

June 14, 2018

VIA ELECTRONIC FILING

Ms. Patricia Van Gerpen
Executive Secretary
South Dakota Public Utilities Commission
500 E Capitol Ave
Pierre, SD 57501-5070

**RE: In the Matter of the Application by Dakota Range I, LLC and Dakota Range II, LLC for an Energy Facility Permit in Grant County and Codington County, South Dakota, for the Dakota Range Wind Project
EL 18-003**

Dear Ms. Van Gerpen:

In connection with the above-referenced matter, enclosed please find Applicants' Exhibit A23.

If you have any questions, please let me know.

Sincerely,

/s/ Mollie M. Smith

Mollie M. Smith
Attorney at Law

Direct Dial: 612.492.7270

Email: msmith@fredlaw.com

Enclosure

cc: Certificate of Service/Service List (*via e-mail*)

Attorneys & Advisors
main 612.492.7000
fax 612.492.7077
fredlaw.com

Fredrikson & Byron, P.A.
200 South Sixth Street, Suite 4000
Minneapolis, Minnesota
55402-1425

May 10, 2018

Re: Safe Radius requirements for wind turbines under normal operating conditions

Wind turbines are sophisticated pieces of equipment, monitored by highly trained operators and Vestas takes great care to ensure the safety of its equipment, its employees and their communities.

Vestas wind turbines, under normal operating conditions, are safe to be around in close proximity [near the tower]. Vestas employs thousands of service and maintenance technicians who work safely within close proximity to wind turbines every day. Many landowners and ranchers farm and graze animals in close proximity to the turbines.

Under normal operating conditions, Vestas has no documentation, studies or analysis proscribing a specified safety zone or setback area around its wind turbines.

In the rare case of abnormal operating conditions Vestas' Site Emergency Response Plan does specify a safety radius that should be temporarily evacuated and secured. **This is a temporary clearance and not a permanent setback requirement.** Once the event is mitigated this temporary clearance area is not required.

Safety is a deeply held value for us, serving as a foundation for all that we do at Vestas. The hallmark of all our activities is daily excellence in protection of our employees, the public, and the environment.

**PUBLIC UTILITIES COMMISSION
OF THE STATE OF SOUTH DAKOTA**

**IN THE MATTER OF THE
APPLICATION BY DAKOTA RANGE
I, LLC AND DAKOTA RANGE II,
LLC FOR AN ENERGY FACILITY
PERMIT IN GRANT COUNTY AND
CODINGTON COUNTY, SOUTH
DAKOTA, FOR THE DAKOTA
RANGE WIND PROJECT**

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**CERTIFICATE OF SERVICE

EL18-003**

Bridget Duffus, of Fredrikson & Byron, P.A., hereby certifies that on the 14th day of June, 2018, a true and correct copy of a marked copy of Applicants' Exhibit A23 and this Certificate of Service were served electronically on the persons listed below:

<p>Ms. Patricia Van Gerpen Executive Director South Dakota Public Utilities Commission 500 E. Capitol Ave. Pierre, SD 57501 patty.vangerpen@state.sd.us</p>	<p>Ms. Kristen Edwards Staff Attorney South Dakota Public Utilities Commission 500 E. Capitol Ave. Pierre, SD 57501 Kristen.edwards@state.sd.us</p>
<p>Ms. Amanda Reiss Staff Attorney South Dakota Public Utilities Commission 500 E. Capitol Ave. Pierre, SD 57501 amanda.reiss@state.sd.us PUBLIC AND CONFIDENTIAL</p>	<p>Mr. Darren Kearney Staff Analyst South Dakota Public Utilities Commission 500 E. Capitol Ave. Pierre, SD 57501 darren.kearney@state.sd.us PUBLIC AND CONFIDENTIAL</p>
<p>Mr. Jon Thurber Staff Analyst South Dakota Public Utilities Commission 500 E. Capitol Ave. Pierre, SD 57501 jon.thurber@state.sd.us</p>	<p>Mr. Mark Mauersberger - Representing: Dakota Range I, LLC and Dakota Range II, LLC Senior Development Manager Apex Clean Energy Holdings, LLC 8665 Hudson Blvd. N, Ste. 110 Lake Elmo, MN 55402 mark.mauersberger@apexcleanenergy.com</p>

<p>Mr. Scott Koziar - Representing: Dakota Range I, LLC and Dakota Range II, LLC Vice President of Development, West Apex Clean Energy Holdings, LLC 8665 Hudson Blvd. N, Ste. 110 Lake Elmo, MN 55402 scott.koziar@apexcleanenergy.com</p>	<p>Ms. Mollie Smith - Representing: Dakota Range I, LLC and Dakota Range II, LLC Fredrikson & Byron, P.A. 200 S. 6th St., Ste. 4000 Minneapolis, MN 55402 msmith@fredlaw.com</p>
<p>Ms. Jennifer Bell - Representing: Dakota Range I, LLC and Dakota Range II, LLC Senior Environmental Scientist Burns & McDonnell Engineering Company, Inc. 9785 Maroon Circle, Ste. 400 Centennial, CO 80112 jbell@burnsmcd.com</p>	<p>Ms. Lisa M. Agrimonti - Representing: Dakota Range I, LLC and Dakota Range II, LLC Fredrikson & Byron, P.A. 200 South Sixth Street, Suite 4000 Minneapolis, MN 55402-1425 lagrimonti@fredlaw.com</p>
<p>Ms. Karen Layher Auditor Grant County 210 E. Fifth Ave. Milbank, SD 57252 karen.layher@state.sd.us</p>	<p>Ms. Cindy Brugman Auditor Codington County 14 First Ave., SE Watertown, SD 57201 cbrugman@codington.org</p>
<p>Teresa Kaaz 15610 459th Avenue South Shore, SD 57263 teresakaaz@yahoo.com</p>	<p>Linda Lindgren 16050 464th Avenue South Shore, SD 57263 lpedersen.pace@gmail.com</p>
<p>Vincent Meyer 15452 486th Avenue Milbank, SD 57252 vpmeyerfarms@yahoo.com</p>	<p>Diane Redlin 305 W. Lakefront Drive South Shore, SD 57263 jdredlin@sstel.net</p>
<p>Jared Krakow 16460 470th Avenue Strandburg, SD 57265 jaredkrakow@hotmail.com</p>	<p>Kevin Krakow 16462 470th Avenue Strandburg, SD 57265 kcjmkrakow@sstel.net</p>
<p>Matt Whitney 16450 462nd Avenue Watertown, SD 57201 whitneywelding@hotmail.com</p>	<p>Timothy Lindgren 16050 464th Avenue South Shore, SD 57263 timlindgren009@yahoo.com</p>

