STINSON
LEONARD
STREET

Andrew J. Gibbons
612.335.1438 **DIRECT**
andrew.gibbons@stinson.com

January 9, 2019

Via E-Dockets

Mr. Daniel P. Wolf
Executive Secretary
Minnesota Public Utilities Commission
121 Seventh Place East, Suite 350
Saint Paul, MN 55101-2147

Re: ***In the Matter of the Application of Dodge County Wind, LLC for a Certificate of Need and Site Permit for the Dodge County Wind Project and Associated Facilities in Dodge, Steele, and Olmsted Counties, Minnesota and a Route Permit for the 345 kV High-Voltage Transmission Line Associated with the Dodge County Wind Project in Dodge and Olmsted Counties***

Docket No. IP6981/CN-17-306
Docket No. IP6981/WS-17-307
Docket No. IP6981/TL-17-308
OAH Docket No. 5-2500-35668

Dear Mr. Wolf:

Enclosed for filing in the above-referenced dockets, please find an Amendment to Dodge County Wind LLC's Application for a Site Permit for the Dodge County Wind Project. Please let me know if you have any questions regarding this filing.

Sincerely,

Stinson Leonard Street LLP

Andrew J. Gibbons

Enclosure

BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

In the Matter of the Application of Dodge County Wind, LLC for a Certificate of Need and Site Permit for the Dodge County Wind Project and Associated Facilities in Dodge, Steele, and Olmsted Counties, Minnesota, and a Route Permit for the 345 kV High-Voltage Transmission Line Associated with the Dodge County Wind Project in Dodge and Olmsted Counties.	)	**Docket No. IP-6981/CN-17-306** **Docket No. IP-6981/WS-17-307** **Docket No. IP-6981/TL-17-308** **OAH Docket No. 5-2500-35668** **AMENDMENT TO SITE PERMIT APPLICATION**

Due to recent design changes to the Dodge County Wind Project (Project), Dodge County Wind, LLC (DCW or Applicant) is providing revisions and additional information for its previously submitted Large Wind Energy Conversion System Site Permit Application (Application) submitted in Docket No. IP6981/WS-17-307. Since submittal of the Application, DCW has designed a revised wind turbine layout within the original 52,085-acre Project Area. The revised layout incorporates changes in turbine technology resulting from a shift in the Project schedule, addresses changes in wind rights and associated setbacks, and implements feedback from landowners. This memorandum summarizes the changes in the design of the Project and the updates to the initial Application.

The initial Application proposed using 62 General Electric (GE) 2.5 megawatt (MW) wind turbines and eight GE 1.715 MW turbines. The revised Application proposes to utilize 60 GE 2.5 MW wind turbines and eight GE 2.3 MW wind turbines. The revised layout also includes four alternative turbine locations for a total of 72 turbine locations. A map comparing the previous and revised wind turbine arrays is provided in **Attachment A**. The Project's total capacity will remain approximately 170 MW. Additionally, access roads, collection routes, and crane walks were redesigned to accommodate the revised turbine array. **Table 1** provides a summary of the wind turbine design changes.[1]

[1] The table numbering in this amendment corresponds to the table numbering in DWC initial application.

Table 1: Summary of Dodge County Wind, LLC Site Permit Application Wind Turbine Changes

New Turbine Number	Old Turbine Number	Proposed Turbine Model	Turbine Model Change	Comment
1	1	GE 2.5	No Change	
2	2	GE 2.5	No Change	
3	3	GE 2.5	No Change	Turbine moved 128 ft
4	4	GE 2.5	No Change	
5	5	GE 2.5	No Change	Turbine moved 150 ft
6	6	GE 2.5	No Change	
7	7	GE 2.5	No Change	
8	8	GE 2.5	No Change	
9	9	GE 2.5	No Change	
10	10	GE 2.5	No Change	
11	11	GE 2.5	No Change	
12	N/A	GE 2.5	No Change	T12 is a new turbine location
13	13	GE 2.5	No Change	
14	14	GE 2.5	No Change	
15	15	GE 2.5	No Change	
16	16	GE 2.3	Changed to GE 2.3 MW	Turbine moved less than 1 ft

New Turbine Number	Old Turbine Number	Proposed Turbine Model	Turbine Model Change	Comment
17	18	GE 2.5	No Change	
18	19	GE 2.5	No Change	
19	20	GE 2.5	No Change	Turbine moved 203 ft
20	21	GE 2.5	No Change	
21	22	GE 2.5	No Change	
22	23	GE 2.3	Changed to GE 2.3 MW	Turbine moved less than 1 ft
23	24	GE 2.5	No Change	
24	25	GE 2.5	No Change	
25	26	GE 2.5	No Change	
26	27	GE 2.5	No Change	Turbine moved 283 ft
27	N/A	GE 2.5	No Change	T27 is a new turbine location
28	28	GE 2.5	No Change	
29	29	GE 2.5	No Change	Turbine moved 565 ft
30	30	GE 2.5	No Change	
31	31	GE 2.5	No Change	Turbine moved 142 ft
32	32	GE 2.5	No Change	

New Turbine Number	Old Turbine Number	Proposed Turbine Model	Turbine Model Change	Comment
33	33	GE 2.5	No Change	
34	35	GE 2.3	Changed to GE 2.3 MW	Turbine moved less than 1 ft
35	36	GE 2.5	No Change	
36	37	GE 2.5	No Change	
37	38	GE 2.5	No Change	Turbine moved 251 ft
38	39	GE 2.3	Changed to GE 2.3 MW	Turbine moved 2 ft
39	40	GE 2.5	No Change	
40	41	GE 2.5	No Change	
41	42	GE 2.5	No Change	
42	43	GE 2.5	No Change	
43	44	GE 2.3	Changed to GE 2.3 MW	Turbine moved 10 ft
44	N/A	GE 2.5	No Change	T44 is a new turbine location
45	45	GE 2.5	No Change	
46	46	GE 2.5	No Change	
47	47	GE 2.3	Changed to GE 2.3 MW	Turbine moved 2 ft
48	48	GE 2.5	No Change	

New Turbine Number	Old Turbine Number	Proposed Turbine Model	Turbine Model Change	Comment
49	50	GE 2.5	No Change	
50	N/A	GE 2.5	No Change	T50 is a new turbine location
51	N/A	GE 2.3	Changed to GE 2.3 MW	T51 is a new turbine location
52	54	GE 2.5	No Change	
53	55	GE 2.5	No Change	
54	51	GE 2.5	No Change	
55	52	GE 2.5	No Change	
56	Alt1	GE 2.3	Changed to GE 2.3 MW	
57	53	GE 2.5	No Change	
58	58	GE 2.5	No Change	
59	59	GE 2.5	No Change	
60	60	GE 2.5	No Change	
61	61	GE 2.5	No Change	
62	62	GE 2.5	No Change	
63	N/A	GE 2.5	No Change	T63 is a new turbine location
64	N/A	GE 2.5	No Change	T64 is a new turbine location

