

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

Otter Tail Power Company
Advance Prudence – Merricourt Wind
Application

Case No. PU-17-

Otter Tail Power Company
PC&N – Merricourt Wind
Application

Case No. PU-17-

DIRECT TESTIMONY
OF
BRADLEY E. TOLLERSON
ON BEHALF OF
OTTER TAIL POWER COMPANY

Policy Testimony

PUBLIC DOCUMENT – NOT PUBLIC DATA HAS BEEN EXCISED

April 10, 2017

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Prefiled Direct Testimony of Bradley Tollerson - redacted
Otter Tail Power Company
Cary Stephenson, Assoc. General Counsel
- 5 PU-17-141 Filed 04/10/2017 Pages: 14
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Otter Tail Power Company
Cary Stephenson, Assoc. General Counsel

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I. INTRODUCTION AND QUALIFICATIONS

1
2
3 Q. PLEASE STATE YOUR NAME AND TITLE.

4 A. My name is Bradley E. Tollerson, and I am the Vice President of Planning and
5 Strategy for Otter Tail Power Company (Otter Tail or the Company).
6

7 Q. PLEASE DESCRIBE YOUR QUALIFICATIONS AND EXPERIENCE.

8 A. I have a Bachelor of Science degree in electrical engineering and a Master's degree in
9 business administration from North Dakota State University. I have worked for Otter
10 Tail for 20 years in various positions, including as an Electrical Engineer, Senior
11 Project Engineer, and Manager of Power Services. I have served in my current
12 position as Vice President of Planning and Strategy since June of 2014.
13

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

15 A. The purpose of my testimony is to provide support for Otter Tail's application for an
16 Advance Determination of Prudence (ADP) and a certificate of public convenience
17 and necessity (CPCN) for the Company's proposed purchase, development,
18 ownership, and operation of the Merricourt wind farm (Merricourt Project or Project),
19 a 150-megawatt (MW) wind generation facility to be located near Merricourt, North
20 Dakota. In my testimony, I address the following topics:

- 21 • Our proposed resource addition;
- 22 • The prudence of the resource addition; and
- 23 • The other witnesses testifying on behalf of the Company.

24 Additionally, I sponsor the Company's application for an ADP and CPCN and am
25 available to answer questions regarding it.
26

27 **II. OVERVIEW OF THE PROJECT**

28
29 Q. PLEASE DESCRIBE THE MERRICOURT PROJECT.

30 A. The Merricourt Project is a 150 MW wind energy generation facility that will be
31 located near the small town of Merricourt, North Dakota, approximately fifteen miles

1 south of Edgeley in McIntosh and Dickey Counties. The Project will consist of 75
2 two-MW Vestas V110 wind turbine generators and associated infrastructure, on a
3 footprint comprising approximately 13,000 acres of land. The Project's energy output
4 is expected to be approximately 666,000 megawatt hours (MWh) annually, at a
5 projected net capacity factor of 50.7%. The Project will interconnect to Montana-
6 Dakota Utilities Company's Merricourt 230 kV substation located approximately 13
7 miles southwest of Kulm, North Dakota.

8
9 Q. HOW IS THE PROJECT BEING DEVELOPED?

10 A. The project is being developed and constructed by subsidiaries of EDF Renewable
11 Energy, Inc. (EDF) as a turnkey project. Under an Asset Purchase Agreement (APA),
12 Otter Tail will, upon closing of the agreement, become owner of the development
13 assets. Upon closing, pursuant to a corresponding Turnkey Engineering, Procurement,
14 and Construction (TEPC) Agreement, EDF will construct the Project on a turnkey
15 basis. Upon EDF's completion of construction, the Company will take delivery of a
16 fully operational 150 MW wind farm. The Project is expected to be placed in service
17 in 2019 ahead of the time frame for capturing the full value 100% federal production
18 tax credit (PTC). Additional details regarding the Project and the agreements with
19 EDF are discussed in the Direct Testimony of Harvey McMahon.

20
21 Q. WHY IS THE COMPANY PROPOSING TO OWN, OPERATE, AND MAINTAIN
22 THE MERRICOURT PROJECT RATHER THAN PURCHASE ENERGY UNDER
23 A POWER PURCHASE AGREEMENT (PPA)?

