01¢/kWh
Avoided Fuel & Purchased Power	(0.11¢/kWh)	(0.11¢/kWh)	(0.11¢/kWh)	(0.12¢/kWh)	(0.11¢/kWh)	(0.12¢/kWh)
Net Rate Impact	**(0.027¢/kWh)**	**(0.029¢/kWh)**	**(0.030¢/kWh)**	**(0.039¢/kWh)**	**(0.040¢/kWh)**	**(0.044¢/kWh)**

We estimate that there will be an initial rate impact for Company ownership of the Courtenay Project, which will then rapidly decline as the project is depreciated and the cost impacts of this Project will be also further offset by reductions in fuel and purchased energy. These offsets begin in 2020. Upon expiration of the PTCs, a similar pattern occurs beginning in 2027. This is shown graphically in Figure 1 below.

Figure 1: Annual Cost (Savings) of Company Ownership



VII. REASONS SUPPORTING GRANTING CPCN

A. Cost-Effective Resource

The Company's acquisition of the Courtenay Project is prudent. We have evaluated the Courtenay Project from a long-term perspective and from a near-term rate impact perspective. And we have evaluated the risks associated with the development of the Courtenay Project. Based on all of this analysis, we believe that it is reasonable and in our customer's interests for the Commission to grant a CPCN for this Courtenay Project. We note that pursuant to N.D.C.C. § 49-05-16 (7), the Courtenay Project is presumed to be prudent.

Our analysis shows that the addition of the Courtenay Project will keep our customers' bills lower than they otherwise would be over the life of the Courtenay Project. Using what we believe are conservative assumptions, our Strategist modeling predicts energy costs for our customers will be $97 million lower over the life of the Courtenay Project.

Our analysis leads us to conclude that the addition of Courtenay Project to our system is prudent because it will contribute to substantial financial benefits to our customers. These financial benefits are reflected in a lower cost of energy in the near- and long-term, and in a material hedge against future increases in the fuel and government regulation components included in the cost of energy. Thus Company is cost-effectively acquiring a resource necessary to meet the regulatory requirements of all the jurisdictions in which we provide service and saving a North Dakota based project to increase the geographic diversity of its generating portfolio.

B. Reasonable Mitigation of Risk

The development of any wind project comes with certain risks. We have worked to identify these risks and reasonably mitigate them through prudent contracting practices. These risks include PTC risk, construction and capital risks, transmission interconnection and deliverability risks, and operational risks. We have reasonably mitigated through prudently structuring the transaction and preserving the right to abandon the Courtenay Project if we are unable to mitigate the transmission interconnection and deliverability risks in a reasonable manner.

C. Commission's Ten Factors Support Granting the CPCN

Xcel Energy provides the following responses to the ten factors the Commission considers regarding a proposed facility's impacts on other service providers, and whether the facility is unnecessarily duplicative. These factors further support the need for the Courtenay Project and Xcel Energy's qualifications to add them to its system.

1. From whom does the customer prefer electric service?

Customer preference in not a consideration in this circumstance. The Courtenay Project will be an additional resource on the Xcel Energy system, which serves all the Company's customers within the system's five-state service area (North Dakota, South Dakota, Minnesota, Wisconsin, and Michigan).

2. What electric suppliers are operating in the general area?

Electric suppliers and nearby service territories are not at issue in this circumstance. The Courtenay Project will not provide direct retail service in competition with electric suppliers in the area.

3. What electric supply lines exist within a two-mile radius of the locations to be served and when were they constructed?

An electric supply line in the vicinity is not a consideration in this circumstance. The Courtenay Project will not provide direct retail service in competition with electric suppliers in the area.

4. *What customers are served by electric suppliers within at least a two-mile radius of the location to be served?*

The customer base in the vicinity is not a consideration in this circumstance. The Courtenay Project will be an additional resource on the Xcel Energy system, which serves all the Company's customers within the system's five-state service area.

5. *What are the differences, if any, between the electric suppliers available to serve the area with respect to reliability of service?*

This is not a consideration in this circumstance. The Courtenay Project will not provide direct retail service in competition with electric suppliers in the area.

6. *Which of the available electric suppliers will be able to serve the location in question more economically and still earn an adequate return on its investment?*

This is not a consideration in this circumstance because the Courtenay Project will not provide direct retail service in competition with electric suppliers in the area.

7. *Which supplier's extended electric service would best serve orderly and economic development of electric service in the general area?*

This is not a consideration in this circumstance. The Courtenay Project will not provide direct retail service in competition with electric suppliers in the area.

8. *Would approval of the application result in wasteful duplication of investment or services?*

No. The Courtenay Project will improve the efficiency of our generation system and help keep customer costs lower than they would be otherwise.

9. *Is it probable that the location in question will be included within the corporate limits of a municipality within the foreseeable future?*

No. The area under consideration for the Courtenay Project is not likely to be included within a municipality within the foreseeable future.

10. *Will the service by either of the electric suppliers in the area unreasonably interfere with the service or system of the other?*

This is not a consideration in this circumstance. The Courtenay Project will not provide direct retail electric service in competition with other electric suppliers.

In summary, the Courtenay Project satisfies the need requirements to be granted a CPCN.

VIII. TRANSFER OF CERTIFICATE OF SITE COMPATIBILITY

Pursuant to N.D.C.C. § 49-22-07(1), "[a] certificate of permit may be transferred, subject to the approval of the commission, to any person who agrees to comply with its terms, conditions and modifications."

The Company agrees to comply with the terms, conditions, and any modifications to Certificate of Site Compatibility No. 36, issued on November 13, 2013, in Case No. PU-13-64. Consequently, the Company has satisfied the statutory requirements for the transfer of the Certificate of Site Compatibility and requests that the Commission make such transfer concurrent with its issuance of the CPCN requested in this Application.

The current holder of the certificate supports our request as evidenced in Attachment B to this Application.

To further support the Company's request for transfer of Certificate of site Compatibility No. 36, the Company provides, as Attachment C to this Application, the Affidavit committing the Company to abide by the terms and conditions of the Certificate of Site Compatibility.

CONCLUSION

We believe that our acquisition of the Courtenay Project will contribute to the substantial benefits to our customers – saving customers approximately $97 million in energy costs over time – and that we have reasonably mitigated the inherent risks associated with any new resource development.

Therefore, we respectfully request that the Commission grant a Certificate of Public Convenience and Necessity for the Courtenay Project. We further request, pursuant to N.D.C.C. § 49-03-02, that the Commission grant the requested Certificate not more than 20 days after a notice of opportunity for hearing issued in this proceeding, if no party requests a hearing. We further respectfully request that the Commission issue an Order on this Application by August 31, 2015, to help ensure our ability to timely construct the Courtenay Project and capture the benefits of the federal PTCs for our customers.

We also respectfully request that the Commission grant our request to transfer the Certificate of Site Compatibility from Courtenay Wind Farm LLC to the Company concurrently with its issuance of our requested CPCN.

Dated: April 30, 2015

Northern States Power Company

AWS Truepower®

PREPARED FOR
NORTHERN STATES POWER COMPANY

ENERGY PRODUCTION SUMMARY

Calibrated Assessment of the Wind Resource and Energy Production Using the SiteWind System

APRIL 1, 2015

FOR THE COURTENAY WIND PROJECT

STUTSMAN COUNTY, NORTH DAKOTA

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463 NEW KARNER ROAD | ALBANY, NY 12205
awstruepower.com | info@awstruepower.com

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DOCUMENT CONTRIBUTORS

AUTHOR	SUPPORTING AUTHOR	REVIEWER
Dan Michaud Senior Meteorologist	**Bonnie Vehlies** Wind Project Specialist	**Jason Dubois** Senior Meteorologist

DOCUMENT HISTORY

ISSUE	DATE	SUMMARY
A	1 April 2015	Initial Report

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1. INTRODUCTION

AWS Truepower, LLC, was retained by Northern States Power Company (NSPC) to evaluate the long-term wind resource and energy production potential of the proposed Courtenay Wind Project, located in North Dakota, about 30 km to the north-northeast of Jamestown, North Dakota, and 140 km west-northwest of Fargo, North Dakota. This report presents the results of our analysis and briefly describes the methods used to develop the wind resource and energy estimates.