New Turbine Number	Old Turbine Number	Proposed Turbine Model	Turbine Model Change	Comment
65	66	GE 2.5	No Change	Turbine moved 2 ft
66	N/A	GE 2.5	No Change	T66 is a new turbine location
67	69	GE 2.5	No Change	
68	N/A	GE 2.5	No Change	T68 is a new turbine location
Alt1	Alt4	GE 2.5	No Change	Turbine moved 161 ft
Alt2	Alt5	GE 2.5	No Change	Turbine moved 146 ft
Alt3	49	GE 2.5	No Change	
Alt4	34	GE 2.5	No Change	
N/A	12	GE 2.5	N/A	Turbine 12 was removed
N/A	17	GE 1.7	N/A	Turbine 17 was removed
N/A	56	GE 2.5	N/A	Turbine 56 was removed
N/A	57	GE 2.5	N/A	Turbine 57 was removed
N/A	63	GE 2.5	N/A	Turbine 63 was removed
N/A	64	GE 2.5	N/A	Turbine 64 was removed
N/A	65	GE 2.5	N/A	Turbine 65 was removed
N/A	67	GE 2.5	N/A	Turbine 67 was removed

New Turbine Number	Old Turbine Number	Proposed Turbine Model	Turbine Model Change	Comment
N/A	68	GE 2.5	N/A	Turbine 68 was removed
N/A	70	GE 2.5	N/A	Turbine 70 was removed
N/A	Alt2	GE 2.5	N/A	Turbine Alt2 was removed
N/A	Alt3	GE 2.5	N/A	Turbine Alt3 was removed

The entirety of the Application was reviewed based on the revised Project design. Applicable portions of Sections 1.0 through 10.0 of the Application have been updated below. Also, the following maps and appendices have been updated **Maps 2 through 21** are attached in **Attachment B,** while **Appendix D (Pre-Construction Sound Analysis)**, **Appendix E (Shadow Flicker Analysis)**, and **Appendix F (Telecommunications Study)** have also been updated to reflect Project changes and are attached in **Attachment C**. If a section of the Application is not detailed below, or a Map or Appendix is not attached, then no changes to the Application were required and the original text remains accurate. Finally, on-going cultural and wetland field surveys will be based on the revised turbine layout.

Section 1.0 – Applicant Information

In the Application, Project construction was intended to begin in the second quarter of 2019, with commercial operations to commence by December 31, 2019. However, in consideration of the procedural schedule issued by the Minnesota Public Utilities Commission, the Applicant anticipates starting construction in the first quarter of 2020, with commercial operations expected to commence by July 30, 2020.

Section 4.4 – Number of Turbine Sites

The initial Application proposed using 62 GE 2.5 MW wind turbines and eight GE 1.715 MW turbines. Due to feedback from landowners and changes in the Project schedule, the Project's total capacity of approximately 170 MW will be generated using 60 GE 2.5 MW wind turbines and eight GE 2.3 MW wind turbines. The current turbine layout includes 68 primary turbines required for the Project and four alternative turbine locations identified to provide for flexibility in the event that development or constructability issues are encountered. The revised layout is shown in **Map 2 (Project Area and Facilities)**.

Section 4.6 – Percent of Wind Rights Secured

At the time of the initial Application, DCW had site control agreements with landowners for approximately 15,500 acres, or 78% of the land required for successful construction and operation of the Project. As of the date of filing this memorandum, site control agreements are in place with landowners for approximately 16,121 acres, or 89% of the land required for successful construction and operation of the Project. The Applicant is continuing to negotiate easements with landowners for the development of the Project. **Map 4 (Parcel Land Status)** shows the status of land acquisition for the revised Project layout.

Section 5.1 – Description of Project Layout

In the Application, properties not participating in the Project were to have turbines set back at least 1,014 feet (ft) (309 meters (m)) (3 rotor diameters [RD]) from their property in non-prevailing wind directions and at least 1,690 ft (515 m) (5 RD) from their property in prevailing wind directions for the GE 1.715 MW turbine model. Due to the change from the 1.715 MW turbine model to the 2.3 MW turbine model, properties not participating in the Project will have turbines set back at least 1,147 ft (350 m) (3 RD) in non-prevailing wind directions and at least 1,911 ft (583 m) (5 RD) in prevailing wind directions for both turbine models in Dodge County. In Steele County, properties not participating in the Project will have turbines set back at least 1,911 ft (583 m) (5 RD) in all directions for both turbine models. **Map 3 (Turbine Layout and Constraints)** shows the revised layout and applicable setback constraints.

Section 5.2 – Description of Turbines and Towers

The Project will use 60 GE 2.5 MW turbines with 116.5 m (382.2 ft) RD and 90 m (295.3 ft) towers, and eight GE 2.3 MW turbines with 116.5 m (382.2 ft) RD and 80 m (262.5 ft) towers. At the time of the original filing, the Project proposed using eight GE 1.715 MW turbines with 338 ft (103 m) RD and 262.5 feet (80 m) towers, rather than the GE 2.3 MW turbines.

The total height of the GE 1.715 MW turbine was 431.3 ft (131.5 m) and the total height of the proposed GE 2.3 MW turbine is 453.7 ft (138.3 m), resulting in a minimal increase of 22.4 ft. Additional characteristics for the GE 2.5 MW and GE 2.3 MW turbines are summarized in **Table 3**.

Table 3: Wind Turbine Characteristics

Design Features	GE 2.5 MW Turbine	GE 2.3 MW Turbine
Nameplate Capacity	2.5 MW	2.3 MW
Hub Height	90 m (295.3 ft)	80 m (262.5 ft)
Rotor Swept Area	10,656 m² (114,700 ft²)	10,656 m² (114,743 ft²)
Total Height (ground to fully extended blade tip)	148.3 m (486.5 ft)	138.3 m (453.7ft)
Rotor Diameter	116.5 m (382.2 ft)	116.5 m (382.2 ft)
Design Life	Design criteria contemplates 20 years	Design criteria contemplates 20 years
Cut in Wind Speed	3 m/s (10 ft/s)	3 m/s (10 ft/s)
IEC Wind Class	S	S
Cut-Out Wind Speed	32 m/s (105 ft/s) low turbulence, 31 m/s (102 ft/s) medium and high turbulence in 600 sec time interval	32 m/s (105 ft/s) low turbulence, 31 m/s (102 ft/s) medium and high turbulence in 600 sec time interval
Rotor Speed	7.4-15.7 RPM	7.4-15.7 RPM
Tip Speed	81.7-85.4 m/s (268.0-280.18 ft/s)	81.7-85.4 m/s (268.0-280.18 ft/s)
Sound at Turbine	Lw = 110 dBA	Lw = 107.5 dBA
Power Regulation	Blade pitch controls power. Controls included for zero voltage ride through (ZVRT) and enhanced reactive power (0.9 power factor)	Blade pitch controls power. Controls included for ZVRT and enhanced reactive power (0.9 power factor)

Design Features	GE 2.5 MW Turbine	GE 2.3 MW Turbine
Generation	2.5 MW per turbine	2.3 MW per turbine
Tower	Multicoated, conical tubular steel with safety ladder to the nacelle. Rest platforms each section	Multicoated, conical tubular steel with safety ladder to the nacelle and a fall-arresting safety system
Nacelle Bedplate	Cast iron bedplate with fabricated extension to support the generator	Cast iron bedplate with fabricated extension to support the generator
Main Bearings	Roller bearings	Roller bearings
Supervisory Control and Data Acquisition (SCADA)	Each turbine equipped with SCADA controller hardware, software and database storage capability	Each turbine equipped with SCADA controller hardware, software and database storage capability
Federal Aviation Administration (FAA) Lighting	Yes, per FAA permitting	Yes, per FAA permitting
Foundation	Per manufacturer specifications - spread foot or pier foundation—TBD	Per manufacturer specifications - spread foot or pier foundation—TBD

Source: GE manufacturer specifications.