Kelly Owen 15629 468 th Avenue Stockholm, SD 57264 kocattle@gmail.com	Kristi Mogen 15160 471 st Avenue Twin Brooks, SD 57269 mogensmark@mogensmark.com
Wade Bauer 15371 459 th Avenue South Shore, SD 57263 bauwade88er@gmail.com	Patricia Meyer 15452 486 th Avenue Milbank, SD 57252 vpmeyerfarms@yahoo.com

/s/ Bridget Duffus
Bridget Duffus

June 14, 2018

VIA ELECTRONIC FILING

Ms. Patricia Van Gerpen
Executive Secretary
South Dakota Public Utilities Commission
500 E Capitol Ave
Pierre, SD 57501-5070

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EL 18-003**

Dear Ms. Van Gerpen:

In connection with the above-referenced matter, enclosed please find Applicants' Exhibit A24, Exhibit A25 (Public), Exhibit A25-C (Confidential), Exhibit A26, and Exhibit A27.

If you have any questions, please let me know.

Sincerely,

/s/ Mollie M. Smith

Mollie M. Smith
Attorney at Law
Direct Dial: 612.492.7270
Email: msmith@fredlaw.com

Enclosure

cc: Certificate of Service/Service List (*via e-mail*)

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Fredrikson & Byron, P.A.
200 South Sixth Street, Suite 4000
Minneapolis, Minnesota
55402-1425

Table A-1: Wind Turbine Coordinates

Wind Turbine ID	Coordinates NAD83 UTM Zone 14N (meters)	
	X (Easting)	Y (Northing)
1	649150.68	5009210.55
2	649592.64	5009301.39
3	650382.14	5008394.08
4	651221.24	5008388.66
5	651887.81	5008536.33
6	652659.21	5007595.70
7	650048.07	5006906.21
8	650429.11	5007023.84
9	650941.68	5007007.69
10	651702.10	5006813.09
11	652445.44	5006824.28
12	652067.96	5005967.41
13	652508.47	5002155.46
14	654738.65	5010309.74
15	655342.56	5010617.87
16	655959.75	5010046.16
17	656353.73	5010078.42
18	656807.12	5009925.65
19	657165.19	5010016.56
20	657545.03	5010093.22
21	654403.27	5009456.11
22	654073.85	5008759.99
23	654834.57	5008649.35
26	655262.58	5006726.86
27	655209.73	5009458.69
28	656123.54	5009415.49
29	656190.63	5008691.29
30	656948.30	5008364.53
31	657593.24	5008379.77
32	656181.41	5007604.26
33	656220.17	5006808.38
34a	656230.64	5006132.64
35	656341.29	5005779.24
36	656373.09	5005145.37
37	656928.93	5005957.45
38	657387.82	5005959.70
39	657839.76	5006079.27
40	657670.73	5006726.57
41	658031.93	5006708.57
42	658728.18	5007539.26
43	659189.32	5006853.26

Table A-1: Wind Turbine Coordinates

Wind Turbine ID	Coordinates NAD83 UTM Zone 14N (meters)	
	X (Easting)	Y (Northing)
44	659530.88	5006717.26
45	653250.85	5007492.28
46	653912.36	5007486.35
47	653971.67	5007079.89
48	654112.53	5006577.23
50	654125.10	5005948.82
51	652979.75	5005140.46
52	654007.77	5004448.60
53	652959.73	5004165.46
54	653326.71	5003802.14
55	654539.43	5003479.34
56	654671.50	5002980.82
57	653412.66	5001019.09
58	654243.67	5001103.58
59	654285.80	5000211.18
60a	654626.19	4999456.54
61	655443.20	5000399.81
62b	655678.86	5001007.79
64	657012.96	5000231.13
65	657424.44	5000476.02
66	658166.89	5000251.64
67	655906.41	4998639.23
68	655964.72	4997936.95
69	655962.56	4997416.19
70	655110.53	4996175.40
71	655618.94	4996179.18
72	656367.12	4996073.95
A11	657114.06	5009343.43
A15	652354.92	5004448.62
A18	657249.87	5006672.81
A24	657850.58	5000545.83

Table B-1: Modeled Sound Pressure Levels at Sensitive Receptors in Codrington County