2. WIND MEASUREMENTS

Wind monitoring at the Courtenay project began in July 2010 with the installation of a single monitoring mast, designated Mast 2612. One additional mast, designated Mast 2611, was installed in January 2013. Both masts remain in operation. Table 1 presents basic information about the masts including their geographic coordinates, elevations, periods of record, and sensor heights. NSPC provided the data to AWS Truepower in their raw binary format via ftp. Each data file contained 10-minute average wind speed, direction, and temperature records, along with their standard deviations.

The observed 60-m mean wind speeds are 7.59 m/s at Mast 2611 and 7.67 m/s at Mast 2612. The 60-m annualized mean wind speeds, which take into account repeated months in the data record and weight each calendar month by its number of days, are 7.62 m/s at Mast 2611 and 7.74 m/s at Mast 2612. The annualized wind shear exponents, which represent the rate of wind speed increase with height above ground according to the power law, are 0.213 at Mast 2611 and 0.225 at Mast 2612. The shear was calculated from the mean wind speeds at the highest and lowest monitoring levels based on concurrent valid records at both heights. Only wind speeds greater than 4 m/s, the range of interest for energy production, were used in the calculations.

The Weibull function is an analytical curve that describes the wind speed frequency distribution, or number of observations in specific wind speed ranges. Its two adjustable parameters allow a reasonably good fit to a wide range of actual distributions. *A* is a scale parameter related to the mean wind speed while *k* controls the width of the distribution. Values of *k* typically range from 1 to 3.5, the higher values indicating a narrower distribution. The observed 60-m *k* values, which are 2.30 at Mast 2611 and 2.49 at Mast 2612, are indicative of a reasonably steady wind resource with occasional high wind events. Figure 1 contains a chart showing the observed frequency distribution and the fitted Weibull curve for Mast 2612.

The directional distribution of the wind resource is an important factor to consider when designing the wind project to minimize the wake interference between turbines. Annual wind frequency and energy distribution by direction plots (wind roses) for the onsite masts are presented in Figure 2. The wind roses indicate that the prevailing wind directions are west-northwest through north-northwest.

3. ESTIMATION OF LONG-TERM MEAN WIND SPEED

We obtained historical wind speed data from several nearby potential reference stations operated by the National Weather Service (NWS) and Federal Aviation Administration (FAA), as well as datasets from three reanalysis datasets (CFSR[1], ERA-I[2], and MERRA[3]), and assessed them for suitability as long-term references.

Mast 2612 was chosen as the primary mast for the analysis because it has the longest data record. Linear regression equations were established using concurrent daily mean wind speeds at Mast 2612 and each potential reference station. Following reviews of the correlations and the time series of reference station annual mean speeds, we selected the Jamestown NWS surface station and the ERA-I dataset to estimate the long-term annual mean speed at Mast 2612. Substitution of the annualized mean wind speeds at the reference stations into the regression equation listed in Table 2 yields a 60-m long-term mean wind speed of 7.70 m/s at Mast 2612.

The climate-adjusted wind speed at Mast 2611 was estimated using a similar technique, but with Mast 2612 now serving as the reference. The regression was performed using concurrent hourly wind speeds; the r-squared value is 0.98. Substitution of the estimated long-term speed at Mast 2612 into the regression equation yields a long-term 60-m mean wind speed of 7.63 m/s at Mast 2611.

Extrapolation of these long-term mean wind speeds using the annualized wind shear exponents yields mean wind speeds of 8.11 m/s at Mast 2611 and 8.21 m/s at Mast 2612 at the 80-m hub height. A summary of the climate adjustments and extrapolation is included in Table 2.

4. ESTIMATION OF LONG-TERM ENERGY PRODUCTION

The energy production of the proposed Courtenay Wind Project was estimated using the Openwind® software. Openwind was developed by AWS Truepower as an aid for the design, optimization, and assessment of wind power projects.[4] The primary input is a wind resource grid generated by a numerical wind flow model, in this case the SiteWind® system. Other inputs include elements of the project design such as the turbine locations, hub height, power curve, and thrust coefficients, as well as the mast data. The SiteWind system and Openwind software and their applications in this project are briefly described below.

The SiteWind System

Numerical wind flow models are used to calculate the wind resource variation across a project area due to changes in terrain and surface roughness. AWS Truepower has developed the SiteWind system to perform these calculations. SiteWind employs both mesoscale and microscale models to simulate the wind climate over a wide range of scales. The mesoscale model assesses regional climate conditions and simulates complex meteorological phenomena such as katabatic (downslope) mountain winds, channeling through mountain passes, lake and sea breezes, low-level jets, and temperature inversions. The microscale model accounts for the localized influences of topography and surface roughness

1 Climate Forecast System Reanalysis (CFSR), which was developed by the National Centers for Environmental Prediction (NCEP), is a global atmosphere-ocean-land-sea ice system which produces 6-hourly outputs at a horizontal resolution of 1/2° latitude and 1/2° longitude. CFSR extends through 2010, while an operational version of CFSR has been employed beginning in 2011.

2 ERA-Interim (ERA-I), which was developed by the European Centre for Medium-Range Weather Forecasts (ECMWF), utilizes a variety of observing systems which have been assimilated into a global three-dimensional grid by numerical atmospheric models at a spectral resolution of T255, or an approximate horizontal resolution of 79 km.

3 Modern-Era Retrospective Analysis for Research and Applications (MERRA), which was developed by the National Aeronautics and Space Administration (NASA), utilizes a variety of observing systems which have been assimilated into a global three-dimensional grid by numerical atmospheric models at a horizontal resolution of 1/2° latitude and 2/3° longitude.

4 Openwind – Theoretical Basis and Validation, Version 1.3, AWS Truewind, LLC, April 2010.

changes and produces a detailed wind resource map and grid. As a final step, the predicted speed and direction are adjusted with on-site data from masts within the project area. This method has been found to be more accurate on the whole than microscale wind flow models on their own.[5]

The mesoscale model used for this analysis was the Mesoscale Atmospheric Simulation System (MASS[6]), a non-hydrostatic weather model used in commercial and research applications. MASS was run in a series of nested grids, with the innermost grid having a spatial resolution of 1.2 km. Using regional weather data, MASS simulated historical weather conditions for a representative sample of days. The MASS output was then coupled to WindMap – a mass-conserving model – which was run on a grid scale of 50 m.[7] Finally, the output of WindMap was adjusted to the wind speed and direction distribution at the two masts within the project area. This last step was performed within Openwind, as described below. The resulting wind resource map is shown in Figure 3.

Openwind

Once the wind resource model has been run, the resource grid file is imported into Openwind to define the wind resource for the project area. The Weibull parameters in the file are converted to directional speed-up ratios relating the wind speed at each grid point to the speed at a reference mast. By associating the model data to a wind speed histogram file for the reference mast, the program is able to adjust the modeled speed distribution to the true speed distribution observed at a point. This method usually produces a more accurate estimate of the energy production than relying on the modeled distributions alone.

A number of reference masts can be used to reduce errors in the predicted spatial variation of the wind resource across the project area. Conventionally, the project area is broken up into sub-regions, each of which is associated with a different mast using the distance-weighted interpolation between masts, as previously described. This avoids discontinuities in wind speeds across the boundaries of areas assigned to different masts and produces a more realistic picture of the spatial variation of the wind resource. Within Openwind, the adjusted wind resource grid is divided into sub-regions associated with different masts to capture variations in the observed speed frequency distribution, although the corresponding impact on energy production estimates is usually relatively small.

AWS Truepower uses the Openwind Deep Array Wake Model (DAWM) to calculate wake losses. This model actually contains two separate wake models operating independently. The first is the Eddy Viscosity model, which is based on the thin-shear-layer approximation of the Navier-Stokes equations assuming axisymmetric wakes of Gaussian cross-sectional form, as originally postulated by Ainslie.[8] The model equations ensure that momentum and mass conservation are observed simultaneously. As inputs, the wake model requires the ambient turbulence intensity at hub height, which influences the initial wake deficit behind each turbine and the rate of wake dissipation; the speed and direction frequency distribution, based on a wind resource grid and associated mast files; the locations of the

5 Beaucage, Philippe and Brower, Michael C, Wind Flow Model Performance – Do More Sophisticated Models Produce More Accurate Wind Resource Estimates?, 6 February 2012

6 Developed for NASA, the US Air Force, and commercial and research applications, MASS is similar to and has been verified against other mesoscale weather models such as MM5 and WRF. For further information, see http://www.meso.com/mass.html.