Section 6.2 – Collector Lines and Feeder Lines

In the initial Application, 52 miles of underground 34.5 kV collector lines were required to electrically connect each turbine step-up transformer to the Project's collector substation. Due to changes in the revised layout, the total distance of underground 34.5 kV collector lines has decreased from 52 miles to 40.7 miles.

Section 7.0 – Wind Rights

At the time of the initial Application, DCW had site control agreements with landowners for approximately 15,500 acres, or 78% of the land required for successful construction and operation of the Project. Now, DCW has executed and recorded landowner agreements for

16,121 acres within the Project Area, which is approximately 89% of the land required to complete the Project.

Section 8.3 – Sound

Section 8.3.1 – Description of Resources

Sound level modeling was conducted for the revised layout. The revised Project's 64 GE 2.5-116 Low Noise Trailing Edge (LNTE) wind turbines (which includes the four alternate turbines) and eight GE 2.3-116 LNTE wind turbines were modeled for the analysis. The four alternate locations were modeled using GE 2.5-116 LNTE wind turbines to represent the worst-case scenario. **Appendix D (Pre-Construction Sound Analysis)** provides a Sound Level Assessment Report based upon the revised Project. All modeling receptors are identified on **Map 8 (Sound Level Modeling Locations)** and are distinguished as either participating, participation pending, or non-participating.

Section 8.3.2 – Potential Impacts

The sound impacts associated with the proposed wind turbines were predicted using the Cadna/A sound level calculation software. All modeled sound levels, as output from Cadna/A, are A-weighted equivalent sound levels (Leq, dBA). No uncertainty factor was provided by the wind turbine manufacturer for the GE 2.5-116 model, although one was provided for the GE 2.3-116 model. A 2 dBA uncertainty factor was included in the model for each wind turbine.

Based on Epsilon's experience in conducting post-construction sound level measurement programs for wind energy facilities, the equivalent sound level has been comparable to the median (L_{50}, dBA) sound level when the wind turbine sound was prevalent and steady under ideal wind and operational conditions. Therefore, the modeled sound levels may be considered as L_{50} sound levels and directly compared to the Minnesota L_{50} limit.

Due to changes in the revised layout, moderate changes in sound levels are expected. Results of these changes in sound levels are as follows:

- Number of receptors that experienced no change = 512
- Number of receptors that experienced a decrease = 104
- Number of receptors that experienced an increase = 78
- Maximum increase = 3 dBA
- Maximum decrease = 5 dBA
- Average change = 0 dBA

For this comparison, sound levels were rounded to whole numbers.

Increases in sound levels of 2-3 dBA are generally attributable to the addition of wind turbines (e.g., T44, T50, T51) and/or the relocation of wind turbines closer to certain receptors. Decreases in sound levels of 4-5 dBA are generally attributable to the removal of wind turbines (e.g., T56, T57, T65, T67) and/or the relocation of wind turbines farther from certain receptors. Three additional receptors (119, 120, 121) are now modeled with the maximum L_{50} sound level of 47 dBA, each increasing by 1 dBA in the revised layout. This increase is generally attributable to the addition of wind turbines T44, T50, and T51. To a lesser degree, the change in wind turbine type was also a contributor.

The highest predicted worst-case L_{50} sound level from the Project wind turbines is below the 50 dBA limit at all modeled Noise Area Classification (NAC) 1 receptors as shown in **Table 11**. Modeled sound level isolines are presented on **Map 9 (Sound Level Modeling Results)**. The highest predicted worst-case Project-Only L_{50} sound level is 47 dBA at participating receptors #119, 120, and 121 (as identified above) and non-participating receptor #210 (as identified in the initial Application). This highest predicted worst-case Project-Only L_{50} sound level at a modeling receptor of 47 dBA remains below the most restrictive Minnesota Pollution Control Agency (MPCA) sound limit of 50 dBA. **Appendix D (Pre-construction Sound Analysis)** provides further details of the sound modeling analysis.

Table 11: Summary of Sound Assessment

Modeling Scenario	Maximum Modeled L_{50} Sound Pressure Level (dBA) at NAC 1 Receptors			
	All Receptors	Participating	Participation Pending	Non-Participating
Project Only	47	47	46	47

Section 8.3.3 – Mitigation Measures

DCW has designed the Project to meet the MPCA state noise standards and to minimize the sound levels at homes in the community as much as possible, while also satisfying regulatory requirements and project design constraints.

With the revised Project layout, DCW still incorporated the Project design a 1,400-foot setback from residences for compliance with MPCA noise standards. Also, consistent with the 3 RD by 5 RD setback and Dodge County Zoning Ordinance requirements noted above, Project turbines in Dodge County will be set back from nonparticipating properties by at least 1,147 ft (350 m), or 3 RD, in the non-prevailing wind direction and at least 1,911 ft (583 m), or 5 RD, in the prevailing wind direction for both turbines model. As for Steele County, the 5 RD by 5 RD

setback under Steele County's Zoning Ordinance requirements will be utilized, and Project turbines in Steele County will be set back from non-participating properties by at least 1,911 ft (583 m), or 5 RD, for both turbine models. See Section 5.1 above for a description of how the setback distances have changed from the original Application.

The Applicant will also conduct a post-construction sound level measurement program to evaluate compliance with respect to MPCA noise standards.

Section 8.4 – Visual Impacts

Section 8.4.2 – Visual Impacts

Turbine dimensions and the number of turbine are provided in **Table 12**. As described in Section 5.2, the difference in total height between the GE 1.715 MW and the GE 2.3 MW turbines is a minimal 22.4 ft. The change in proposed turbine type and minimal increase in turbine height is not anticipated to significantly change the visual impacts associated with the Project.

Table 12: Rotor Diameter and Number of Turbines

Turbine Model	Total Height (m/ft)	Rotor Diameter (m/ft)	Ground Clearance (m/ft)	Number of Turbines	Number of Alternate Turbines
GE 2.5 MW	148.3/486.5	116.5/382.2	32/105	60	4
GE 2.3 MW	138.3/453.7	116.5/382.2	22/72.2	8	0

Section 8.4.3 – Shadow Flicker

With respect to wind turbines, shadow flicker can be defined as an intermittent change in the intensity of light in a given area resulting from the operation of a wind turbine due to its interaction with the sun. While indoors, an observer experiences repeated changes in the brightness of the room as shadows cast from the wind turbine blades briefly pass by windows as the blades rotate. In order for this to occur, the wind turbine must be operating, the sun must be shining, and the window must be within the shadow region of the wind turbine. A stationary wind turbine only generates a stationary shadow similar to any other structure.