24 A. The Company engaged in analyses to assess the benefits and risks of Company
25 ownership of the Merricourt Project. The analyses were also informed by the
26 Company's previous ownership of wind generation. Under the scenarios analyzed, the
27 Merricourt Project is expected to result in net savings for our customers over the
28 Project's life. Ownership of the Project allows our customers to reap these benefits
29 over a longer period of time than would be possible under a PPA, thereby providing
30 additional cost savings to Otter Tail customers.

31

1 Q. WHAT ARE THE ESTIMATED COSTS FOR THE PROJECT?

2 A. The total cost of the Project is estimated to be approximately [NOT PUBLIC DATA
3 **BEGINS...** ...NOT PUBLIC DATA ENDS], which includes the
4 Company's payments to EDF as well as reasonable oversight costs, taxes, anticipated
5 interconnection costs, and a reasonable contingency fund, yielding a levelized cost of
6 energy of [NOT PUBLIC DATA BEGINS... ...NOT PUBLIC DATA
7 **ENDS]**. Company witnesses Randy Synstelien and Harvey McMahon provide
8 additional information regarding the cost of the Project in their respective Direct
9 Testimony.

10

11 Q. IS THE MERRICOURT PROJECT NEEDED?

12 A. Yes. Otter Tail has forecasted a need for both capacity and energy as a result of:
13 (1) forecasted load growth; (2) the expiration of capacity purchase agreements; and
14 (3) the anticipated 2021 retirement of the Company's Hoot Lake Plant Units 2 and 3.
15 The Company's current analysis shows that without adding replacement capacity and
16 energy, Otter Tail will have a capacity deficit of approximately 273 MW in 2021.
17 Under such a scenario, we would need to source between 26% and 31% of energy
18 from the energy market.

19

20 As discussed in the Company's most recent Integrated Resource Plan (IRP),¹ the
21 Merricourt Project is the initial component of the Company's two-part plan to meet
22 our customers' growing energy needs. The other component of this plan is the
23 construction of an approximately 250 MW frame-style, natural gas-fired, simple cycle
24 generating facility known as Astoria Station. Additional details regarding the need for
25 the Merricourt Project and the resource planning analysis supporting the need for the
26 Project are addressed in the Direct Testimony of Brian Draxten and Randy Synstelien.

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¹ Otter Tail's most recent IRP was submitted to the Commission on June 15, 2016, in Case No. PU-16-308.

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Q. HOW DID THE COMPANY SELECT THE MERRICOURT PROJECT?

A. As part of the Company’s 2013 resource planning cycle, Otter Tail analyzed potential replacement scenarios in anticipation of the retirement of Hoot Lake Plant. This analysis indicated that market purchases should be made to meet the Company’s energy needs when wind was offered for selection by the model at \$45/MWh. When wind was offered to the model at \$30/MWh it was selected, which showed that at that price or below, acquiring 150 MW of wind in 2021 was the most economic choice to meet Otter Tail’s energy needs. In the Company’s most recent, 2016, resource planning cycle, Strategist continued to select a wind-plus-gas configuration under updated assumptions in all scenarios analyzed. This confirmed the prudence of moving forward with the two-part plan.

Once the Company determined to move forward with a wind resource, and after the federal PTC was extended in December 2015, the Company undertook a solicitation process to probe the market and assess project options. Based on an analysis of ten proposals received in response to that solicitation, the Merricourt Project had the lowest levelized price of any project proposed during the solicitation process. On this basis, the Merricourt Project was selected to provide the wind component of the Company’s wind-plus-gas resource addition.

After Otter Tail selected the Merricourt Project as the least-cost wind resource available to it, Otter Tail refined its modelling efforts with specific information related to the Merricourt Project (rather than the previous generic modelling) to confirm the prudence of moving forward with the Project. Otter Tail’s analyses indicate that the Merricourt Project will provide cost savings to its customers of approximately \$112 million over the life of the Project. Otter Tail expects that the savings will begin in the second year of the Merricourt Project’s operation and last through the Project’s life. Additionally, Otter Tail’s modelling suggests that the addition of the Merricourt Project will reduce Otter Tail’s reliance on potentially volatile energy markets to serve its customers from between 26% to 31%, to between 16% and 20%.