7 WindMap, developed by AWS Truepower, is a mass-conserving model that adjusts an initial wind field, here supplied by MASS, in response to local variations in topography and surface roughness. See, e.g., Michael Brower, "Validation of the WindMap Model," Proceedings of WindPower 1999, American Wind Energy Association, June 1999.

8 Ainslie, J.F., 1988, Calculating the flowfield in the wake of wind turbines." Journal of Wind Engineering and Industrial Aerodynamics, 27. Pages 213-224.

turbines; and the turbine thrust coefficient curves. Validation of the Openwind Eddy Viscosity model is described elsewhere.[4]

In response to evidence that conventional wake models like the Eddy Viscosity model underestimate wake losses in deep (multi-row) arrays of wind turbines, especially offshore, AWS Truepower implemented a second model designed to handle such situations. This model is loosely based on a theory developed by Frandsen,[9] who postulated that the effect of a deep array of wind turbines on the atmosphere could be represented as a region of increased surface drag, represented by a surface roughness length. Where the wind first impinges on the array, an internal boundary layer (IBL) is created, within which the wind profile is determined by the array roughness rather than by the ambient roughness. This IBL grows with downwind distance, and once its height exceeds the turbine hub height, the hub-height speed impinging upon turbines farther downwind is progressively reduced. According to the Frandsen theory, the effective array roughness is in the range of 1 m to 3 m, or typical of a forest, for mid-range speeds and typical turbine spacings. AWS Truepower modified the Frandsen model to treat each turbine as an isolated island of roughness, a necessary change to permit rapid modifications to the turbine layout for array optimization. In addition, the IBL created by each turbine is assumed to be centered on the turbine's hub height.

In combining the two models, the DAWM implicitly defines "shallow" and "deep" zones within a turbine array. In the shallow zone, the direct wake effects of individual turbines dominate, and the unmodified Eddy Viscosity (EV) model is used to calculate wake deficits; in the deep zone, the deep-array effect is more prominent, and thus, the roughness model is employed. The DAWM has been validated at several offshore and onshore projects.[10]

Results

The energy production was simulated for the Vestas V100-2.0 MW with a 100-m rotor diameter and an 80-m hub height. The turbine layout[11], which was provided by NSPC, is shown on the wind resource map in Figure 3. Each turbine in the layout was associated with the wind speed and direction distribution file from one of the on-site masts.

The average air density was calculated from the wind speed and temperature data from Mast 2612 and adjusted to the mean elevation of the turbines using a standard atmospheric lapse rate. The result was 1.198 kg/m^3.

Plant losses aside from turbine wake losses were estimated from AWS Truepower's experience with other projects and an analysis of site-specific data.[12] The wake loss was estimated by the Openwind program to be 8.0%. Including combined plant losses totaling 11.8%, the total loss is estimated to be 18.8%.

9 Sten Tronæs Frandsen, Turbulence and turbulence-generated structural loading in wind turbine clusters, Risø-R-1188(EN), Risø National Laboratory (January 2007).

10 Brower, Michael C. and Robinson, Nicholas M., "The openWind Deep Array Wake Model – Development and Validation", May 2012.

11 AWST has completed a high-level review of the layout provided and has determined that two turbines within the layout are within 1000 feet of a possibly occupied structure. As these turbines are closer than AWST standard setbacks, it is recommended that Northern States Power Company verify the locations with local authorities.

12 Dan Bernadett, et al., 2012 Backcast Study: A Review and Calibration of AWS Truepower's Energy Estimation Methods, AWS Truepower May 2012.

The gross and net annual energy production estimates for the project are 994.9 GWh and 807.8 GWh, respectively. The net capacity factor is predicted to be 46.1%, and the estimated array-average free-stream wind speed at hub height is 8.24 m/s. A summary of the estimated average free-stream wind speed and gross and net energy production for each turbine is presented in Table 3.

5. UNCERTAINTY ESTIMATE

The uncertainty in the projected long-term hub height wind speed across the project is estimated to be 2.7%. This value incorporates the uncertainties associated with field verification, the onsite measurements, the wind shear extrapolation, the historical climate adjustment, the evaluation period, and the wind flow modeling. The sensitivity of the project output to changes in wind speed was determined to be approximately 3.4% for the given 2.7% uncertainty in mean wind speed. The uncertainties in wind speed frequency distribution and plant losses were combined with the previous total to yield an overall energy production uncertainty of 5.0%, or 40.7 GWh/yr. Table 4 presents the estimated net annual energy production and capacity factor at five confidence levels assuming a 9-year mature operation evaluation period and the same for the first year and for any single year thereafter.

6. SUMMARY

The long-term wind resource at the proposed Courtenay Wind Project was estimated using data from two monitoring masts and correlation with Jamestown and the ERA-I dataset. The energy production was simulated using a wind resource grid developed using SiteWind system, the Openwind software, a wind turbine layout provided by NSPC, and the Vestas V100-2.0 MW turbine with a 100-m rotor diameter at an 80-m hub height, and site average air density of 1.198 kg/m^3. The total wind plant loss is estimated to be 18.8%. The expected average annual net production and capacity factor for the project are 807.8 GWh and 46.1%, respectively, and the predicted array-average wind speed is 8.24 m/s.

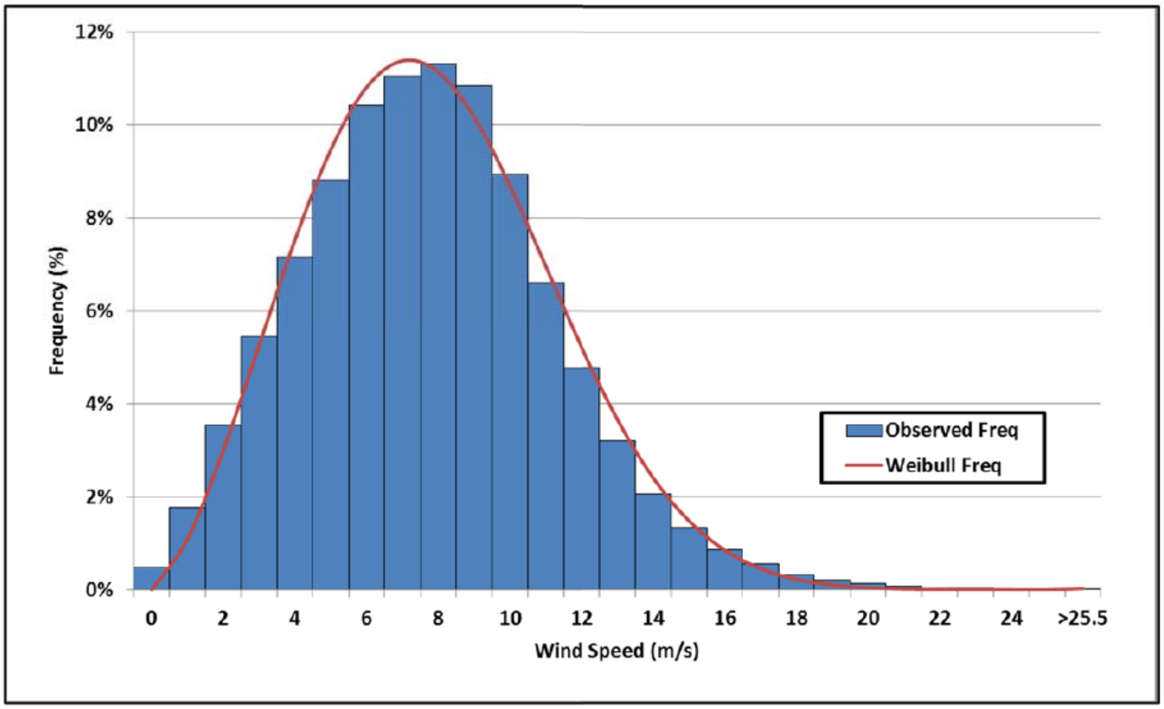

Figure 1. Mast 2612 Observed Wind Speed Frequency Distribution and Fitted Weibull Curve