A Project-specific shadow flicker analysis was conducted using the software package, WindPRO (see **Appendix E (Shadow Flicker Analysis)**). Shadow flicker modeling was conducted for the revised layout, which includes eight GE 2.3 MW turbines and 64 GE 2.5 MW turbines (including the four alternate turbines). The four alternate locations were modeled using the GE 2.5 MW turbines to represent the worst-case scenario. **Appendix E (Shadow Flicker Analysis)** provides

a Shadow Flicker Modeling Report based upon the revised Project.

Due to changes in the revised layout, moderate changes in shadow flicker levels are expected. The changes in shadow flicker levels are as follows:

- Number of receptors that experienced no change = 559
- Number of receptors that experienced a decrease = 65
- Number of receptors that experienced an increase = 70
- Maximum increase = 22:39 hr:min/yr
- Maximum decrease = 13:04 hr:min/yr
- Average change = 0:01 hr:min/yr

Large increases in shadow flicker are generally attributable to the addition of wind turbines (e.g., T44, T50, T51). Large decreases in shadow flicker are generally attributable to the removal of wind turbines (e.g., T56, T57, T65, T67). The movement of turbine locations generally resulted in little, if any, modeled change in shadow flicker to receptors. Changes in the modeled worst-case and modeled expected case are described below, with comparisons to the initial Application included parenthetically.

The modeled worst-case annual shadow flicker duration ranged from 0 hours, 0 minutes per year to 125 hours, 39 minutes per year (compared to 101 hours, 5 minutes per year in the Application at receptor #64). The maximum worst-case flicker was at a participating receptor (#169). The maximum modeled worst-case annual flicker at a non-participating receptor (#116) is 94 hours, 16 minutes (compared to 89 hours, 6 minutes per year in the Application at receptor #170).

Map 13 (Shadow Flicker Modeling Results) presents expected shadow flicker durations as isolines overlaid aerial imagery. The predicted expected annual shadow flicker duration ranged from 0 hours, 0 minutes per year to 39 hours, 29 minutes per year (compared to 34 hours, 57 minutes per year in the Application). The maximum expected shadow flicker of 39 hours, 29 minutes per year occurs at receptor #125 (compared to 34 hours, 57 minutes per year at receptor #410 in the Application), a participating receptor. The maximum expected annual duration of shadow flicker at a non-participating location (#116) is 33 hours, 56 minutes per year (compared to 27 hours, 26 minutes per year at receptor #173 in the Application). The majority of the receptors (546 compared to 536 in the Application) were predicted to experience no annual shadow flicker. 97 locations were predicted to experience some shadow flicker but less than 10 hours per year (compared to 102 locations in the Application). The modeling results showed that 39 locations would be expected to have 10 to 30 hours of shadow flicker per year (compared to 51 locations in the Application). Twelve receptors (compared to 5 in the Application) are modeled to be above 30 hours per year, one of which is non-participating (#116) and one of which is participation pending (#170). Results of this analysis are detailed in **Tables 15**, **16**, **and 17**.

Table 15: Predicted Shadow Flicker Impacts at Participating Residents

Statistic	Duration (hrs:mins/yr)
Maximum Shadow Flicker - Worst Case	125:39
Maximum Shadow Flicker - Expected Case	39:29

Table 16: Predicted Shadow Flicker Impacts at Participation Pending Residents

Statistic	Duration (hrs:mins/yr)
Maximum Shadow Flicker - Worst Case	104:07
Maximum Shadow Flicker - Expected Case	33:30

Table 17: Predicted Shadow Flicker Impacts at Non-participating Residents

Statistic	Duration (hrs:mins/yr)
Maximum Shadow Flicker - Worst Case	94:16
Maximum Shadow Flicker - Expected Case	33:56

Section 8.5 – Public Services and Infrastructure

Section 8.5.2 – Telecommunications and Other Related Resources

Microwave Beam Paths

Appendix F (Telecommunications Study) provides an Electromagnetic Interference Analysis based upon the revised Project. Although the Project Area has not changed since the submission of the Application, updates have been made to the Electromagnetic Interference Analysis based on changes that have occurred since the submittal of the initial Application.

The Electromagnetic Interference Analysis (WindLogics 2018) examined microwave beam paths in the vicinity of the Project Area and identified 10 microwave beam paths that cross into the Project Area, an increase from 9 identified in the Application. The beam paths are owned and

operated by Union Pacific Railroad Company, the State of Minnesota, Radio Link Internet, and T-Mobile License LLC. WindLogics, Inc. (WindLogics) calculated Worst Case Fresnel Zones (WCFZ). The revised Project design avoids impacts to microwave beam paths (**Map 14 (Microwave Beam Path Map)**). Refer to **Table 20** for a summary of Federal Communications Commission (FCC)–licensed signals within the vicinity of the Project Area.

AM/FM Radio

The Electromagnetic Interference Analysis did not identify AM or FM radio towers within the Project Area. Eleven AM radio towers and 15 FM radio towers were identified within 15.5 miles of the Project Area. This is an increase in 2 FM radio towers since the submission of the Application.

Table 20: Summary of FCC-Licensed Signals in and within the Vicinity of the Project Area

Communication System Type	Number of Signals
AM (AM Radio Signals)	11
FM (FM Radio Signals)	15
Microwave (Radio Wave Transmission)	10
Cellular	13

Section 8.5.4 – Television

The Electromagnetic Interference Analysis determined that digital or analog television towers are not located within the Project Area. There are 35 licensed television towers within approximately 62 miles of the Project Area, including 14 towers that are within 31 miles and are likely to be broadcasting to the region. This is an increase of one licensed television tower within 62 miles of the Project Area since the submittal of the Application. Most of the television towers within 62 miles are low-power stations or translator stations that have limited range and would not be expected to experience reception interference. Seven full-power towers (call signs KXLT-TV, KSMQ-TV, KAAL, KIMT, KYIN, KEYC-TV, and KTTC) have a possibility of experiencing reception interference if the Project is in line-of-sight, in comparison to the six towers that had a possibility of experiencing reception interference based on the initial design. These towers are located between 16 and 34 miles from the Project Area.