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Q. HOW WILL THE MERRICOURT PROJECT MEET CUSTOMER NEEDS?

A. The Merricourt Project will help keep energy prices for Otter Tail Power Company’s customers as low as possible. The Merricourt Project is a cost-effective opportunity for the Company that provides numerous benefits including a hedge against future MISO energy market prices, a hedge against increases in future natural gas prices, greater fuel source diversity in the Company’s generation mix, and the ability to capture value from available tax incentives.

III. PRUDENCE OF THE RESOURCE ADDITION

Q. IS THE PROJECT A PRUDENT RESOURCE ADDITION?

A. Yes. The Project will provide significant quantitative and qualitative benefits to our customers and will result in customer net savings. The Company has negotiated agreements with EDF that create an appropriate balance of the benefits and risks associated with our eventual ownership of the Project. Moreover, the Project enjoys a rebuttable presumption of prudence by virtue of being located in North Dakota.

Q. PLEASE SUMMARIZE THE QUANTITATIVE BENEFITS OF THE RESOURCE ADDITIONS.

A. The Company’s Strategist modelling shows the Project will result in net savings for customers over its life. The levelized cost of the Merricourt Project is almost 30% below the \$30/MWh threshold established in Otter Tail’s resource planning for the selection of cost effective wind resources. In other words, by adding this resource to the Company’s generation mix, we expect to be able to reduce our overall rates on a present value of revenue requirements basis. Company witness Randy Synstelien addresses the Strategist modelling in greater detail in his Direct Testimony.

Q. PLEASE SUMMARIZE THE QUALITATIVE BENEFITS OF THE RESOURCE ADDITIONS.

1 A. In addition to anticipated cost savings, the Project will increase the diversity of Otter
2 Tail's overall resource mix, reduce reliance on energy markets, and provide a hedge
3 against natural gas price fluctuations. Moreover, the cost of wind energy is at all-time
4 lows and can be locked-in for the life of the facility, providing a long-term stable
5 energy market price hedge. Otter Tail's service territory includes some of the best
6 wind resources in the country, providing an economical generation resource with low
7 potential for transmission congestion due to its proximity to Otter Tail load.

8
9 Further, the Merricourt Project, paired with Astoria Station, represents remarkable
10 energy value for customers and prudently mitigates financial risk associated with
11 exposure to the market. By pairing Astoria Station and the Merricourt Project we are
12 also adding a dispatchable, load-following resource to provide reliability support and
13 energy market hedging. As Mr. Synstelien discusses, the combination of the
14 Merricourt Project and Astoria Station provides additional cost savings to Otter Tail's
15 customers.

16
17 Q. WHAT ARE THE ADDITIONAL BENEFITS TO NORTH DAKOTA IN
18 CONSTRUCTING THE PROJECT?

19 A. In addition to low-cost energy for our North Dakota customers, landowner payments
20 and tax base will yield benefits to North Dakota and local political subdivisions.
21 Direct economic benefits of the Merricourt Project include about \$700,000 per year in
22 lease payments to local landowners and approximately \$700,000 per year in property
23 taxes. Further, the Project is expected to create greater than 150 construction jobs and
24 10 full-time positions, and inject millions of dollars in economic benefits to the local
25 area. Some of the construction-related activity is likely to include North Dakota
26 contractors and suppliers. Additional benefits to all of Otter Tail's system, including
27 North Dakota, include price protection against future MISO energy prices, price
28 protection against increases in future natural gas prices, greater fuel source diversity in
29 the Company's generation mix, and the ability to capture significant value from tax
30 incentives.

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Q. ARE THERE RISKS ASSOCIATED WITH THE MERRICOURT PROJECT?

A. There are risks associated with the Project, just as there are risks with any project. Risks associated with this particular project include counterparty risk, interconnection cost risk, PTC risk, and real estate and environmental risks.