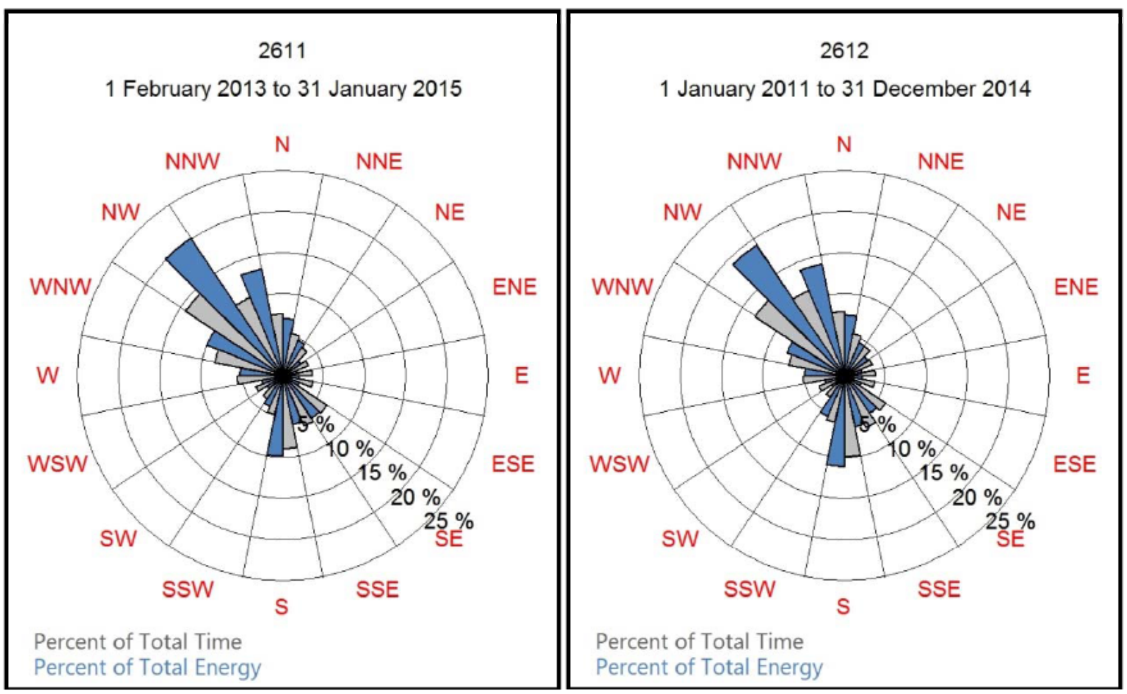

Figure 2. Monitoring Mast Annual Wind Roses

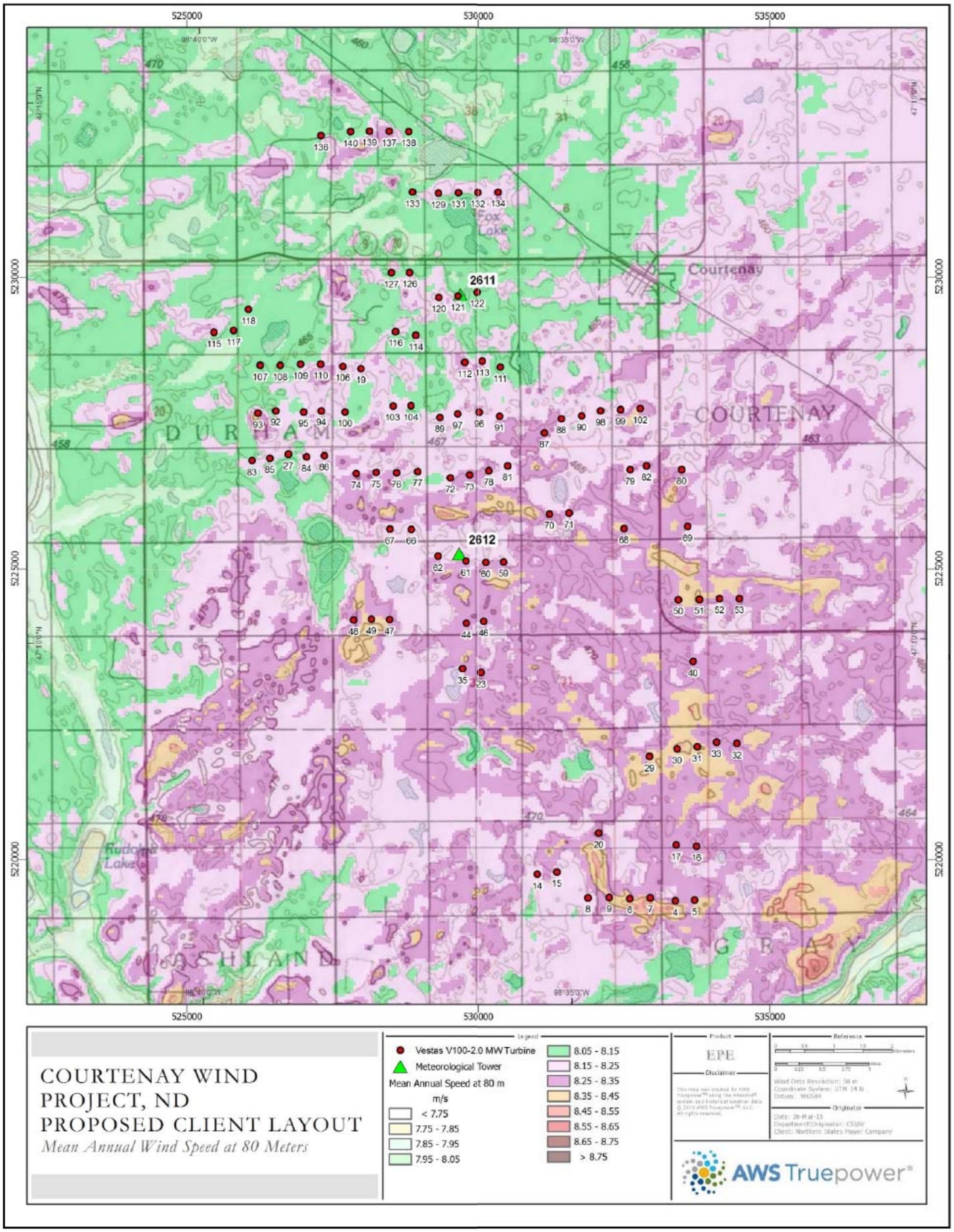

Figure 3. Proposed Courtenay Vestas V100-2.0 MW Turbine Layout

Table 1. Mast Summary

Mast	Site UTM Coordinates (WGS84, Zone 14)		Elevation (m)	Period of Record	Monitoring Heights (m)		
	Easting	Northing			Wind Speed	Wind Direction	Temp
2611	529687	5229709	465	1/29/2013 – 1/31/2015	60, 47, 32	58, 45	59, 2
2612	529671	5225265	471	7/16/2010 – 1/19/2015	60, 47.3, 32	58, 45.5	59, 2

Table 2. Monitoring Mast Long-Term Wind Speed Projection Summary

Mast	Monitoring Height (m)	Reference	Regression Equation	r^2	Long-Term Wind Speed (m/s)	Effective Wind Shear	Projected 80-m Speed (m/s)
2611	60	Mast 2612	y = 0.988x + 0.027	0.98	7.63	0.213	8.11
2612	60	Jamestown, ERA-I	y = 0.683*Jamestown + 0.423*ERA-I + 1.543	0.90	7.70	0.225	8.21

Table 3. Courtenay Wind Speed and Energy Production Detail

Project:	Northern States Power Company - Courtenay Wind Project, ND	
Date:	26-Mar-15	
Comments:	Client Layout	
Turbine Manufacturer/Model:	Vestas V100-2.0 MW	
Turbine Rated Power:	2.00	MW
Hub Height:	80	m
Number of Turbines:	100	
Plant Capacity:	200	MW
Site Air Density:	1.198	kg/m^3

AWS Truepower® Where science delivers performance.