Receptor ID	Coordinates UTM NAD83 Zone 14N		County	Participation Status	LAY-038 Source Only Broadband Sound Level (dBA)	LAY-042 Source Only Broadband Sound Level (dBA)	Regulation Evaluation	
	X (m)	Y (m)					Limit (dBA)	Exceed Limit?
1406	652415.58	4988918.69	Codrington	Non-Participating	19	18	50	No
1412	654015.11	4988590.25	Codrington	Non-Participating	19	18	50	No
1419	654681.58	4990406.38	Codrington	Participating	17	16	50	No
1420	655846.86	4989588.29	Codrington	Participating	19	18	50	No
1425	656834.67	4990400.04	Codrington	Participating	20	19	50	No
1434	657862.31	4991817.05	Codrington	Non-Participating	18	18	50	No
1470	653857.99	4990720.09	Codrington	Participating	23	22	50	No
1472	653950.59	4991543.64	Codrington	Participating	24	23	50	No
1476	653587.51	4991975.31	Codrington	Participating	25	24	50	No
1481	652432.12	4989894.34	Codrington	Participating	17	17	50	No
1482	652413.64	4990050.68	Codrington	Participating	20	20	50	No
1489	651609.43	4990364.76	Codrington	Non-Participating	22	21	50	No
1494	650703.87	4989527.33	Codrington	Non-Participating	19	18	50	No
1497	650662.06	4989915.49	Codrington	Non-Participating	21	20	50	No
1498	650856.93	4990053.74	Codrington	Non-Participating	21	20	50	No
1503	650657.74	4990852.72	Codrington	Non-Participating	22	21	50	No
1510	650692.61	4992057.70	Codrington	Non-Participating	23	22	50	No
1511	650706.98	4992320.66	Codrington	Participating	23	22	50	No
1520	652311.29	4992164.18	Codrington	Participating	24	23	50	No
1528	653394.86	4993505.03	Codrington	Participating	27	26	50	No
1537	655804.37	4993535.65	Codrington	Non-Participating	29	28	50	No
1540	656798.10	4994383.05	Codrington	Non-Participating	31	31	50	No
1546	657464.70	4995163.56	Codrington	Non-Participating	32	32	50	No
1554	658362.21	4995127.56	Codrington	Non-Participating	30	29	50	No
1555	658578.51	4995244.25	Codrington	Non-Participating	29	29	50	No
1564	656621.54	4995250.50	Codrington	Non-Participating	36	36	50	No
1575	655954.93	4995240.17	Codrington	Non-Participating	37	37	50	No
1584	654917.16	4995237.31	Codrington	Non-Participating	36	36	50	No
1588	653838.26	4995578.48	Codrington	Non-Participating	33	32	50	No
1590	652995.68	4995885.56	Codrington	Non-Participating	31	30	50	No
1591	652436.54	4996047.89	Codrington	Participating	30	29	50	No
1595	650593.29	4996054.48	Codrington	Non-Participating	27	26	50	No
1596	650496.01	4995587.28	Codrington	Non-Participating	27	25	50	No
1599	650636.90	4995303.04	Codrington	Non-Participating	26	25	50	No
1614	650501.55	4994753.62	Codrington	Non-Participating	26	25	50	No
1618	648862.47	4994649.83	Codrington	Non-Participating	24	23	50	No
1624	648375.40	4996645.46	Codrington	Non-Participating	25	24	50	No
1635	647647.95	4997080.29	Codrington	Non-Participating	25	24	50	No
1639	647523.41	4997799.99	Codrington	Non-Participating	26	24	50	No
1647	649154.79	4997753.24	Codrington	Non-Participating	27	26	50	No
1653	650473.00	4996848.32	Codrington	Participating	28	27	50	No
1659	650595.55	4997697.39	Codrington	Non-Participating	29	27	50	No
1666	647488.92	4998352.98	Codrington	Non-Participating	26	24	50	No
1669	649340.75	4999049.86	Codrington	Participating	28	27	50	No
1675	651994.47	4999721.14	Codrington	Non-Participating	34	32	50	No
1684	653787.02	4998022.59	Codrington	Non-Participating	35	33	50	No
1688	653778.28	4996825.57	Codrington	Non-Participating	34	33	50	No
1695	654384.51	4996687.82	Codrington	Non-Participating	38	36	50	No
1697	655253.74	4997956.71	Codrington	Participating	42	40	50	No
1698	655368.87	4998297.41	Codrington	Non-Participating	42	41	50	No
1705	656685.45	4997836.26	Codrington	Non-Participating	40	39	50	No
1710	656976.54	4997093.04	Codrington	Non-Participating	37	37	50	No
1717	656867.97	4998569.91	Codrington	Non-Participating	38	38	50	No
1721	657770.19	4996904.04	Codrington	Non-Participating	34	33	50	No
1722	657792.58	4996940.40	Codrington	Non-Participating	34	33	50	No
1725	656815.87	4999863.27	Codrington	Non-Participating	43	43	50	No
1745	647461.13	5000525.45	Codrington	Non-Participating	28	26	50	No
1746	647456.46	5000456.03	Codrington	Non-Participating	28	26	50	No
1749	648159.89	5000058.41	Codrington	Participating	28	26	50	No
1759	648809.41	4999992.49	Codrington	Non-Participating	29	27	50	No
1762	649063.96	5001386.23	Codrington	Non-Participating	30	28	50	No
1764	663178.63	5001621.05	Codrington	Non-Participating	29	26	50	No
1772	661543.34	5000761.33	Codrington	Non-Participating	29	26	50	No
1782	658372.24	5001257.48	Codrington	Non-Participating	40	38	50	No
1784	655170.00	5001262.14	Codrington	Non-Participating	42	41	50	No
1787	655103.41	5000902.29	Codrington	Participating	43	42	50	No
1791	654852.45	5000075.99	Codrington	Participating	43	43	50	No
1794	653692.68	5000273.03	Codrington	Participating	42	41	50	No
1799	645387.42	4999931.96	Codrington	Non-Participating	25	23	50	No
1800	646345.40	4999959.62	Codrington	Non-Participating	26	24	50	No
2022	650528.30	4993061.83	Codrington	Non-Participating	23	22	50	No
2024	649871.67	4991903.75	Codrington	Participating	23	21	50	No
2025	649921.89	4991917.62	Codrington	Participating	23	22	50	No

Exhibit A24

Table B-1: Modeled Sound Pressure Levels at Sensitive Receptors in Codington County

Receptor ID	Coordinates UTM NAD83 Zone 14N		County	Participation Status	LAY-038 Source Only Broadband Sound Level (dBA)	LAY-042 Source Only Broadband Sound Level (dBA)	Regulation Evaluation	
	X (m)	Y (m)					Limit (dBA)	Exceed Limit?
2038	646743.98	4996587.90	Codington	Non-Participating	24	23	50	No
2315	649018.76	4991138.66	Codington	Non-Participating	21	20	50	No
2318	648352.31	4991902.58	Codington	Participating	22	21	50	No
2339	649064.44	4992930.45	Codington	Non-Participating	23	22	50	No
2347	649279.70	4993533.72	Codington	Non-Participating	24	23	50	No
2348	649271.45	4993557.43	Codington	Non-Participating	24	23	50	No
2353	647627.18	4993444.66	Codington	Non-Participating	22	21	50	No
2356	647698.06	4993969.91	Codington	Non-Participating	23	22	50	No
2360	647604.47	4994983.66	Codington	Non-Participating	24	22	50	No
2363	651937.86	5001067.18	Codington	Participating	36	35	50	No
2364	651457.46	4993586.61	Codington	Non-Participating	25	24	50	No
2368	651076.00	4993539.97	Codington	Non-Participating	24	23	50	No
2372	658654.33	4990392.79	Codington	Non-Participating	21	20	50	No