Table 21: Digital Television Signals in the Vicinity of the Project Area

Call Sign	Station	Licensee	Signal Strength (kw)
K48KJ-D	48	Three Angels Broadcasting Network, Inc.	1.5
DK43DH	43	Teleview Systems of Minnesota	1.47
DK53DI	53	Teleview Systems of Minnesota	1.47
DK55FJ	55	Teleview Systems of Minnesota	1.47
DK57EU	57	Teleview Systems of Minnesota	1.47
DK61EU	61	Teleview Systems of Minnesota	1.47
K52HH	52	MS Communications, LLC	0.004
K40JT	40	Trinity Broadcasting Network	10.7
KXLT-TV	46	Sagamorehill of Minnesota License, LLC	220
K56HW	56	Trinity Broadcasting Network	75
K58GC	58	Three Angels Broadcasting Network, Inc.	29
K25NK-D	25	Three Angels Broadcasting Network, Inc.	15
KSMQ-TV	20	KSMQ Public Service Media, Inc.	319.2
KAAL	36	KAAL-TV, LLC	620
KIMT	42	NVT Mason City Licensee, LLC	800
KYIN	18	Iowa Public Broadcasting Board	533
KTTC	10	KTTC License	43.1
KILW-LD	28	DTV America Corporation	6
KWJM-LD	15	DTV America Corporation	6
KMQV-LD	49	DTV America Corporation	6
K21KF-D	21	Cooperative Television Association of Southern Minnesota	3
K47MI-D	47	Cooperative Television Association of Southern Minnesota	3
DK34JZ-D	34	South Central Electric Association	0.17
K14KD-D	14	South Central Electric Association	3
K23FY-D	23	Cooperative Television Association of Southern Minnesota	3
K27FI-D	27	South Central Electric Association	3
K29IF-D	29	Blue Earth-Nicollet-Faribault Cooperative Electrical Association	3.1
K31EF-D	31	South Central Electric Association	3
K35IU-D	35	South Central Electric Association	3
K40JS-D	40	Blue Earth-Nicollet-Faribault Cooperative Electrical Association	3
K49JG-D	49	Blue Earth-Nicollet-Faribault Cooperative Electrical Association	3
K51KB-D	51	South Central Electric Association	3
K43JE-D	43	Three Angels Broadcasting Network, Inc.	10.82
W47CO-D	47	State of Wisconsin – Educational Communications Board	1.6
KEYC-TV	12	United Communications Corporation	52.7

Section 8.5.5 – Potential Impacts

Television

The Electromagnetic Interference Analysis examined impacts to television (TV) service. Seven full-power towers (call signs KXLT-TV, KSMQ-TV, KAAL, KIMT, KYIN, KEYC-TV, and KTTC) have a possibility of experiencing reception interference if the Project is in line-of-sight, in comparison to the six towers that had a possibility of experiencing reception interference based on the initial design. These towers are located between 16 and 34 miles from the Project.

Section 8.8 – Public Health and Safety

Section 8.8.1 – Electromagnetic Fields and Stray Voltage

Section 8.8.1.2 – Magnetic Fields

Due to changes in the Project design, a moderate increase in the current of the home run cable and associated magnetic field (MF) values are expected. The MF profile data shows that MF levels decrease rapidly as the distance from the centerline increases (proportional to the inverse square of the distance from the source). The maximum calculated MF profiles around the collector lines considered for this Project and for the life of the Project are shown in **Table 30**.

Table 30: Estimated Magnetic Fields (mG)

Structure Type	System Condition	Current (Amps)	Distance to Proposed Centerline								
			-100' (-31 m)	-75' (-23 m)	-50' (-15 m)	-25' (-8 m)	0'	25' (8 m)	50' (15 m)	75' (23 m)	100' (31 m)
Home run cable (34.5kV)	Normal	680	0.22	0.34	0.86	2.89	49.18	2.89	0.86	0.34	0.22

Section 8.8.6 – Mitigation Measures

The Applicant resubmitted the revised Project turbine array to the FAA in December 2018 for aeronautical study.

Section 8.10 – Land-Based Economies

Section 8.10.2 – Potential Impacts

Due to the revised Project layout, the total acreage of permanent impacts to farmland is expected to decrease from 52.00 acres to 51.21 acres, a difference of 0.79 acres. This is a result of a decrease in impacts to All Areas Prime Farmland from 25.94 acres to 24.76 acres, and a small increase in impacts to Prime Farmland if Drained from 25.86 acres to 26.02 acres. **Table 32**

summarizes the permanent impacts to farmland from turbines, access roads, the operation and maintenance (O&M) facility, and the Project substation for the revised Project.

Table 32: Summary of Permanent Farmland Impacts (Acres)

Prime Farmland Type	Turbines	Access Roads	O&M Facility	Substation	Total
All Areas Prime Farmland	4.01	18.27	1.71	0.77	**24.76**
Prime Farmland if Drained	3.60	22.41	0.01	0.00	**26.02**
Farmland of Statewide Importance	0.00	0.09	0.00	0.00	**0.09**
Not Prime Farmland	0.20	0.14	0.00	0.00	**0.34**
TOTAL	**15.85**	**40.91**	**1.72**	**0.77**	**51.21**

The total acreage of temporary impacts to farmland is expected to decrease from 1,133.84 acres to 1,048.04 acres, a difference of 85.8 acres. This is due to decreases in temporary impacts to All Areas Prime Farmland, Prime Farmland if Drained, and Farmland of Statewide Importance as compared to the Application. **Table 33** summarizes the temporary impacts to farmland from access road approaches, crane walks, turning radii, equipment laydown areas, construction easements around turbines, collection line installation, and/or intersection improvements for the revised Project.

Table 33: Summary of Temporary Farmland Impacts (Acres)

Prime Farmland Type	Turbines	Access Roads	O&M Facility	Substation	Collection	Laydown Yard	Crane Paths	Total
All Areas Prime Farmland	198.606	177.76	1.71	2.64	54.77	6.34	8.57	**450.39**
Prime Farmland if Drained	236.98	235.91	0.01	2.37	92.53	8.66	10.98	**587.43**

Prime Farmland Type	Turbines	Access Roads	O&M Facility	Substation	Collection	Laydown Yard	Crane Paths	Total
Farmland of Statewide Importance	0.00	1.06	0.00	0.00	1.36	0.00	0.00	**2.42**
Not Prime Farmland	5.17	1.06	0.00	0.00	1.52	0.00	0.04	**7.79**
TOTAL	**440.75**	**415.78**	**1.72**	**5.01**	**150.19**	**15.00**	**19.59**	**1,048.04**

8.10.5 – Mining

Based on the revised layout, the distance from the closest open pit to the nearest proposed turbine location is 2.6 miles, an increase in 0.1 miles from the previous layout.

Section 8.18 – Vegetation

Section 8.18.2 – Potential Impacts

Approximately one acre of Sites of Biodiversity Significance, ranked as "below," will be temporarily impacted, and 0.03 acres will be permanently impacted. This is an increase of 0.36 acres and 0.01 acres, respectively, from the calculated impacts associated with the previous layout. However, the total estimated permanent impacts to vegetation are expected to decrease by 0.79 acres from the previous Project layout. Additionally, the total estimated temporary impacts are expected to decrease by 85.8 acres from the previous Project layout. Results of the permanent and temporary impacts to vegetation are summarized in **Tables 42 and 43**.