Loss Accounting	
Wake Effect	8.0%
Availability	4.5%
Electrical	3.1%
Turbine Performance	1.2%
Environmental	3.6%
Curtailments	0.0%
Average Total Loss	18.8%

Overall Wind Plant Summary	
Average Free Wind Speed (m/s)	8.24
Gross Plant Production (MWh/yr)	994,937
Net Plant Production (MWh/yr)	807,813
Net Capacity Factor	46.1%

Per Turbine Summary

Turbine ID	Mast Association	Coordinates (WGS84 UTM14) Easting (m)	Northing (m)	Free Speed (m/s)	Gross MWh/yr	Array Eff. (%)	Array Loss (%)	Total Loss (%)	Net MWh/yr	Turbine Rank	Net Capacity Factor (%)	Total TI at 15m/s (%)
4	2612	533382	5219293	8.33	10,076	93.8	6.2	17.3	8,336	19	47.5	8.2
5	2612	533712	5219306	8.34	10,091	94.4	5.6	16.7	8,403	5	47.9	8.2
6	2612	532601	5219337	8.40	10,178	93.0	7.0	18.0	8,346	18	47.6	8.1
7	2612	532949	5219349	8.39	10,153	93.5	6.5	17.5	8,377	14	47.8	8.1
8	2612	531887	5219349	8.18	9,866	94.3	5.7	16.8	8,206	35	46.8	8.3
9	2612	532247	5219355	8.38	10,159	92.9	7.1	18.0	8,327	20	47.5	8.1
14	2612	531014	5219751	8.20	9,879	96.3	3.7	15.0	8,393	8	47.9	8.2
15	2612	531352	5219794	8.22	9,923	94.4	5.6	16.7	8,263	27	47.1	8.3
16	2612	533743	5220232	8.30	10,034	93.1	6.9	17.9	8,240	30	47.0	8.2
17	2612	533396	5220256	8.34	10,082	93.6	6.4	17.4	8,323	21	47.5	8.0
19	2611	527984	5228437	8.20	9,912	90.7	9.3	20.0	7,932	68	45.2	8.5
20	2612	532067	5220456	8.31	10,036	95.4	4.6	15.9	8,444	3	48.2	8.1
23	2612	530047	5223219	8.28	10,022	92.5	7.5	18.4	8,183	37	46.7	8.2
27	2612	526743	5226968	8.17	9,850	90.3	9.7	20.4	7,844	84	44.7	8.7
29	2612	532939	5221783	8.36	10,118	95.5	4.5	15.7	8,527	1	48.6	8.0
30	2612	533413	5221916	8.45	10,228	94.0	6.0	17.1	8,482	2	48.4	7.9
31	2612	533760	5221949	8.39	10,150	92.8	7.2	18.1	8,314	23	47.4	8.0
32	2612	534437	5222008	8.32	10,042	94.6	5.4	16.6	8,379	13	47.8	8.1
33	2612	534089	5222029	8.31	10,036	92.9	7.1	18.0	8,229	31	46.9	8.1
35	2612	529727	5223282	8.24	9,958	94.0	6.0	17.1	8,258	29	47.1	8.2
40	2612	533687	5223411	8.29	10,011	94.9	5.1	16.2	8,384	10	47.8	8.0
44	2612	529790	5224071	8.31	10,062	92.4	7.6	18.5	8,203	36	46.8	8.1
46	2612	530095	5224101	8.27	9,996	91.5	8.5	19.3	8,066	51	46.0	8.2
47	2612	528472	5224135	8.32	10,050	93.4	6.6	17.6	8,284	25	47.3	8.2
48	2612	527861	5224126	8.27	9,985	95.9	4.1	15.4	8,443	4	48.2	8.2
49	2612	528166	5224139	8.38	10,136	92.8	7.2	18.2	8,294	24	47.3	8.1
50	2612	533436	5224475	8.35	10,095	94.4	5.6	16.8	8,403	6	47.9	8.0
51	2612	533799	5224480	8.36	10,125	92.5	7.5	18.4	8,266	26	47.1	8.1
52	2612	534140	5224492	8.30	10,034	92.3	7.7	18.6	8,169	38	46.6	8.2
53	2612	534480	5224492	8.32	10,069	94.2	5.8	16.9	8,365	15	47.7	8.2
59	2612	530435	5225120	8.25	9,960	91.5	8.5	19.3	8,039	59	45.9	8.4
60	2612	530131	5225111	8.26	9,980	89.5	10.5	21.0	7,882	75	45.0	8.4
61	2612	529785	5225137	8.23	9,950	90.9	9.1	19.8	7,982	63	45.5	8.4
62	2612	529304	5225220	8.22	9,934	92.3	7.7	18.6	8,089	46	46.1	8.3
66	2612	528846	5225680	8.20	9,897	90.3	9.7	20.4	7,880	76	44.9	8.5
67	2612	528480	5225683	8.21	9,907	92.1	7.9	18.8	8,048	55	45.9	8.3
68	2612	532500	5225693	8.34	10,099	94.3	5.7	16.8	8,402	7	47.9	8.0
69	2612	533596	5225726	8.26	9,975	94.5	5.5	16.6	8,316	22	47.4	8.1
70	2612	531227	5225940	8.26	9,978	92.3	7.7	18.5	8,128	42	46.4	8.3
71	2612	531563	5225956	8.25	9,963	91.7	8.3	19.1	8,059	52	46.0	8.2
72	2612	529516	5226563	8.22	9,915	90.6	9.4	20.1	7,924	69	45.2	8.4
73	2612	529848	5226610	8.28	10,000	89.5	10.5	21.0	7,898	73	45.0	8.3
74	2612	527906	5226636	8.25	9,977	90.9	9.1	19.8	7,996	61	45.6	8.4
75	2612	528248	5226654	8.26	9,978	89.3	10.7	21.2	7,859	80	44.8	8.4
76	2612	528594	5226650	8.25	9,969	89.4	10.6	21.2	7,859	81	44.8	8.5