Table B-2: Modeled Sound Pressure Levels at Sensitive Receptors in Grant County

Receptor ID	Coordinates UTM NAD83 Zone 14N		County	Participation Status	LAY-038 Source Only Broadband Sound Level (dBA)	LAY-042 Source Only Broadband Sound Level (dBA)	Regulation Evaluation	
	X (m)	Y (m)					Limit (dBA)	Exceed Limit?
689	647139.01	5014024.33	Grant	Participating	27	24	50	No
782	660720.97	5013271.92	Grant	Participating	22	21	50	No
789	660610.61	5014484.49	Grant	Participating	24	23	50	No
1805	644356.98	5002651.43	Grant	Participating	26	24	50	No
1809	647235.37	5001567.12	Grant	Participating	28	26	50	No
1815	648970.50	5002809.01	Grant	Participating	32	29	50	No
1821	649665.32	5003050.76	Grant	Non-Participating	33	31	50	No
1828	650524.49	5003103.91	Grant	Participating	35	33	50	No
1829	650075.00	5002248.60	Grant	Non-Participating	33	31	50	No
1832	651107.55	5003102.45	Grant	Participating	36	34	50	No
1837	651909.87	5003057.90	Grant	Participating	39	37	50	No
1840	650832.97	5001658.43	Grant	Non-Participating	33	32	50	No
1847	652660.85	5002765.85	Grant	Participating	41	40	50	No
1849	653530.94	5002924.70	Grant	Non-Participating	41	39	50	No
1850	653518.23	5002856.66	Grant	Non-Participating	41	39	50	No
1867	661784.38	5001742.15	Grant	Non-Participating	30	27	50	No
1870	661126.69	5001722.46	Grant	Non-Participating	31	27	50	No
1874	663970.35	5002019.97	Grant	Non-Participating	28	25	50	No
1884	664755.72	5004486.66	Grant	Participating	27	21	50	No
1885	664644.10	5004250.93	Grant	Non-Participating	29	25	50	No
1888	663576.49	5004901.72	Grant	Non-Participating	33	26	50	No
1895	657975.48	5004220.64	Grant	Non-Participating	36	36	50	No
1904	658164.88	5003370.45	Grant	Non-Participating	35	34	50	No
1908	655165.86	5002087.27	Grant	Non-Participating	39	38	50	No
1914	653600.45	5003245.37	Grant	Participating	44	41	50	No
1915	653456.51	5004343.87	Grant	Participating	45	44	50	No
1919	651979.07	5003440.36	Grant	Participating	42	38	50	No
1928	649363.69	5003248.44	Grant	Participating	33	30	50	No
1937	648977.78	5004008.60	Grant	Non-Participating	35	31	50	No
1938	647494.42	5004033.38	Grant	Non-Participating	32	28	50	No
1947	647511.12	5006001.75	Grant	Non-Participating	34	30	50	No
1953	648855.29	5004824.59	Grant	Non-Participating	41	31	50	No
1955	648976.90	5004831.73	Grant	Non-Participating	42	31	50	No
1957	649090.23	5004809.12	Grant	Non-Participating	41	32	50	No
1962	649045.78	5006117.82	Grant	Participating	39	35	50	No
1968	648969.51	5006429.63	Grant	Non-Participating	38	35	50	No
1970	646968.92	5006520.98	Grant	Non-Participating	34	29	50	No
1976	647303.97	5007251.04	Grant	Participating	36	30	50	No
1985	648480.56	5007489.68	Grant	Participating	38	34	50	No
1994	650684.64	5006150.39	Grant	Non-Participating	41	40	50	No
1995	650837.63	5006168.70	Grant	Non-Participating	41	40	50	No
2005	650626.79	5005202.02	Grant	Participating	45	36	50	No
2007	661518.31	5004784.40	Grant	Participating	38	30	50	No
2008	661242.84	5005002.70	Grant	Non-Participating	36	31	50	No
2012	661599.97	5003749.29	Grant	Participating	42	29	50	No
2018	659717.08	5002264.17	Grant	Non-Participating	34	31	50	No
2020	658319.47	5004153.08	Grant	Non-Participating	36	35	50	No
2041	653593.66	5006201.50	Grant	Participating	44	43	50	No
2066	664805.69	5006459.59	Grant	Non-Participating	24	19	50	No
2074	663797.17	5005085.81	Grant	Non-Participating	32	26	50	No
2080	657770.35	5004970.01	Grant	Non-Participating	39	39	50	No
2085	655202.17	5004865.99	Grant	Non-Participating	40	39	50	No
2086	653612.64	5006755.67	Grant	Participating	45	45	50	No
2099	664537.21	5007281.04	Grant	Non-Participating	25	22	50	No
2107	664924.28	5006725.78	Grant	Participating	22	20	50	No
2108	665843.59	5006677.49	Grant	Participating	24	21	50	No
2109	665811.13	5006675.75	Grant	Participating	24	21	50	No
2126	665811.13	5006675.75	Grant	Participating	24	21	50	No
2127	665811.13	5006675.75	Grant	Participating	24	21	50	No
2141	661510.62	5009229.70	Grant	Participating	26	26	50	No
2149	657734.58	5008810.13	Grant	Participating	43	43	50	No
2153	657618.71	5009594.79	Grant	Participating	44	44	50	No
2158	655865.10	5008248.23	Grant	Participating	45	43	50	No
2168	653411.62	5009060.41	Grant	Participating	41	40	50	No
2182	652821.24	5009387.00	Grant	Non-Participating	38	38	50	No
2193	652045.23	5009239.11	Grant	Non-Participating	40	39	50	No
2195	650621.29	5009376.36	Grant	Non-Participating	39	38	50	No
2205	650503.26	5009033.74	Grant	Non-Participating	41	40	50	No
2212	650493.66	5008776.86	Grant	Non-Participating	44	43	50	No
2214	645840.98	5008574.90	Grant	Participating	43	27	50	No
2217	645708.61	5008004.25	Grant	Participating	37	27	50	No
2218	645720.53	5008021.46	Grant	Participating	38	27	50	No
2219	645631.03	5008056.63	Grant	Participating	38	27	50	No