Table 42: Summary of Estimated Permanent Impacts to Vegetation (Acres)

Land Cover Type	Turbines	Access Roads	O&M Facility	Substation	Total
Cultivated Crops	7.81	38.67	1.72	0.77	**48.96**
Developed, Open Space	0.00	1.43	0.00	0.00	**1.43**
Developed, Low Intensity	0.00	0.04	0.00	0.00	**0.04**
Developed, Medium Intensity	0.00	0.11	0.00	0.00	**0.11**
Herbaceous	0.00	0.56	0.00	0.00	**0.56**

Land Cover Type	Turbines	Access Roads	O&M Facility	Substation	Total
Emergent Herbaceous Wetlands	0.00	0.00	0.00	0.00	**0.00**
Native Plant Community	0.00	0.00	0.00	0.00	**0.00**
Hay/Pasture	0.00	0.11	0.00	0.00	**0.11**
Sites of Biodiversity (Below)*	0.00	0.03	0.00	0.00	**0.03**
Total	**7.81**	**40.91**	**1.72**	**0.77**	**51.21**

*Acreage is not included in total as the Sites of Biodiversity are also included under other land cover types.

Table 43: Summary of Estimated Temporary Impacts to Vegetation (Acres)

Land Cover Type	Turbines	Access Roads	O&M Facility	Substation	Collection	Laydown Yard	Crane Paths	Total
Cultivated Crops	439.27	381.90	1.72	4.52	139.03	13.22	19.59	**999.23**
Developed, Open Space	0.00	23.75	0.00	0.49	7.85	1.78	0.00	**33.88**
Developed, Low Intensity	0.00	0.73	0.00	0.00	0.23	0.00	0.00	**0.96**
Developed, Medium Intensity	0.00	0.79	0.00	0.00	0.02	0.00	0.00	**0.81**
Herbaceous	1.48	7.70	0.00	0.00	2.29	0.00	0.00	**11.47**
Emergent Herbaceous Wetlands	0.00	0.00	0.00	0.00	0.61	0.00	0.00	**0.61**
Deciduous Forest	0.00	0.02	0.00	0.00	0.00	0.00	0.00	**0.02**
Hay/Pasture	0.01	0.90	0.00	0.00	0.00	0.00	0.00	**0.91**

Land Cover Type	Turbines	Access Roads	O&M Facility	Substation	Collection	Laydown Yard	Crane Paths	Total
Woody Wetlands	0.00	0.00	0.00	0.00	0.14	0.00	0.00	**0.14**
Native Plant Community	0.00	0.00	0.00	0.00	0.00	0.00	0.00	**0.00**
Sites of Biodiversity (Below)*	0.00	0.87	0.00	0.00	0.14	0.00	0.00	**1.01**
Total	**440.75**	**415.78**	**1.72**	**5.01**	**150.19**	**15.00**	**19.59**	**1,048.04**

*Acreage is not included in total as the Sites of Biodiversity are also included under other land cover types.

Section 9.1 – Description of Resources

Due to changes in the Project layout, moderate fluctuations in overall average wind speed at turbine locations are expected. To simulate wind flow patterns for the Dodge and Steele County, MN Project Area, WindLogics performed a detailed modeling process consisting of a mesoscale model to simulate the large-scale weather patterns, as well as a wind flow model to resolve small-scale terrain and land features. The model output was then adjusted to on-site conditions using meteorological data normalized to long-term climatic means using the WindLogics Enhanced Measure-Correlate-Predict methodology. Six meteorological (MET) towers and two Triton SoDAR locations were used in WindLogics' analysis (4534, 4535, 4857, 4858, 4859, 4860, 579-0, and 579-95), which are shown below in **Table 9.1**. The data was collected in ten-minute intervals at each location for an average of two years.

Table 9.1: MET Tower/SoDAR Information

MET Tower / SoDAR	Location	Period of Record	Duration (mos.)	Meas. Heights (m)
4534	43.99526,-93.08350	11/2013-07/2018	56	58,40
4535	44.05296,-92.97690	11/2013-07/2018	56	58.40
4857	44.01302,-93.00410	02/2017-07/2018	18	59,40
4858	43.95838,-92.94090	02/2017-07/2018	18	59,40
4859	43.98161,-93.02690	02/2017-07/2018	18	59,40
4860	43.94919,-92.89200	02/2017-07/2018	18	59,40

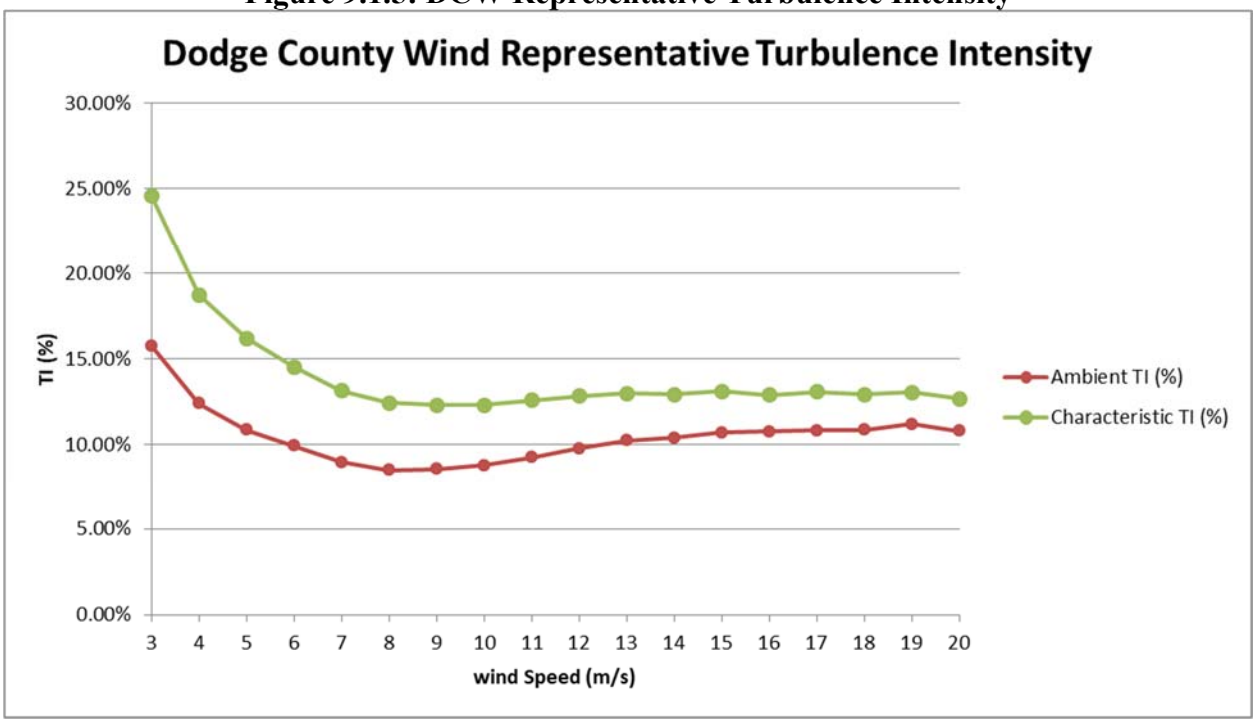
MET Tower / SoDAR	Location	Period of Record	Duration (mos.)	Meas. Heights (m)
579-0	43.93652,-93.01290	10/2013-10/2014	13	80,60
579-95	43.99390,-92.95540	10/2014-12/2018	38	100,80