Table 3 Continued. Courtenay Wind Speed and Energy Production Detail

Per Turbine Summary												
Turbine ID	Mast Association	Coordinates (WGS84 UTM14) Easting (m)	Northing (m)	Free Speed (m/s)	Gross MWh/yr	Array Eff. (%)	Array Loss (%)	Total Loss (%)	Net MWh/yr	Turbine Rank	Net Capacity Factor (%)	Total TI at 15m/s (%)
77	2612	528960	5226672	8.20	9,904	90.0	10.0	20.6	7,864	78	44.9	8.6
78	2612	530182	5226685	8.27	9,981	89.4	10.6	21.1	7,875	77	44.9	8.4
79	2612	532607	5226699	8.25	9,951	92.0	8.0	18.9	8,073	50	46.0	8.2
80	2612	533494	5226703	8.27	9,980	94.9	5.1	16.3	8,352	16	47.6	8.1
81	2612	530504	5226767	8.22	9,915	91.0	9.0	19.7	7,960	66	45.4	8.5
82	2612	532889	5226766	8.27	9,994	91.6	8.4	19.2	8,074	49	46.1	8.3
83	2612	526122	5226857	8.16	9,835	95.2	4.8	16.0	8,259	28	47.1	8.5
84	2612	527054	5226921	8.18	9,865	88.6	11.4	21.8	7,710	96	44.0	8.7
85	2612	526421	5226898	8.18	9,869	91.6	8.4	19.2	7,973	64	45.5	8.5
86	2612	527355	5226943	8.23	9,951	89.5	10.5	21.1	7,853	82	44.8	8.5
87	2611	531134	5227331	8.28	10,016	92.3	7.7	18.5	8,160	39	46.5	8.3
88	2611	531427	5227572	8.23	9,938	92.3	7.7	18.6	8,094	43	46.2	8.4
89	2611	529341	5227597	8.23	9,946	89.4	10.6	21.1	7,845	83	44.7	8.5
90	2611	531775	5227623	8.21	9,923	91.9	8.1	19.0	8,042	57	45.9	8.4
91	2611	530367	5227617	8.21	9,929	89.3	10.7	21.2	7,819	88	44.6	8.6
92	2611	526525	5227712	8.16	9,848	89.0	11.0	21.5	7,733	93	44.1	8.6
93	2611	526223	5227672	8.34	10,111	92.0	8.0	18.8	8,209	34	46.8	8.3
94	2611	527306	5227712	8.20	9,907	87.0	13.0	23.3	7,601	100	43.4	8.6
95	2611	527002	5227694	8.18	9,877	88.3	11.7	22.1	7,695	98	43.9	8.7
96	2611	530018	5227684	8.23	9,953	89.1	10.9	21.4	7,822	87	44.6	8.6
97	2611	529644	5227659	8.20	9,899	88.9	11.1	21.6	7,763	90	44.3	8.6
98	2611	532103	5227708	8.24	9,965	92.6	7.4	18.3	8,140	40	46.4	8.5
99	2611	532442	5227730	8.22	9,929	92.3	7.7	18.6	8,078	48	46.1	8.4
100	2611	527711	5227694	8.16	9,859	89.4	10.6	21.2	7,772	89	44.3	8.6
102	2611	532781	5227746	8.36	10,116	93.9	6.1	17.1	8,383	11	47.8	8.2
103	2611	528537	5227794	8.17	9,863	90.1	9.9	20.5	7,837	85	44.7	8.5
104	2611	528842	5227799	8.15	9,841	89.1	10.9	21.4	7,737	92	44.1	8.6
106	2611	527672	5228474	8.20	9,901	90.3	9.7	20.3	7,890	74	45.0	8.5
107	2611	526259	5228491	8.13	9,807	91.5	8.5	19.3	7,918	71	45.2	8.6
108	2611	526600	5228491	8.12	9,794	89.1	10.9	21.4	7,700	97	43.9	8.7
109	2611	526948	5228509	8.14	9,817	89.3	10.7	21.3	7,731	94	44.1	8.6
110	2611	527293	5228512	8.19	9,891	90.1	9.9	20.5	7,863	79	44.8	8.5
111	2611	530380	5228459	8.12	9,791	89.0	11.0	21.5	7,690	99	43.9	8.7
112	2611	529765	5228540	8.27	10,014	90.5	9.5	20.2	7,991	62	45.6	8.4
113	2611	530070	5228561	8.19	9,884	88.5	11.5	21.9	7,721	95	44.0	8.5
114	2611	528926	5229005	8.14	9,821	90.4	9.6	20.3	7,831	86	44.7	8.5
115	2611	525466	5229055	8.21	9,919	95.9	4.1	15.4	8,388	9	47.8	8.3
116	2611	528579	5229071	8.16	9,845	92.6	7.4	18.3	8,042	58	45.9	8.4
117	2611	525804	5229088	8.13	9,811	93.1	6.9	17.9	8,058	53	46.0	8.4
118	2611	526058	5229448	8.15	9,829	94.9	5.1	16.3	8,227	32	46.9	8.3
120	2611	529317	5229656	8.20	9,903	90.7	9.3	20.0	7,924	70	45.2	8.4
121	2611	529650	5229681	8.13	9,807	89.7	10.3	20.9	7,759	91	44.3	8.5
122	2611	529979	5229744	8.13	9,802	92.2	7.8	18.7	7,973	65	45.5	8.6
126	2611	528818	5230081	8.15	9,829	91.1	8.9	19.6	7,899	72	45.1	8.5
127	2611	528509	5230078	8.12	9,800	93.0	7.0	18.0	8,035	60	45.8	8.5
129	2611	529311	5231442	8.21	9,922	91.9	8.1	18.9	8,044	56	45.9	8.4
131	2611	529653	5231452	8.16	9,843	91.6	8.4	19.2	7,956	67	45.4	8.5
132	2611	529994	5231459	8.20	9,908	92.2	7.8	18.7	8,054	54	45.9	8.4
133	2611	528871	5231463	8.12	9,797	93.6	6.4	17.4	8,090	45	46.1	8.5
134	2611	530342	5231464	8.27	10,001	94.6	5.4	16.5	8,348	17	47.6	8.3
136	2611	527300	5232427	8.11	9,780	97.2	2.8	14.3	8,381	12	47.8	8.3
137	2611	528466	5232501	8.29	10,036	92.8	7.2	18.1	8,219	33	46.9	8.3
138	2611	528803	5232499	8.10	9,760	94.0	6.0	17.1	8,091	44	46.1	8.5
139	2611	528134	5232506	8.18	9,875	92.8	7.2	18.1	8,087	47	46.1	8.3
140	2611	527807	5232497	8.09	9,745	94.6	5.4	16.5	8,134	41	46.4	8.3

Table 4. Estimated Energy Production and Net Capacity Factor at Five Confidence Levels (Evaluation Period [Years 2-10], Annual, and First Year)

Probability of Exceedance	Evaluation Period Average Energy Production (GWh)	Evaluation Period Average Capacity Factor (%)	Annual Energy Production (GWh)	Annual Capacity Factor (%)	First Year Energy Production (GWh)	First Year Capacity Factor (%)
P50	807.8	46.1	807.8	46.1	788.4	45.0
P75	780.3	44.5	770.5	43.9	738.3	42.1
P90	755.6	43.1	736.9	42.0	693.2	39.5
P95	740.8	42.3	716.8	40.9	666.2	38.0
P99	713.1	40.7	679.1	38.7	615.6	35.1

APPENDIX A – ENERGY PRODUCTION LOSSES

Table A1. Courtenay Vestas V100-2.0 MW Detailed Energy Production Loss Accounting

Wake Effect	**First Year**	**Long-Term**
Internal Wake Effect of the Project	8.0%	8.0%
Wake Effect of Existing or Planned Projects	0.0%	0.0%
Wake Effect Total	**8.0%**	**8.0%**
Availability		
Contractual Turbine Availability*	3.0%	3.0%
Non-Contractual Turbine Availability*	0.7%	0.7%
Long-term Availability Correlation with High Wind Events*	0.1%	0.1%
Availability of Collection & Substation	0.2%	0.2%
Availability of Utility Grid	0.3%	0.3%
Plant Re-start after Grid outages	0.2%	0.2%
First-Year Plant Availability*	2.9%	0.0%
Availability Total	**7.2%**	**4.5%**
Electrical		
Electrical Efficiency**	2.5%	2.5%
Power Consumption of Extreme Weather Package	0.6%	0.6%
Electrical Total	**3.1%**	**3.1%**
Turbine Performance		
Sub-Optimal Operation*	0.5%	0.5%
Power Curve Adjustment	0.6%	0.6%
High Wind Control Hysteresis	0.1%	0.1%
Inclined Flow	0.0%	0.0%
Turbine Performance Total	**1.2%**	**1.2%**
Environmental		
Icing	2.0%	2.0%
Blade Degradation	0.7%	1.2%
Low/High Temperature Shutdown	0.0%	0.0%
Site Access	0.2%	0.2%
Lightning	0.2%	0.2%
Environmental Total	**3.1%**	**3.6%**
Curtailments		
Directional Curtailment	0.0%	0.0%
PPA Curtailment	0.0%	0.0%
Environmental Curtailment	0.0%	0.0%
Curtailment Total	**0.0%**	**0.0%**
Total Losses	**20.8%**	**18.8%**

*Reduced from AWS Truepower standards based on the use of the AOM 5000 availability warranty.
**Increased from AWS Truepower standard based on provided electrical studies.

Wake Effect

Wind turbines alter the free stream wind flow which may reduce the energy production of a wind project. Losses due to this wake effect are divided into the following categories:

- **Internal Wake Effect of the Project:** This loss accounts for the wake effect from turbines within the project being analyzed.
- **Wake Effect of Existing or Planned Projects:** This loss accounts for the wake effect of existing or planned projects located adjacent to the project being analyzed for which sufficient information was available to make a precise estimate of their impact on the project being studied.

Availability

A plant or turbine is said to be available when it is capable of generating its full rated output, given sufficient wind. Availability losses occur when some turbines in a project, or an entire project, are inoperative for some reason. Availability losses assume that the Vestas AOM5000 contract (as described in the documents downloaded from the Geronimo Energy Sharefile dataroom[13]) is in place for a 10-year term.