Table B-2: Modeled Sound Pressure Levels at Sensitive Receptors in Grant County

Receptor ID	Coordinates UTM NAD83 Zone 14N		County	Participation Status	LAY-038 Source Only Broadband Sound Level (dBA)	LAY-042 Source Only Broadband Sound Level (dBA)	Regulation Evaluation	
	X (m)	Y (m)					Limit (dBA)	Exceed Limit?
2220	645560.46	5008023.00	Grant	Participating	37	27	50	No
2230	644920.93	5009426.30	Grant	Participating	39	25	50	No
2236	646374.72	5009624.58	Grant	Non-Participating	39	28	50	No
2239	647229.03	5010859.63	Grant	Participating	33	28	50	No
2240	648982.24	5010914.63	Grant	Non-Participating	34	32	50	No
2242	648974.09	5010822.91	Grant	Non-Participating	35	32	50	No
2243	650458.09	5010135.55	Grant	Non-Participating	37	35	50	No
2244	651399.84	5010537.19	Grant	Non-Participating	35	34	50	No
2251	653709.32	5011041.66	Grant	Participating	36	36	50	No
2257	655074.36	5009886.86	Grant	Participating	45	45	50	No
2260	658287.22	5009765.21	Grant	Participating	39	39	50	No
2267	663067.37	5009863.43	Grant	Participating	22	22	50	No
2270	645591.52	5011330.52	Grant	Participating	30	25	50	No
2271	646356.26	5011253.61	Grant	Non-Participating	31	26	50	No
2277	647415.35	5011482.18	Grant	Non-Participating	32	28	50	No
2279	653707.33	5011412.61	Grant	Non-Participating	35	35	50	No
2280	653706.52	5011445.93	Grant	Non-Participating	35	35	50	No
2281	653705.48	5011488.76	Grant	Non-Participating	35	35	50	No
2284	659888.06	5013103.47	Grant	Participating	27	26	50	No
2287	657521.45	5013443.09	Grant	Participating	30	30	50	No
2290	657917.63	5013363.29	Grant	Participating	29	29	50	No
2305	648987.99	5013202.15	Grant	Participating	29	27	50	No
2416	643160.20	5007930.05	Grant	Participating	29	23	50	No
2423	643933.96	5009635.42	Grant	Non-Participating	31	23	50	No
2424	643946.39	5009641.33	Grant	Non-Participating	31	23	50	No
2426	644853.33	5009638.98	Grant	Non-Participating	37	25	50	No
2427	644862.14	5009641.30	Grant	Non-Participating	37	25	50	No
2449	650900.06	5006334.22	Grant	Non-Participating	42	41	50	No
2455	651981.94	5003185.29	Grant	Non-Participating	40	37	50	No
2470	653647.87	5003180.53	Grant	Participating	43	41	50	No