Q. WHAT RISKS EXIST WITH RESPECT TO INTERCONNECTION COSTS FOR THE PROJECT?

A. The Company is subject to interconnection cost risk due to the potential for higher than anticipated costs. Final interconnection costs have not yet been determined. The Project is in the Midcontinent Independent System Operator Inc. (MISO) interconnection queue, in the August 2016 study group. The Company currently estimates that studies for the August 2016 study group will begin in the summer of 2017 with initial identification of interconnection costs for the Project becoming available in late fall of 2017.

Q. WHAT STEPS DID THE COMPANY TAKE TO MITIGATE THE RISKS RELATED TO INTERCONNECTION FOR THE PROJECT?

A. To address interconnection cost risk generally, the Company has **[NOT PUBLIC DATA BEGINS... ..NOT PUBLIC DATA ENDS]**. Additionally, we have negotiated contractual provisions designed to mitigate this cost risk. Company witness Harvey McMahon provides additional discussion in his Direct Testimony regarding this cost risk and the Company's efforts to address it.

Q. WHAT RISK EXISTS WITH RESPECT TO THE PROJECT'S QUALIFICATION FOR THE PTC?

A. To be eligible for 100% of the PTC, without phase down, tax laws require that construction of a qualifying facility must have begun before January 1, 2017. Additionally, project construction must be completed by 2020. The IRS issued

1 guidance providing two alternative tests under which a project may qualify for the
2 100% PTC: the “physical work test” and the “5% safe harbor.” The Project is using
3 the 5% safe harbor. The overall cost of the Project would increase significantly in the
4 absence of the 100% PTC.

5
6 Q. WHAT STEPS HAS THE COMPANY TAKEN TO MITIGATE THE RISK OF THE
7 PROJECT NOT QUALIFYING FOR THE PTC?

8 A. The Company negotiated contractual provisions to help ensure the Project will qualify
9 for 100% of the PTC and has conducted due diligence to help ensure the Project will
10 qualify. Additional details regarding the steps taken to mitigate the risk associated
11 with the Project qualifying for 100% PTC are discussed in the Direct Testimony of
12 Harvey McMahan.

13
14 Q. WHAT ARE THE REAL ESTATE AND ENVIRONMENTAL RISKS RELATED
15 TO THE PROJECT AND WHAT STEPS WERE TAKEN TO MITIGATE THOSE
16 RISKS?

17 A. Before moving forward with the Project, the Company engaged in significant due
18 diligence to identify potential risks and seek ways to mitigate those risks. Potential
19 environmental and real estate risks include permitting, land use, siting, threatened and
20 endangered species impacts, avian impacts, wetlands, and construction-related
21 permitting requirements. Based upon its investigation, the Company determined that
22 risk associated with real estate and environmental issues could largely be mitigated by
23 actions EDF is contractually obliged to undertake. Company witness Harvey
24 McMahan provides additional information regarding our due diligence efforts and
25 contract provisions designed to mitigate risk related to the Project.

26
27 Q. HAS THE COMPANY TAKEN STEPS TO MITIGATE ITS COUNTERPARTY
28 RISK?

29 A. Yes. EDF is a strong partner with significant experience with wind development and
30 partnering with such an experienced developer is reasonable and prudent. That said,
31 Otter Tail’s contracts with EDF have several provisions to mitigate counterparty risk
32 and construction risk, including indemnities, guarantees from EDF’s parent, and the

1 ability for Otter Tail to step into key agreements for turbines and balance of plant
2 construction. These provisions, and other industry standard protections provided for
3 in the Company's agreements with EDF, are discussed in more detail by Mr.
4 McMahon.

5
6 Q. IS THE COMPANY FIT, WILLING, AND ABLE TO ASSUME OWNERSHIP AND
7 OPERATE THE PROJECT?

8 A. Yes. The Company owns, operates, and maintains similar wind generation facilities
9 elsewhere in North Dakota. The Company has operated these very successfully and
10 our customers have been well-served by these generation additions.

11
12 Q. IS THE TRANSACTION CONTINGENT UPON ANY APPROVALS FROM THIS
13 COMMISSION?