- **Contractual Availability of Wind Turbines:** Turbine downtime traditionally covered under availability warranties (while in effect); AWS Truepower typically assumes a baseline time-weighted turbine availability of 97%. The AOM5000 contract has a 97% production-based availability guarantee.
- **Non-Contractual Availability of Wind Turbines:** AWS Truepower attributes an additional 1.3% of turbine downtime as a result of force majeure events, scheduled maintenance, and repair delays due to high winds or lack of spare parts, which are typically not covered under traditional warranties. The AOM5000 contract is a long-term full service contract, which eliminates exclusions due to maintenance-based events, such as repair delays and spare parts. As such, the non-contractual availability has been reduced to 0.7%.
- **Long-term Availability Correlation with High Wind Events (LACHWE):** This factor accounts for the likelihood that the turbines will experience shutdowns more often in high winds than at other times, resulting in energy losses not accounted for by downtime alone. Shutdowns tend to occur in high winds because that is when turbine components are most likely to exceed limits specified in the control software. AWS Truepower's estimate of this loss, which depends upon the turbine type, expected downtime, and capacity factor, is based on detailed study of losses in operating wind projects. As the AOM5000 contract has a production-based availability guarantee, the LACHWE loss has been reduced to only account for the time-to-energy component of the remaining non-contractual availability.
- **Availability of Collection and Substation:** This loss accounts for outages of the collection system and substation. It is typically assigned a value of 0.2%, which corresponds to 2 events per year of 8 hours average duration.
- **Availability of Utility Grid:** This loss accounts for outages of the utility grid. It is typically assigned a value of 0.3%, which corresponds to 4 events per year of 6 hours average duration.
- **Plant Restart after Grid Outage:** This loss is typically assigned a value of 0.2%, which assumes that 4 utility grid outages per year are accompanied by a 5-hour average standby

13 Vestas. "VAWT_ Enel FSMA Ex. D Availability Covenants.DOCX."

period while the turbine components are brought within temperature, humidity, and other operating specifications.

- **First-Year Plant Availability:** This value is typically set to 4% to account for the additional turbine and plant downtime that is often observed during the first year of operation The First-Year Plant Availability has been reduced to reflect the production-based nature of the AOM5000 and the reduction in non-contractual availability.

Electrical

- **Electrical Efficiency:** Losses are experienced in all electrical components of the wind project, including the padmount transformer, electrical collection system, and substation transformer. These losses are established in the electrical system design. An electrical loss study[14] was provided for the proposed wind project. This study has been reviewed by AWS Truepower and the resulting electrical loss value has been increased from the AWS Truepower typical assumption of 2.0% to 2.5% based on additional transmission and step-up transformers required for project interconnection.
- **Power Consumption of Extreme Weather Package:** This loss is intended to account for the energy consumed by the equipment included in an extreme weather package, if the turbines are so equipped. Power consumption for site lighting, O&M facilities, and other site facilities not associated with the turbines are not included as loss items and should be considered in the project's financial modeling.

Turbine Performance

- **Sub-Optimal Operation:** This factor accounts for shortfalls from ideal performance due to suboptimal turbine settings. Typical examples include yaw misalignments, control anemometer calibration, blade pitch inaccuracies or misalignments, and other control setting issues. AWS Truepower was provided the Vestas AOM 5000 full-service contract with production based availability for the project. Based on the excerpts provided and understanding of the services from Vestas, the sub-optimal operation loss was reduced to 0.5%.
- **Power Curve Adjustment:** This loss accounts for expected turbine performance relative to the modeled performance using the advertised power curve.[15] Vestas supplied AWS Truepower with tabular, unfiltered power performance test results for turbines in similar site conditions[16,17]. The power performance test results were used in conjunction with the site specific climatic conditions and power frequency distribution to adjust the loss.
- **High Wind Control Hysteresis:** For most turbines, once the wind speed exceeds the turbine's design cut-out speed and the machine shuts down, the control software waits until the speed drops below a lower speed threshold (the reset-from-cut-out speed) before allowing the turbine to restart. This loss accounts for the energy lost in this hysteresis loop. It is calculated from wind data collected at the site and the manufacturer's specified cut-out and reset-from-cut-out speeds.

14 INTERCONNECTION OVERVIEW - COURTENAY 131127.pdf, 2014 January 21_Revision_ColorByFeeder.pdf

15 Dan Bernadett, et al., 2012 Backcast Study: A Review and Calibration of AWS Truepower's Energy Estimation Methods, AWS Truepower May 2012.

16 Vestas. "North American Power Performance Results for Active-Pitch Turbines." 130405dejae Vestas Active-Pitch Power Performance Summary.doc. 5 April 2013.

17 Vestas. Data. 130719dejae Vestas V90 and V100 PPPT Results__EXTERNAL.xlsx. 23 September 2013.

- **Inclined Flow:** This loss has been included to account for the estimated impact of inclined (non-horizontal) flow on power production.

Environmental

- **Icing:** This loss reflects decreased rotor aerodynamic efficiency caused by the accumulation of ice on the turbines during plant operation, as well as turbine shutdowns caused by excessive ice accumulation. The icing losses are estimated from site weather data, including the expected frequency and duration of freezing precipitation and rime ice formation.
- **Blade Degradation:** This loss reflects changes to the aerodynamic efficiency of the turbine blades over time and consists of long- and short-term components. Long-term impacts result from normal wear and are caused by factors such as the permanent effects of sun exposure, wind-blown sand, and the freeze/thaw cycle of moisture within micro-cracks on the blades. These factors typically affect the leading edge of the blade and result in performance degradation over time. Short-term effects generally result from the accretion of insects and dirt. This factor is estimated from the expected dust and insect accumulation in the area and the frequency of precipitation, which cleans the blades.
- **Low/High Temperature Shutdown:** This loss value is calculated based on the energy that will be lost when the turbine shuts down due to temperatures outside the operating design envelope.
- **Site Access:** Severe weather can limit access to some sites, which can reduce energy production because response times for repairs are increased. This situation often occurs in areas prone to heavy snow. However, offshore projects may also be strongly affected. This loss is estimated based on weather data and other site specific information.
- **Lightning:** Lightning can damage turbine components and cause electrical faults resulting in shutdowns. This loss is estimated from meteorological data indicating the likely frequency of lightning at the site.

Curtailments

Directional Curtailment: AWS Truepower has reviewed the Wind Power Plant Assessment (WPPA) for the Courtenay wind project which indicated that directional curtailment was not required for the layout in its current configuration when utilizing the Vestas V100-2.0 MW turbine model.

- **PPA Curtailment:** If the wind farm is forced to curtail production, loss of revenue could result from the sale of energy and or loss of production incentives. Typically, AWS Truepower does not have sufficient information to assign a value to this loss. Consequently, it is typically set to zero unless loss data is supplied by the client.
- **Environmental Curtailment:** If the wind farm is required to comply with certain operational standards due to environmental constraints, an environmental curtailment loss may be estimated. Production may be curtailed due to habitat concerns, noise restraints, shadow flicker, and other such environmental issues. Typically, AWS Truepower does not have sufficient information to assign a value to this loss. Consequently, it is normally set to zero unless specific restrictions are supplied by the client.

APPENDIX B – INDIVIDUAL UNCERTAINTY DESCRIPTIONS

- **Site Documentation and Verification**: This uncertainty addresses the quality and independence of the available information describing the site characteristics and monitoring equipment. Specific items considered include the quality and comprehensiveness of tower commissioning and verification documents; the quality and number of photographs depicting each mast and its surroundings; and information regarding obstacles potentially affecting the wind flow at each mast.

- **Wind Speed Measurements**: This is the uncertainty in anemometer readings of the free-stream wind speed. It reflects not just uncertainty in the sensitivity of the instruments when operating under wind-tunnel conditions, but also uncertainty in their performance in the field, where they may be subject to turbulent and off-horizontal winds, tower effects, and problems such as icing that may be missed in the validation. In addition, where applicable, the uncertainty in empirical adjustments applied to account for factors such as turbulence or the impact of wakes from existing turbines on observed wind speeds is considered.

- **Long-Term Average Speed**: This uncertainty addresses how accurately the site data, after the MCP adjustment, may represent the historical average wind resource. AWS Truepower has undertaken a study of wind speed interannual variability and has produced an interannual variability map using the global ERA-Interim reanalysis dataset.[18] The map suggests that the standard deviation of annual mean wind speeds for the Courtenay Project is about 3.1%. It is assumed that the annual mean varies randomly according to the normal distribution, and thus the error margin varies inversely with the square root of the number of years. The estimated uncertainty accounts also for the degree of correlation between the target and reference station, the length of the reference period of record, and the data recovery at each mast.