Table B-1: Shadow Flicker Modeling Results at Sensitive Receptors

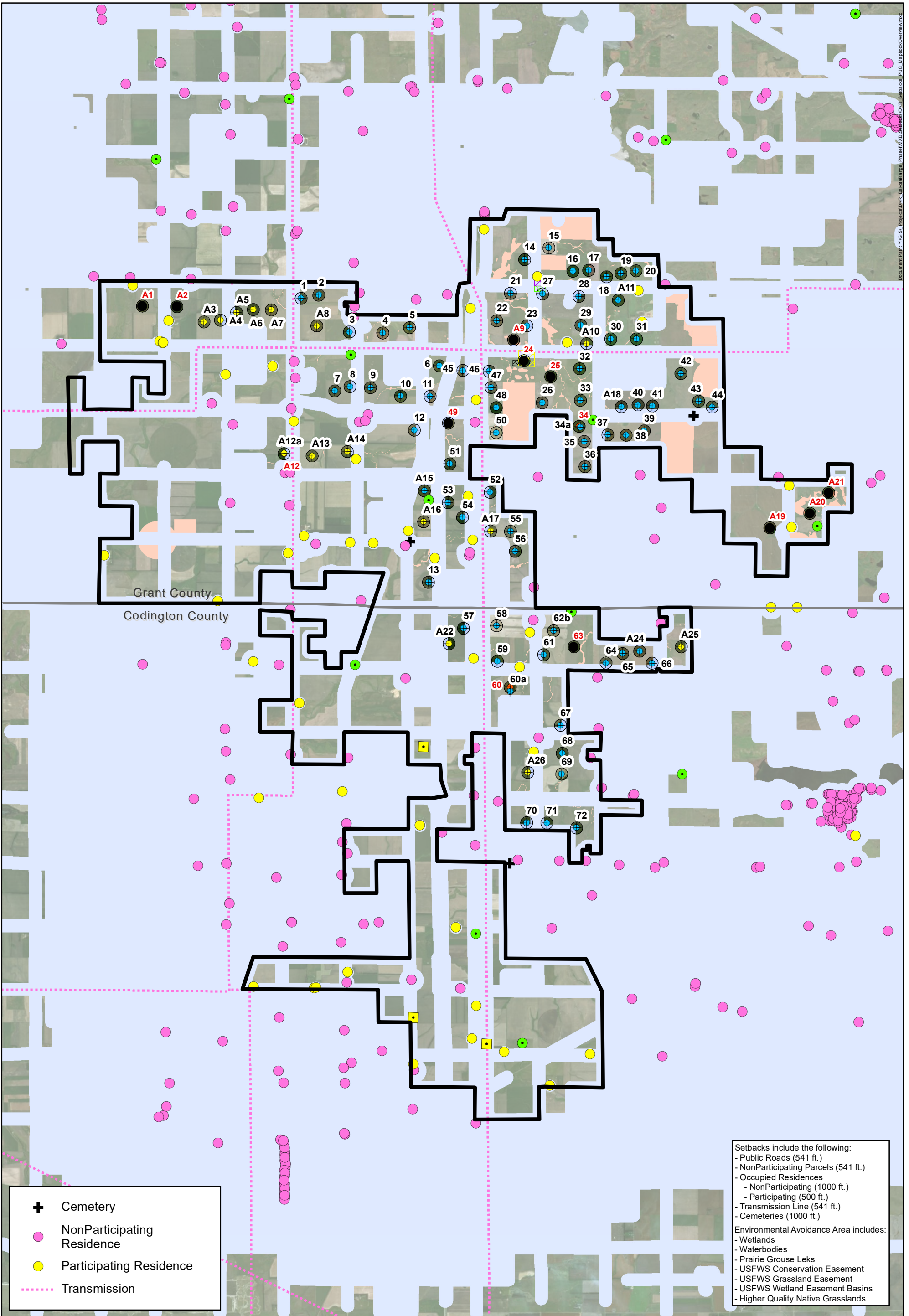
Modeling ID	Participation Status	County	Coordinates NAD83 UTM Zone 14N (meters)		LAY-038 Expected Shadow Flicker Hours per Year	LAY-042 Expected Shadow Flicker Hours per Year
			X (Easting)	Y (Northing)	(HH:MM/year)	(HH:MM/year)
689	Participating	Grant	647139.01	5014024.33	0:00	0:00
782	Participating	Grant	660720.97	5013271.92	0:00	0:00
789	Participating	Grant	660610.61	5014484.49	0:00	0:00
1406	Non-Participating	Codington	652415.58	4988918.69	0:00	0:00
1412	Non-Participating	Codington	654015.11	4988590.25	0:00	0:00
1419	Participating	Codington	654681.58	4990406.38	0:00	0:00
1420	Participating	Codington	655846.86	4989588.29	0:00	0:00
1425	Participating	Codington	656834.67	4990400.04	0:00	0:00
1434	Non-Participating	Codington	657862.31	4991817.05	0:00	0:00
1470	Participating	Codington	653857.99	4990720.09	0:00	0:00
1472	Participating	Codington	653950.59	4991543.64	0:00	0:00
1476	Participating	Codington	653587.51	4991975.31	0:00	0:00
1481	Participating	Codington	652432.12	4989894.34	0:00	0:00
1482	Participating	Codington	652413.64	4990050.68	0:00	0:00
1489	Non-Participating	Codington	651609.43	4990364.76	0:00	0:00
1494	Non-Participating	Codington	650703.87	4989527.33	0:00	0:00
1497	Non-Participating	Codington	650662.06	4989915.49	0:00	0:00
1498	Non-Participating	Codington	650856.93	4990053.74	0:00	0:00
1503	Non-Participating	Codington	650657.74	4990852.72	0:00	0:00
1510	Non-Participating	Codington	650692.61	4992057.70	0:00	0:00
1511	Participating	Codington	650706.98	4992320.66	0:00	0:00
1520	Participating	Codington	652311.29	4992164.18	0:00	0:00
1528	Participating	Codington	653394.86	4993505.03	0:00	0:00
1537	Non-Participating	Codington	655804.37	4993535.65	0:00	0:00
1540	Non-Participating	Codington	656798.10	4994383.05	0:00	0:00
1546	Non-Participating	Codington	657464.70	4995163.56	0:00	0:00
1554	Non-Participating	Codington	658362.21	4995127.56	0:00	0:00
1555	Non-Participating	Codington	658578.51	4995244.25	0:00	0:00
1564	Non-Participating	Codington	656621.54	4995250.50	0:00	0:00
1575	Non-Participating	Codington	655954.93	4995240.17	0:00	0:00
1584	Non-Participating	Codington	654917.16	4995237.31	4:26	4:26
1588	Non-Participating	Codington	653838.26	4995578.48	6:06	6:06
1590	Non-Participating	Codington	652995.68	4995885.56	0:00	0:00
1591	Participating	Codington	652436.54	4996047.89	0:00	0:00
1595	Non-Participating	Codington	650593.29	4996054.48	0:00	0:00
1596	Non-Participating	Codington	650496.01	4995587.28	0:00	0:00
1599	Non-Participating	Codington	650636.90	4995303.04	0:00	0:00
1614	Non-Participating	Codington	650501.55	4994753.62	0:00	0:00
1618	Non-Participating	Codington	648862.47	4994649.83	0:00	0:00
1624	Non-Participating	Codington	648375.40	4996645.46	0:00	0:00
1635	Non-Participating	Codington	647647.95	4997080.29	0:00	0:00
1639	Non-Participating	Codington	647523.41	4997799.99	0:00	0:00
1647	Non-Participating	Codington	649154.79	4997753.24	0:00	0:00
1653	Participating	Codington	650473.00	4996848.32	0:00	0:00
1659	Non-Participating	Codington	650595.55	4997697.39	0:00	0:00
1666	Non-Participating	Codington	647488.92	4998352.98	0:00	0:00
1669	Participating	Codington	649340.75	4999049.86	0:00	0:00
1675	Non-Participating	Codington	651994.47	4999721.14	0:00	0:00
1684	Non-Participating	Codington	653787.02	4998022.59	2:14	0:00
1688	Non-Participating	Codington	653778.28	4996825.57	7:24	3:34
1695	Non-Participating	Codington	654384.51	4996687.82	20:07	20:07
1697	Participating	Codington	655253.74	4997956.71	24:47	24:47
1698	Non-Participating	Codington	655368.87	4998297.41	26:52	26:53
1705	Non-Participating	Codington	656685.45	4997836.26	20:21	19:38
1710	Non-Participating	Codington	656976.54	4997093.04	8:25	7:56
1717	Non-Participating	Codington	656867.97	4998569.91	9:53	9:52
1721	Non-Participating	Codington	657770.19	4996904.04	1:42	1:42
1722	Non-Participating	Codington	657792.58	4996940.40	1:35	1:35
1725	Non-Participating	Codington	656815.87	4999863.27	7:53	7:53
1745	Non-Participating	Codington	647461.13	5000525.45	0:00	0:00
1746	Non-Participating	Codington	647456.46	5000456.03	0:00	0:00
1749	Participating	Codington	648159.89	5000058.41	0:00	0:00
1759	Non-Participating	Codington	648809.41	4999992.49	0:00	0:00
1762	Non-Participating	Codington	649063.96	5001386.23	0:00	0:00
1764	Non-Participating	Codington	663178.63	5001621.05	0:00	0:00