14 A. Yes. The Company's obligation to pay EDF for the development assets and the
15 parties' obligations to proceed with construction of the project under the TEPC
16 include the following regulatory approvals: (1) approval of EDF's amended certificate
17 of site compatibility (updated to account for the model of Vestas wind turbine
18 generators to be supplied under the TEPC); (2) approval of EDF's transfer of the
19 amended certificate of site compatibility to the Company; and (3) approval of this
20 application for an ADP and CPCN.

21
22 Q. DOES THE COMPANY HAVE THE ABILITY TO TERMINATE THE ASSET
23 PURCHASE AGREEMENT IF REGULATORY APPROVALS ARE NOT
24 RECEIVED?

25 A. Yes, if regulatory approvals are not received, the Company has the right to terminate
26 the APA and end its involvement in the Project.

27
28 Q. THE COMPANY FILED A CONTEMPORANEOUS ADP APPLICATION FOR
29 THE ASTORIA PROJECT. DOES A DETERMINATION REGARDING THAT
30 APPLICATION IMPACT THE MERRICOURT PROJECT?

1 A. No. While the Company's two-part plan to meet our customers' energy needs with
2 this Project and the Astoria Project provides least-cost capacity and energy for the
3 Otter Tail system in the most prudent fashion, even without the gas generation
4 component, the Merricourt Project remains prudent as a needed and least-cost energy
5 resource providing low-cost energy and material hedge value to the Company's
6 customers.

7
8 **IV. PRESENTATION OF WITNESSES**

9
10 Q. WHO ARE THE OTHER WITNESSES FOR THE COMPANY IN THIS
11 PROCEEDING?

12 A. In addition to my policy testimony, the Company sponsors the following witnesses:

- 13 • **Brian Draxten** provides an overview of the Company's resource planning and a
14 summary of the need for the Project;
- 15 • **Randy Synsteliën** provides information about the resource planning analysis that
16 was conducted by the Company to evaluate the cost-effectiveness of this resource;
17 and
- 18 • **Harvey McMahan** provides more detailed information about the contracts
19 necessary to acquire the Merricourt Project development assets and construct the
20 Project. Mr. McMahan also discusses the ways in which Project risks are
21 addressed.

22
23 **V. CONCLUSION**

24
25 Q. PLEASE SUMMARIZE YOUR TESTIMONY.

26 A. The Merricourt Project is a low-cost North Dakota based generation resource with a
27 rebuttable presumption of prudence under North Dakota law. It is an essential
28 component of a two-part plan to meet our customers' growing energy needs, replace
29 expiring capacity purchase agreements, and prepare for the 2021 retirement of Hoot
30 Lake Plant. As demonstrated in the application for ADP and CPCN, and supporting
31 testimony, the resource addition is prudent because it is least-cost and the risks

1 associated with the Company's ownership, and EDF's further development and
2 construction, have been appropriately mitigated.

3

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

5 A. Yes, it does.

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Otter Tail Power Company
Advance Prudence – Merricourt Wind
Application

Case No. PU-17-__

Otter Tail Power Company
PC&N – Merricourt Wind Application

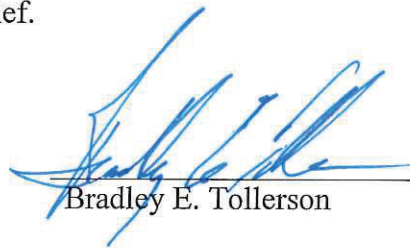
Case No. PU-17-__

VERIFICATION

STATE OF MINNESOTA)
) ss.
COUNTY OF OTTER TAIL)


BRADLEY E. TOLLERSON, being first duly sworn on oath, deposes and says that he is the Vice President of Planning and Strategy for Applicant Otter Tail Power Company; that the testimony and schedules submitted in the above-captioned matter under his name were prepared under his direction; and that he knows and verifies the contents thereof, and that the same is true and correct to the best of his knowledge and belief.

Dated this 10th day of April, 2017



Bradley E. Tollerson

Subscribed and sworn to before
me on this 10 day of April, 2017.



Notary Public
My Commission expires 1-31-22

