

MONTANA-DAKOTA UTILITIES CO.

Before the Public Service Commission of North Dakota

Case No. PU-25-____

Direct Testimony
of
Darcy J. Neigum

1 **Q. Please state your name and business address.**

2 A. My name is Darcy J. Neigum and my business address is 400
3 North Fourth Street, Bismarck, North Dakota 58501.

4 **Q. By whom are you employed and in what capacity?**

5 A. I am the Vice President of Energy Supply for Montana-Dakota
6 Utilities Co. (Montana-Dakota).

7 **Q. Please describe your duties and responsibilities with Montana-**
8 **Dakota.**

9 A. I have executive responsibility for the electric generation and
10 delivery arrangements for our electric customers across Montana-
11 Dakota's four state electric utility and gas supply responsibility across our
12 natural gas distribution companies located across eight states.

13 **Q. Please outline your educational and professional background.**

14 A. I hold a Bachelor of Science Degree in Electrical and Electronics
15 Engineering from North Dakota State University as well as a Masters of
16 Business Administration from the University of Mary. I have been
17 employed with Montana-Dakota and the MDU Resources family of

1 companies for twenty-nine years, with most of that time spent working in
2 Montana-Dakota's power production and system operation & planning
3 departments.

4 **Q. What is the purpose of your testimony in this proceeding?**

5 A. I will provide support for the Company's request for an Advance
6 Determination of Prudence (ADP) and Certificate of Public Convenience
7 and Necessity (CPCN) for Montana-Dakota's purchase of an undivided
8 49% interest in the Badger Wind Project (Badger Wind or Project) as a
9 prudent generation resource addition available to the Company.

10 **Q. Can you describe how the company became aware of the Badger
11 Wind Project opportunity?**

12 A. Badger Wind connects to Montana-Dakota's electric transmission
13 system near Wishek, ND. Montana-Dakota signed a generator
14 interconnection agreement with Badger Wind, LLC on May 12, 2022. In
15 early 2024, Badger Wind, LLC entered into a Midcontinent Independent
16 System Operator (MISO) facility service agreement with Montana-Dakota
17 for the cost responsibility associated with the transmission network
18 upgrades for the Badger Wind Project. The signing of the facility service
19 agreement signaled to Montana-Dakota that Badger Wind, LLC was going
20 to move forward with the development of the Project.

21 In March of 2024, Montana-Dakota reached out to Orsted Onshore
22 North America (Orsted), the parent of Badger Wind, LLC, to inquire about
23 available off-take arrangements for the Project as no public
24 announcements had been made.

1 Montana-Dakota and Orsted discussed potential power purchase
2 arrangements and indicative pricing which led to the assumptions for the
3 150 MW power purchase agreement scenario (New Wind Opportunity) in
4 Montana-Dakota's 2024 Integrated Resource Plan (IRP). The New Wind
5 Opportunity scenario in the 2024 IRP showed greater savings than the
6 Company's base case scenario and led to the action item in the 2024 IRP
7 to further evaluate this project opportunity¹.

8 **Q. Can you describe the transaction with Orsted North America**
9 **regarding the Badger Wind Project?**

10 A. On November 4, 2024, Montana-Dakota entered into a 20-year
11 power purchase agreement (PPA) with Badger Wind, LLC, an Orsted
12 company, for a 150 MW output purchase from the 250 MW Badger Wind
13 Project. The Badger Wind PPA included a 20-year flat energy price which
14 includes all the capacity and renewable energy credits associated with the
15 150 MW share of the Project output.

16 The 20-year Badger Wind PPA included an option for Montana-
17 Dakota to purchase a 49 percent undivided ownership interest in the
18 Project. Montana-Dakota has elected to exercise this purchase option and
19 signed a purchase agreement with Badger Wind LLC and an on-going
20 Project operation and maintenance agreement. Montana-Dakota's
21 ownership purchase will become effective at the commercial operation

¹ [MDU 2024 Integrated Resource Plan Attachment C](#) – Supply Side & Integration Document. Pages 16-23, and Page 32 in Case No. PU-24-294.

1 date (COD) for the Badger Wind Project which is expected to occur
2 around December 1, 2025.