Table B-1: Shadow Flicker Modeling Results at Sensitive Receptors

Modeling ID	Participation Status	County	Coordinates NAD83 UTM Zone 14N (meters)		LAY-038 Expected Shadow Flicker Hours per Year	LAY-042 Expected Shadow Flicker Hours per Year
			X (Easting)	Y (Northing)	(HH:MM/year)	(HH:MM/year)
1772	Non-Participating	Codington	661543.34	5000761.33	0:00	0:00
1782	Non-Participating	Codington	658372.24	5001257.48	13:30	7:12
1784	Non-Participating	Codington	655170.00	5001262.14	29:00	26:43
1787	Participating	Codington	655103.41	5000902.29	46:13	42:44
1791	Participating	Codington	654852.45	5000075.99	52:26	49:36
1794	Participating	Codington	653692.68	5000273.03	37:41	22:07
1799	Non-Participating	Codington	645387.42	4999931.96	0:00	0:00
1800	Non-Participating	Codington	646345.40	4999959.62	0:00	0:00
1805	Participating	Grant	644356.98	5002651.43	0:00	0:00
1809	Participating	Grant	647235.37	5001567.12	0:00	0:00
1815	Participating	Grant	648970.50	5002809.01	0:00	0:00
1821	Non-Participating	Grant	649665.32	5003050.76	0:00	0:00
1828	Participating	Grant	650524.49	5003103.91	0:49	0:00
1829	Non-Participating	Grant	650075.00	5002248.60	0:00	0:00
1832	Participating	Grant	651107.55	5003102.45	6:22	2:11
1837	Participating	Grant	651909.87	5003057.90	5:06	5:06
1840	Non-Participating	Grant	650832.97	5001658.43	1:26	1:26
1847	Participating	Grant	652660.85	5002765.85	5:42	1:04
1849	Non-Participating	Grant	653530.94	5002924.70	16:52	16:52
1850	Non-Participating	Grant	653518.23	5002856.66	11:30	11:30
1867	Non-Participating	Grant	661784.38	5001742.15	0:00	0:00
1870	Non-Participating	Grant	661126.69	5001722.46	0:00	0:00
1874	Non-Participating	Grant	663970.35	5002019.97	0:00	0:00
1884	Participating	Grant	664755.72	5004486.66	0:00	0:00
1885	Non-Participating	Grant	664644.10	5004250.93	0:00	0:00
1888	Non-Participating	Grant	663576.49	5004901.72	4:18	0:00
1895	Non-Participating	Grant	657975.48	5004220.64	1:00	1:00
1904	Non-Participating	Grant	658164.88	5003370.45	0:00	0:00
1908	Non-Participating	Grant	655165.86	5002087.27	0:00	0:00
1914	Participating	Grant	653600.45	5003245.37	44:03	11:16
1915	Participating	Grant	653456.51	5004343.87	54:07	51:49
1919	Participating	Grant	651979.07	5003440.36	20:23	2:46
1928	Participating	Grant	649363.69	5003248.44	0:00	0:00
1937	Non-Participating	Grant	648977.78	5004008.60	0:00	0:00
1938	Non-Participating	Grant	647494.42	5004033.38	0:00	0:00
1947	Non-Participating	Grant	647511.12	5006001.75	2:50	0:00
1953	Non-Participating	Grant	648855.29	5004824.59	6:19	0:00
1955	Non-Participating	Grant	648976.90	5004831.73	2:08	0:00
1957	Non-Participating	Grant	649090.23	5004809.12	3:01	0:00
1962	Participating	Grant	649045.78	5006117.82	2:54	0:51
1968	Non-Participating	Grant	648969.51	5006429.63	10:20	6:55
1970	Non-Participating	Grant	646968.92	5006520.98	0:00	0:00
1976	Participating	Grant	647303.97	5007251.04	0:00	0:00
1985	Participating	Grant	648480.56	5007489.68	2:08	2:08
1994	Non-Participating	Grant	650684.64	5006150.39	9:28	5:59
1995	Non-Participating	Grant	650837.63	5006168.70	6:45	4:59
2005	Participating	Grant	650626.79	5005202.02	8:00	4:28
2007	Participating	Grant	661518.31	5004784.40	4:13	0:00
2008	Non-Participating	Grant	661242.84	5005002.70	2:05	0:00
2012	Participating	Grant	661599.97	5003749.29	18:52	0:00
2018	Non-Participating	Grant	659717.08	5002264.17	0:00	0:00
2020	Non-Participating	Grant	658319.47	5004153.08	0:00	0:00
2022	Non-Participating	Codington	650528.30	4993061.83	0:00	0:00
2024	Participating	Codington	649871.67	4991903.75	0:00	0:00
2025	Participating	Codington	649921.89	4991917.62	0:00	0:00
2038	Non-Participating	Codington	646743.98	4996587.90	0:00	0:00
2041	Participating	Grant	653593.66	5006201.50	37:43	27:03
2066	Non-Participating	Grant	664805.69	5006459.59	0:00	0:00
2074	Non-Participating	Grant	663797.17	5005085.81	2:26	0:00
2080	Non-Participating	Grant	657770.35	5004970.01	4:17	4:17
2085	Non-Participating	Grant	655202.17	5004865.99	5:10	5:10
2086	Participating	Grant	653612.64	5006755.67	39:11	27:31
2099	Non-Participating	Grant	664537.21	5007281.04	0:00	0:00
2107	Participating	Grant	664924.28	5006725.78	0:00	0:00
2108	Participating	Grant	665843.59	5006677.49	0:00	0:00