- **Evaluation Period Wind Resource**: This uncertainty is associated with how closely the wind resource over the evaluation period may match the long-term site average. The estimated value assumes a 10-year evaluation period, 3.1% interannual variation in the mean speed, and 0.5% uncertainty associated with possible climate oscillations and trends.

- **Wind Shear**: The wind shear uncertainty includes the uncertainty in the observed shear due to possible measurement errors and the uncertainty in the change in shear above mast height. The estimated value considers the site conditions, anemometer heights, hub height(s), and measurement uncertainties at each mast.

- **Wind Flow Modeling**: The uncertainty in the array-average free-stream wind speed at the turbines, relative to the masts, depends on the wind climate, terrain complexity and vegetation density and variation, characteristics of the wind flow model, and number of masts used to adjust the resource grid and their representativeness of the turbine layout.

- **Wind Speed Frequency Distribution**: Like the mean wind speed, the wind speed frequency distribution varies over time. Our research indicates that the interannual variability of the energy production directly related to the wind speed frequency distribution is typically about 1.4%. The estimated uncertainty in the long-term energy production estimate

18 Michael C. Brower, et al., "A Study of Wind Speed Variability Using Global Reanalysis Data", AWS Truepower, May 2013.

considers this factor along with the on-site period of record and the length of the evaluation period.

- **Plant Losses**: AWS Truepower has used operational data to quantify the uncertainties associated with our estimates for plant availability, electrical, and turbine performance losses for the evaluation period, as well as for the first year and any subsequent year. When these values are combined with the estimated uncertainties due to environmental factors and directional curtailment, the plant operational loss uncertainty is estimated to be 3.2% over the 10-year evaluation period. (Uncertainties associated with grid curtailment losses are not considered here.) In addition, based on the DAWM validation findings, we estimate the uncertainty in the wake loss calculations to be 20% of the total wake loss. The operational and wake loss uncertainties are combined as the square root of the sum of their squares.

GERONIMO ENERGY

April 29, 2015

Mr. Darrell Nitschke, Executive Secretary
North Dakota Public Service Commission
Department 408
600 East Boulevard,
Bismarck, ND 58505-0408

Re: In the Matter of the Application of Northern States Power Company to Transfer the Certificate of Site Compatibility Number 36
Case NO. PU-15-__

Dear Mr. Nitschke:

Geronimo Energy, LLC and Northern States Power Company ("NSP") have entered into an agreement for the sale and purchase of Courtenay Wind Farm, LLC. As a part of the agreement, Courtenay's Certificate of Site Compatibility Number 36 is to be transferred to NSP. Geronimo Energy hereby supports the transfer of Certificate of Site Compatibility Number 36 to Northern States Power Company.

Sincerely,

Betsy Engelking
Betsy Engelking
Vice President

7650 EDINBOROUGH WAY, STE 725, EDINA, MN 55435| P 952.988.9000 | F 952.988.9001
www.geronimoenergy.com

IN THE MATTER OF THE APPLICATION OF NORTHERN STATES POWER COMPANY TO TRANSFER THE CERTIFICATE OF SITE COMPATIBILITY NUMBER 36.

Case No. PU-15-_____

AFFIDAVIT OF CHRISTOPHER B. CLARK

Christopher B. Clark, under oath, states:

1. I am employed by Northern States Power Company, a Minnesota corporation (NSP or the Company), which is a public utility operating subsidiary of Xcel Energy Inc., a registered public utility holding company. My business address is 414 Nicollet Mall, Minneapolis, Minnesota 55401. My title is President – Northern States Power Company – Minnesota.

2. I have more than 20 years of experience in the public utility industry and have worked extensively in connection with the Company's purchases and construction of wind energy generation facilities. The Company's engineering and construction team has extensive experience in the field of engineering and construction of electric power infrastructure.

3. I am submitting this Affidavit in support of the Company's request for the transfer of Certificate of Site Compatibility Number 36, which was granted by the North Dakota Public Service Commission ("Commission") in Case No. PU-13-64, from Courtenay Wind Farm, LLC to the Company.

4. I have reviewed all of the terms and conditions of Certificate of Site Compatibility Number 36.

5. The Company agrees to abide by all of the terms and conditions in Certificate of Site Compatibility Number 36 and stands ready, willing and able to perform the obligations stated therein.

6. I have authority to bind the Company in the commitments made in this Affidavit.

Dated this 30th day of April, 2015.

Christopher B. Clark

Subscribed and sworn to before me
this 30th day of April, 2015.

Barbara J Bridgeman
Notary Public
My Commission Expires: 1/31/2020

Barbara J Bridgeman
NOTARY PUBLIC
MINNESOTA
January 31, 2020

STATE OF NORTH DAKOTA
BEFORE THE
PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE APPLICATION OF NORTHERN STATES POWER COMPANY FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR THE 200 MW COURTENAY WIND FARM PROJECT	Case No. PU-15-_____
IN THE MATTER OF THE APPLICATION OF NORTHERN STATES POWER COMPANY TO TRANSFER THE CERTIFICATE OF SITE COMPATIBILITY NUMBER 36	Case No. PU-15-_____

APPLICATION FOR TRADE SECRET PROTECTION

Northern States Power Company (Xcel Energy or Company) respectfully requests the North Dakota Public Service Commission (Commission) enter a trade secret protective order in the above referenced case pursuant to Chapter 69-02-09 of the North Dakota Administrative Code. The purpose of the requested protective order is to protect trade secret and commercial information as defined by N.D.C.C. § 44-04-18.4 from public disclosure pursuant to N.D.C.C. § 44-04-18 or any other applicable public disclosure laws.

1. A general description of the nature of the information sought to be protected.

The information for which the Company seeks protection includes cost information as well as contract terms regarding the Company's proposal to construct, own and operate the 200 MW Courtenay Project, a wind generating facility located north of Jamestown, North Dakota which has been marked as trade secret in our Application for a Certificate of Public Convenience and Necessity and Request to Transfer Certificate of Site Compatibility in the above-referenced Cases.

The Company states that this information is commercial information because it is "information pertaining to buying and selling of goods and services that has not been previously publicly disclosed and that if the information were to be disclosed... would cause substantial competitive injury to the person from which the information was obtained," as provided in N.D.C.C. § 44-04-18.4(2)(a).

The Company further states that the cost information is trade secret because it is information that "(1) derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons that can obtain economic value from its disclosure; and (2) is the subject of efforts that are reasonable under the circumstances to maintain the secrecy of the information," as provided in N.D.C.C. § 44-04-18.4(2)(d). The Company further states that the information sought to be protected meets the definition of "trade secret" set forth in N.D.C.C. § 47-25.1-01(4).

2. Explanation of why the information derives independent economic value, actual or potential, from not being generally known to other persons.

The information could have economic value to potential vendors, contractors, and suppliers who may desire to bid to provide material or services to the Company. In particular, potential suppliers would know what the Company has determined to be the cost range for certain components of its proposal, and consequently the cost range could potentially serve as a floor below which no bidder would submit a bid price. Further, non-economic contract terms will provide potential vendors the opportunity to identify non-cost items of importance to the Company. Such a result could be harmful for the Company's customers.

3. An explanation why the information is not readily ascertainable by proper means by other persons.

The confidentiality of this information has been maintained by Xcel Energy. The information is not disclosed to the public or to persons other than employees or authorized agents who need to know the information to fulfill their responsibilities in connection with the Company proposal, or to third persons pursuant to nondisclosure agreement to maintain the confidentiality of the information.

The Company has requested that this information be treated as trade secret in all of its regulatory filings and other sharing of this information with governmental entities.

4. A general description of the persons or entities that would obtain economic value from disclosure or use of the information.

Other entities from which Xcel Energy purchases construction material and services could obtain economic value from disclosure of this information.

5. A specific description of known competitors and competitor's goods and services that is pertinent to the tariff or rate filing.

See response to No. 4 above.

6. A description of the efforts used to maintain the secrecy of the information.

See response to No. 3 above.

In accordance with Section 69-02-09-02 of the North Dakota Administrative Code, one copy of the trade secret material is provided in the enclosed sealed envelope which is labeled: **TRADE SECRET – PRIVATE**.

Respectfully submitted this 30th day of April, 2015

Northern States Power Company,

/s/

By: DAVID H. SEDERQUIST
SR. CONSULTANT, REGULATION & FINANCE