3 **Q. What is the effect on the Badger Wind PPA if Montana-Dakota's filing**
4 **for the Badger Wind ADP and CPCN are approved by the North**
5 **Dakota Public Service Commission (ND PSC)?**

6 A. The Badger Wind purchase agreement contains a condition
7 precedent for the satisfactory approval of the Company's application for an
8 ADP and CPCN for the Badger Wind Project with the ND PSC. If both
9 these requests are approved to Montana-Dakota's satisfaction, then the
10 condition precedent will be met, and Montana-Dakota can close on the
11 purchase transaction effective at COD. Upon purchasing the 49%
12 undivided interest, the amount of output under the Badger Wind PPA will
13 be reduced from 150 MWs to 27.5 MWs (remainder PPA). Montana-
14 Dakota's ownership share in the Badger Wind Project will be 122.5 MWs
15 or 49 percent of the Project.

16 If the ADP and CPCN are not approved, then the purchase
17 agreement will terminate, and the Company will be bound to the full 150
18 MW PPA with Badger Wind for its 20-year term.

19 **Q. What is the purchase price for the Badger Wind Project?**

20 A. Montana-Dakota's target purchase price for the Badger Wind
21 Project is \$294 million with possible adjustments for target budget
22 overages. Montana-Dakota is also estimating an additional \$1.5 million in
23 internal legal fees, employee labor, and capitalized interest on the Project.

1 **Q. Can you describe the financial model and analysis Montana-Dakota**
2 **conducted regarding the Badger Wind Opportunity?**

3 A. Montana-Dakota developed a financial model and annual revenue
4 requirement, see Confidential Exhibit No. ___(DJN-1), based upon inputs
5 that it received from Badger Wind, LLC. which included:

- 6 1. Capital Cost of \$295.5 million (includes internal costs).
- 7 2. 35-year project life.
- 8 3. O&M costs from Badger Wind, LLC which included [TRADE
9 **SECRET DATA BEGINS] [TRADE SECRET**
10 **DATA ENDS] maintenance service agreement from General**
11 **Electric.**
- 12 4. 9.75 percent return on equity with 50 / 50 capital structure based
13 upon Montana-Dakota's last North Dakota electric rate case in
14 Case No. PU-22-194.
- 15 5. Fifty-two percent (52%) net Project capacity factor from the P50
16 wind study conducted by Badger Wind, LLC.
- 17 6. 2.8 cents per Kwh Federal Production Tax Credit (PTC) for wind
18 projects, plus the ten percent domestic content adder available
19 through the Inflation Reduction Act of 2022. The company used a
20 one and a half percent escalation factor per year.

21 The results of the revenue requirement modeling were used on an
22 annual \$/MWh basis in the updated 2024 IRP modeling study which
23 showed the Badger Wind Purchase Option was a least cost option for the

1 Company over the original base case and the New Wind Opportunity
2 sensitivity in the original 2024 IRP.

3 **Q. How did the levelized annual \$/MWh from the ownership model**
4 **compare with the Badger Wind PPA price?**

5 A. The Badger Wind PPA has a [TRADE SECRET DATA BEGINS]
6 [TRADE SECRET DATA ENDS] over the 20-
7 year term of the agreement. Montana-Dakota also received a 30-year PPA
8 price from Badger Wind, LLC of [TRADE SECRET DATA BEGINS]
9 [TRADE SECRET DATA ENDS]. This compares to an
10 ownership levelized cost of [TRADE SECRET DATA BEGINS]
11 [TRADE SECRET DATA ENDS] over the initial 20-year life of the
12 Project and an ownership levelized costs of [TRADE SECRET DATA
13 BEGINS] [TRADE SECRET DATA ENDS] over the 35-
14 year modeled life of the Project.

15 **Q. Why did Montana-Dakota use a 2.8 cent per Kwh base PTC**
16 **assumption?**

17 A. 2.8 cents per Kwh was the base PTC value when Montana-Dakota
18 conducted its Project analysis. The PTC value was adjusted in 2024 to a
19 value of 2.9 cents per Kwh. Using an initial PTC value of 2.9 cents per
20 Kwh, the 20-year and 35-year ownership levelized cost for the Project is
21 [TRADE SECRET DATA BEGINS]
22 [TRADE SECRET DATA ENDS]

23 **Q. How does the Badger Wind Project compare to other alternatives?**

1 A. The Winter direct loss of load (DLOL) case was the most limiting
2 seasonal case in the Company's 2024 IRP and should be used for
3 comparing alternatives.²

4 The Badger Wind Purchase Option plus remainder PPA in the
5 updated 2024 IRP Winter DLOL case provides \$111.5 million in modeled
6 Net Present Value (NPV) benefits over the New Wind Opportunity which
7 was the least cost sensitivity in the original 2024 IRP base case making it
8 the least cost modeled option for Montana-Dakota.³

9 The Badger Wind Purchase Option plus remainder PPA in the
10 updated 2024 IRP Winter DLOL case provides \$233 million in NPV
11 savings over the original base case in the 2024 IRP.⁴

12 As compared to MISO energy market purchase prices used in the
13 2024 IRP, the Badger Wind ownership option provides \$30 million in NPV
14 savings over the 35-year Project life and \$14.2 million in NPV savings
15 over the initial 20-year Project life.