The meteorological analysis supports the site as a strong candidate for wind energy potential, with high wind speeds due to low roughness and moderate shear. Based on the measured data, the overall average wind speed at the turbine locations is 7.8 m/s at hub height with seasonal variations ranging from 6.6 m/s to 8.4 m/s. In comparison to the measured data submitted in the initial Application, this is a decrease of 0.1 m/s in the overall average wind speed at the turbine locations and an increase of 0.1 m/s in the maximum value of seasonal variations from 8.4 m/s to 8.5 m/s. The highest wind resource is present during the winter month evenings, while the weakest wind resource is present during the summer month days. There is a strong bimodal distribution of winds at the site with prevailing directions out of the south and northwest. Moderate turbulence and low extreme wind conditions at the site allow for suitable mechanical loads on the turbines.

Section 9.1.5 – Hub Height Turbulence

Turbulence intensity can be defined as the measured standard-deviation of wind speed over the mean wind speed for some time period. It is common to report turbulence intensity as a function of incremental wind speed bins. Due to changes in the Project layout, it is expected that there will be a moderate decrease in both ambient turbulence intensity and characteristic turbulence intensity of 0.2% and 0.1%, respectively. For 15 m/s wind speeds at the Project Area, the ambient turbulence intensity is 10.7% and the characteristic turbulence intensity is 13.1% at hub height (90m). These measurements are based on wind data measured from the MET towers present at the site. Ten-minute measurements of turbulence intensity as a function of wind speed bin are shown below in **Figure 9.1.5**.

Figure 9.1.5: DCW Representative Turbulence Intensity



These values are taken from over four years of measurement data at M4534 and are considered to be representative of the site. Overall, the turbulence intensity for the site is considered to be reasonable for the region and terrain.

Section 9.1.8 – Wind Variation and Height

Wind shear is the change in wind speeds with increasing elevation. Shear values were calculated at six MET towers and two Triton SoDAR locations (4534, 4535, 4857, 4858, 4859, 4860, 579-0, and 579-95). Due to changes in the Project layout and turbine technology, slight variations in overall shear values are expected. Based upon data collected at the site, however, the representative wind shear at the site remains 0.22. This value is unchanged since the filing of the Application. Results of these calculations are presented in **Table 9.1.8.**

Table 9.1.8: DCW Measurement Speeds and Shears

Tower / SoDAR	Short-Term 90m Wind Speed (m/s)	Long-Term 90m Wind Speed (m/s)	Overall Shear
4534	7.71	7.71	0.261
4535	7.72	7.72	0.199
4857	7.49	7.69	0.231
4858	7.86	8.10	0.207
4859	7.66	7.87	0.212
4860	7.82	8.09	0.198
579-0	8.23	7.99	0.224
579-95	8.23	8.04	0.233

Section 10.3 – Associated Facilities

Due to changes in the Project layout, the total distance of underground 34.5 kV collector lines has decreased from approximately 52 miles to 40.7 miles, a reduction of approximately 11.3 miles.

Section 10.8 – Schedule

A revised schedule is presented in **Table 53**.

Table 53: Project Schedule

Activity	Estimated Completion	Previous Schedule
Certificate of Need Order	**Nov 2019**	**May 2019**
Route Permit Order	**Nov 2019**	**May 2019**
Site Permit Order	**Nov 2019**	**May 2019**
Environmental Permits Received	**Aug 2019**	**Feb 2019**
Other Permits/Approvals Received	**Jan 2020**	**Feb 2019**
Land Acquisition	**Nov 2019**	**Feb 2019**
Construction	**Jan–July 2020**	**July-Dec 2019**
In-Service Date	**July 2020**	**Dec 2019**

Section 10.9 – Energy Projections

Based on the revised Project layout and changes in turbine technology, a net capacity factor of approximately 38.7% to 47.5% is expected annually, an increase from 38.1% to 46.5% provided in the Application. Additionally, the projected average annual output of approximately 636,605 megawatt hours (MWh) is anticipated for the Project, an increase from 621,233 MWh for the Project.

STATE OF MINNESOTA
BEFORE THE
MINNESOTA PUBLIC UTILITIES COMMISSION

In the Matter of the Application of Dodge County Wind, LLC for a Certificate of Need and Site Permit for the Dodge County Wind Project and Associated Facilities in Dodge, Steele, and Olmsted Counties, Minnesota, and a Route Permit for the 345 kV High-Voltage Transmission Line Associated with the Dodge County Wind Project in Dodge and Olmsted Counties.	)	**Docket No. IP-6981/CN-17-306** **Docket No. IP-6981/WS-17-307** **Docket No. IP-6981/TL-17-308** **OAH Docket No. 5-2500-35668** **CERTIFICATE OF SERVICE**

The undersigned hereby certifies that true and correct copies of **Dodge County Wind, LLC's Site Permit Application Amendment,** was electronically served today upon parties of the attached services lists.

Dated this 9th day of January, 2019

/s/ Tammy J. Krause
Tammy J. Krause

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1800 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_17-306_Official CC service list
Ian	Dobson	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	Yes	OFF_SL_17-306_Official CC service list
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	OFF_SL_17-306_Official CC service list
Andrew	Gibbons	andrew.gibbons@stinson.com	Stinson Leonard Street	50 S 6th St Ste 2600 Minneapolis, MN 54002	Electronic Service	No	OFF_SL_17-306_Official CC service list
Katherine	Hinderlie	katherine.hinderlie@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota St Suite 1800 St. Paul, MN 55101-2134	Electronic Service	No	OFF_SL_17-306_Official CC service list
Linda	Jensen	linda.s.jensen@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota Street St. Paul, MN 551012134	Electronic Service	No	OFF_SL_17-306_Official CC service list
Peter	Madsen	peter.madsen@ag.state.mn.us	Office of the Attorney General-DOC	Bremer Tower, Suite 1800 445 Minnesota Street St. Paul, Minnesota 55101	Electronic Service	No	OFF_SL_17-306_Official CC service list
Brian	Meloy	brian.meloy@stinson.com	Stinson,Leonard, Street LLP	50 S 6th St Ste 2600 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_17-306_Official CC service list
James	Mortenson	james.mortenson@state.mn.us	Office of Administrative Hearings	PO BOX 64620 St. Paul, MN 55164-0620	Electronic Service	No	OFF_SL_17-306_Official CC service list
Brian J	Murphy	Brian.J.Murphy@nee.com	Nextera Energy Resources, LLC	700 Universe Blvd LAW-JB Juno Beach, FL 33408	Electronic Service	No	OFF_SL_17-306_Official CC service list