Table B-1: Shadow Flicker Modeling Results at Sensitive Receptors

Modeling ID	Participation Status	County	Coordinates NAD83 UTM Zone 14N (meters)		LAY-038 Expected Shadow Flicker Hours per Year	LAY-042 Expected Shadow Flicker Hours per Year
			X (Easting)	Y (Northing)	(HH:MM/year)	(HH:MM/year)
2109	Participating	Grant	665811.13	5006675.75	0:00	0:00
2126	Participating	Grant	665811.13	5006675.75	0:00	0:00
2127	Participating	Grant	665811.13	5006675.75	0:00	0:00
2141	Participating	Grant	661510.62	5009229.70	0:00	0:00
2149	Participating	Grant	657734.58	5008810.13	16:19	14:43
2153	Participating	Grant	657618.71	5009594.79	44:57	44:57
2158	Participating	Grant	655865.10	5008248.23	44:59	13:12
2168	Participating	Grant	653411.62	5009060.41	30:49	24:07
2182	Non-Participating	Grant	652821.24	5009387.00	9:17	9:17
2193	Non-Participating	Grant	652045.23	5009239.11	1:20	1:20
2195	Non-Participating	Grant	650621.29	5009376.36	10:13	6:35
2205	Non-Participating	Grant	650503.26	5009033.74	23:31	19:51
2212	Non-Participating	Grant	650493.66	5008776.86	24:51	20:39
2214	Participating	Grant	645840.98	5008574.90	22:40	0:00
2217	Participating	Grant	645708.61	5008004.25	12:55	0:00
2218	Participating	Grant	645720.53	5008021.46	13:46	0:00
2219	Participating	Grant	645631.03	5008056.63	9:18	0:00
2220	Participating	Grant	645560.46	5008023.00	7:38	0:00
2230	Participating	Grant	644920.93	5009426.30	3:13	0:00
2236	Non-Participating	Grant	646374.72	5009624.58	8:17	0:00
2239	Participating	Grant	647229.03	5010859.63	0:00	0:00
2240	Non-Participating	Grant	648982.24	5010914.63	0:00	0:00
2242	Non-Participating	Grant	648974.09	5010822.91	0:00	0:00
2243	Non-Participating	Grant	650458.09	5010135.55	4:16	4:16
2244	Non-Participating	Grant	651399.84	5010537.19	0:00	0:00
2251	Participating	Grant	653709.32	5011041.66	7:46	7:46
2257	Participating	Grant	655074.36	5009886.86	21:40	21:40
2260	Participating	Grant	658287.22	5009765.21	32:47	32:47
2267	Participating	Grant	663067.37	5009863.43	0:00	0:00
2270	Participating	Grant	645591.52	5011330.52	0:00	0:00
2271	Non-Participating	Grant	646356.26	5011253.61	0:00	0:00
2277	Non-Participating	Grant	647415.35	5011482.18	0:00	0:00
2279	Non-Participating	Grant	653707.33	5011412.61	1:02	1:02
2280	Non-Participating	Grant	653706.52	5011445.93	1:02	1:02
2281	Non-Participating	Grant	653705.48	5011488.76	1:02	1:02
2284	Participating	Grant	659888.06	5013103.47	0:00	0:00
2287	Participating	Grant	657521.45	5013443.09	0:00	0:00
2290	Participating	Grant	657917.63	5013363.29	0:00	0:00
2305	Participating	Grant	648987.99	5013202.15	0:00	0:00
2315	Non-Participating	Codington	649018.76	4991138.66	0:00	0:00
2318	Participating	Codington	648352.31	4991902.58	0:00	0:00
2339	Non-Participating	Codington	649064.44	4992930.45	0:00	0:00
2347	Non-Participating	Codington	649279.70	4993533.72	0:00	0:00
2348	Non-Participating	Codington	649271.45	4993557.43	0:00	0:00
2353	Non-Participating	Codington	647627.18	4993444.66	0:00	0:00
2356	Non-Participating	Codington	647698.06	4993969.91	0:00	0:00
2360	Non-Participating	Codington	647604.47	4994983.66	0:00	0:00
2363	Participating	Codington	651937.86	5001067.18	5:26	1:57
2364	Non-Participating	Codington	651457.46	4993586.61	0:00	0:00
2368	Non-Participating	Codington	651076.00	4993539.97	0:00	0:00
2372	Non-Participating	Codington	658654.33	4990392.79	0:00	0:00
2416	Participating	Grant	643160.20	5007930.05	0:00	0:00
2423	Non-Participating	Grant	643933.96	5009635.42	3:00	0:00
2424	Non-Participating	Grant	643946.39	5009641.33	3:08	0:00
2426	Non-Participating	Grant	644853.33	5009638.98	2:55	0:00
2427	Non-Participating	Grant	644862.14	5009641.30	3:01	0:00
2449	Non-Participating	Grant	650900.06	5006334.22	16:00	13:58
2455	Non-Participating	Grant	651981.94	5003185.29	3:56	3:56
2470	Participating	Grant	653647.87	5003180.53	19:05	15:38



- ✚ Cemetery
- NonParticipating Residence
- Participating Residence
- Transmission

- Setbacks include the following:
- Public Roads (541 ft.)
 - NonParticipating Parcels (541 ft.)
 - Occupied Residences
 - NonParticipating (1000 ft.)
 - Participating (500 ft.)
 - Transmission Line (541 ft.)
 - Cemeteries (1000 ft.)
- Environmental Avoidance Area includes:
- Wetlands
 - Waterbodies
 - Prairie Grouse Leaks
 - USFWS Conservation Easement
 - USFWS Grassland Easement
 - USFWS Wetland Easement Basins
 - Higher Quality Native Grasslands



Dakota Range Wind
Project Micrositing
Grant and Codington County, SD
 45.159283, -97.058736

- Temporary MetTower, Existing
- PermanentMet, Proposed
- ▭ Project Area Boundary
- Preliminary Turbine Location (LAY 041)
- Proposed Spare Turbine Location (LAY 041)
- Moved Turbine (LAY 038)
- Removed Turbine
- ▭ Laydown Yard
- ▭ O and M Facility
- ▭ Project Substation
- ▭ Interconnect Switchyard
- ▭ Setbacks
- ▭ Environmental Avoidance Area
- 500 ft. Turbine Flexibility Area

Note:
 1. Turbines are not drawn to scale.
 2. Turbine numbering is not sequential.

0 0.32 0.65 1.3 1.95 2.6
 0 0.275 0.55 1.1 1.65 2.2
 Kilometers Miles

Coordinate System: NAD 1983 StatePlane South Dakota North FIPS 4001 Feet
 Projection: Lambert Conformal Conic
 Datum: North American 1983
 False Easting: 1,968,500.0000
 False Northing: 50,000.0000
 Units: Foot US

APEX
 CLEAN ENERGY

Date: 6/14/2018
 Author: MR