16 **[TRADE SECRET DATA BEGINS]**

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² [MDU 2024 Integrated Resource Plan. Attachment C](#) – Supply Side & Integration Document. Pages 16-23 in Case No. PU-24-294.

³ See updated 2024 IRP modeling in Mr. Brian Giggee's testimony.

⁴ See updated 2024 IRP modeling in Mr. Brian Giggee's testimony.

1 **[TRADE SECRET DATA ENDS]**

2 As compared to PPA pricing, the Badger Wind ownership option

3 provides \$0.15 million in NPV savings over the initial 20-year Project.

1 **[TRADE SECRET DATA BEGINS]**

2

3 **[TRADE SECRET DATA ENDS]**

4 **Q. What are the benefits that Montana-Dakota considered when it**
5 **entered into the Badger Wind PPA and purchase option?**

6 A. 1. The Badger Wind Purchase Option and remainder PPA were
7 least cost options for the Company as indicated in the 2024 IRP
8 and the additional modeling analysis included in Mr. Brian Giggee's
9 testimony. The Badger Wind Purchase Option and remainder PPA
10 provides significant savings to customers over other supply side

1 options available to the Company including additional MISO energy
2 market purchases.

3 2. Montana-Dakota has a PPA with Minnkota Power
4 Cooperative (Minnkota) for 30 MW of purchased capacity and 75
5 MW of energy which is scheduled to terminate May 31, 2026.
6 Montana-Dakota reached out to Minnkota to determine if it was
7 possible to extend or renew the current Minnkota PPA. Minnkota
8 indicated that it would not be able to extend or renew that
9 agreement. From a capacity and energy standpoint, the Badger
10 Wind PPA and purchase option replace the Minnkota PPA on an
11 annual basis.

12 In the absence of the Badger Wind Project, Montana-
13 Dakota's MISO energy market purchases could increase to almost
14 fifty percent of its customer's needs after the expiration of the
15 Minnkota power purchase agreement.

16 3. The MISO generator interconnection queue is significantly
17 backlogged, and it is difficult to get a new generation project
18 through the queue in a timely manner or with any cost certainty
19 related to transmission network upgrades. MISO is working on
20 queue reforms and the construction of Long Range Transmission
21 Plan and Joint Transmission Interconnection Queue Study projects
22 to help with future interconnections but these projects will take five
23 to ten years or more to complete.

1 4. The Badger Wind Project has all its permits, leases, and
2 major agreements in place which limits unknowns and execution
3 risks. Badger Wind is expected to achieve commercial operation by
4 the end of 2025 which lines up with the expiration of the Minnkota
5 PPA on May 31, 2026. Montana-Dakota is not aware of any other
6 project opportunities like Badger Wind in its area on the MISO
7 system that are ready for immediate construction with limited
8 execution risks.

9 5. MISO's recently approved direct loss of load (DLOL)
10 resource accreditation shows an earlier need for Montana-Dakota
11 to acquire additional generation resources over MISO's current
12 resource adequacy construct. The Badger Wind Purchase Option
13 and PPA meet the projected capacity needs for the Company and
14 replace the 2027 combustion turbine identified in the 2024 IRP.⁵

15 6. Market energy prices around Wishek and Ellendale, North
16 Dakota have been negatively impacted with an excess amount of
17 wind generation and limited transmission outlet capacity to get all
18 the energy produced in the area to market. With the addition of the
19 data center loads at Ellendale, market price forecasts are showing
20 that the negative congestion prices are lessening, making new

⁵ [MDU 2024 Integrated Resource Plan, Attachment C](#) – Supply Side & Integration Document. Pages 16-23 in Case No. PU-24-294 and updated 2024 IRP modeling in Mr. Brian Giggee's testimony.

1 energy resources like Badger Wind economically viable again in the
2 market.

3 **Q. What is the status of the other 100 MWs of Badger Wind output**
4 **above Montana-Dakota's 150 MW share?**

5 Montana-Dakota understands that Badger Wind has two separate
6 PPAs for the remaining 100 MWs of Project output.

7 **Q. Does this conclude your direct testimony?**

8 **A. Yes, it does.**