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Janet	Shaddix Elling	jshaddix@janetshaddix.com	Shaddix And Associates	7400 Lyndale Ave S Ste 190 Richfield, MN 55423	Electronic Service	Yes	OFF_SL_17-306_Official CC service list
Mike	Weich	Mike.Weich@nexteraenergy.com	Dodge County Wind, LLC	700 Universe Blvd Juno Beach, FL 33408	Electronic Service	No	OFF_SL_17-306_Official CC service list
Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_17-306_Official CC service list

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1800 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_17-307_Official CC service list
Ian	Dobson	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	Yes	OFF_SL_17-307_Official CC service list
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	OFF_SL_17-307_Official CC service list
Andrew	Gibbons	andrew.gibbons@stinson.com	Stinson Leonard Street	50 S 6th St Ste 2600 Minneapolis, MN 54002	Electronic Service	No	OFF_SL_17-307_Official CC service list
Katherine	Hinderlie	katherine.hinderlie@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota St Suite 1800 St. Paul, MN 55101-2134	Electronic Service	No	OFF_SL_17-307_Official CC service list
Linda	Jensen	linda.s.jensen@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota Street St. Paul, MN 551012134	Electronic Service	No	OFF_SL_17-307_Official CC service list
Peter	Madsen	peter.madsen@ag.state.mn.us	Office of the Attorney General-DOC	Bremer Tower, Suite 1800 445 Minnesota Street St. Paul, Minnesota 55101	Electronic Service	No	OFF_SL_17-307_Official CC service list
Brian	Meloy	brian.meloy@stinson.com	Stinson,Leonard, Street LLP	50 S 6th St Ste 2600 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_17-307_Official CC service list
James	Mortenson	james.mortenson@state.mn.us	Office of Administrative Hearings	PO BOX 64620 St. Paul, MN 55164-0620	Electronic Service	No	OFF_SL_17-307_Official CC service list
Brian J	Murphy	Brian.J.Murphy@nee.com	Nextera Energy Resources, LLC	700 Universe Blvd LAW-JB Juno Beach, FL 33408	Electronic Service	No	OFF_SL_17-307_Official CC service list

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Janet	Shaddix Elling	jshaddix@janetshaddix.com	Shaddix And Associates	7400 Lyndale Ave S Ste 190 Richfield, MN 55423	Electronic Service	No	OFF_SL_17-307_Official CC service list
Mike	Weich	Mike.Weich@nexteraenergy.com	Dodge County Wind, LLC	700 Universe Blvd Juno Beach, FL 33408	Electronic Service	No	OFF_SL_17-307_Official CC service list
Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_17-307_Official CC service list

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Generic Notice	Commerce Attorneys	commerce.attorneys@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota Street Suite 1800 St. Paul, MN 55101	Electronic Service	Yes	OFF_SL_17-308_Official CC service list
Jason	Czeczok	office@byronfuneralhome.com	Bryon Funeral Home	1620 Voll Drive NW Bryon, MN 55920	Electronic Service	No	OFF_SL_17-308_Official CC service list
Brenda	Davis	Bdavis.asset@gmail.com		69650 230th Ave Kasson, MN 55944	Electronic Service	No	OFF_SL_17-308_Official CC service list
Melissa	DeVetter	melissa.devetter@co.dodge.mn.us	Dodge County	721 N Main St Dept 123 Mantorville, MN 55955	Electronic Service	No	OFF_SL_17-308_Official CC service list
Ian	Dobson	residential.utilities@ag.state.mn.us	Office of the Attorney General-RUD	1400 BRM Tower 445 Minnesota St St. Paul, MN 551012130	Electronic Service	Yes	OFF_SL_17-308_Official CC service list
Dennis	Edgar	N/A		66441 240th Ave Kasson, MN 55944	Paper Service	No	OFF_SL_17-308_Official CC service list
Sharon	Ferguson	sharon.ferguson@state.mn.us	Department of Commerce	85 7th Place E Ste 280 Saint Paul, MN 551012198	Electronic Service	No	OFF_SL_17-308_Official CC service list
Andrew	Gibbons	andrew.gibbons@stinson.com	Stinson Leonard Street	50 S 6th St Ste 2600 Minneapolis, MN 54002	Electronic Service	No	OFF_SL_17-308_Official CC service list
Katherine	Hinderlie	katherine.hinderlie@ag.state.mn.us	Office of the Attorney General-DOC	445 Minnesota St Suite 1800 St. Paul, MN 55101-2134	Electronic Service	No	OFF_SL_17-308_Official CC service list
Linda	Jensen	linda.s.jensen@ag.state.mn.us	Office of the Attorney General-DOC	1800 BRM Tower 445 Minnesota Street St. Paul, MN 551012134	Electronic Service	No	OFF_SL_17-308_Official CC service list

First Name	Last Name	Email	Company Name	Address	Delivery Method	View Trade Secret	Service List Name
Peter	Madsen	peter.madsen@ag.state.mn.us	Office of the Attorney General-DOC	Bremer Tower, Suite 1800 445 Minnesota Street St. Paul, Minnesota 55101	Electronic Service	No	OFF_SL_17-308_Official CC service list
Brian	Meloy	brian.meloy@stinson.com	Stinson,Leonard, Street LLP	50 S 6th St Ste 2600 Minneapolis, MN 55402	Electronic Service	No	OFF_SL_17-308_Official CC service list
James	Mortenson	james.mortenson@state.mn.us	Office of Administrative Hearings	PO BOX 64620 St. Paul, MN 55164-0620	Electronic Service	No	OFF_SL_17-308_Official CC service list
Brian J	Murphy	Brian.J.Murphy@nee.com	Nextera Energy Resources, LLC	700 Universe Blvd LAW-JB Juno Beach, FL 33408	Electronic Service	No	OFF_SL_17-308_Official CC service list
Gene	Peters	gpete1951@aol.com		1320 Wickelow Lane SW Rochester, MN 55902	Electronic Service	No	OFF_SL_17-308_Official CC service list
Tom	Rother	tomr@netmanco.com	Rother Farms, Inc.	6970 151st St W Apple Valley, MN 55124	Electronic Service	No	OFF_SL_17-308_Official CC service list
Janet	Shaddix Elling	jshaddix@janetshaddix.com	Shaddix And Associates	7400 Lyndale Ave S Ste 190 Richfield, MN 55423	Electronic Service	Yes	OFF_SL_17-308_Official CC service list
Mike	Weich	Mike.Weich@nexteraenergy.com	Dodge County Wind, LLC	700 Universe Blvd Juno Beach, FL 33408	Electronic Service	No	OFF_SL_17-308_Official CC service list
Edward	Westin	eawestin@hotmail.com		2813 86th Street Lubbock, TX 79423-3131	Electronic Service	No	OFF_SL_17-308_Official CC service list
Daniel P	Wolf	dan.wolf@state.mn.us	Public Utilities Commission	121 7th Place East Suite 350 St. Paul, MN 551012147	Electronic Service	Yes	OFF_SL_17-308_Official CC service list