

Aurora Wind Project Sound and Shadow Flicker Summary

January 7th, 2019

On behalf of Aurora Wind Project, LLC (Aurora), Tradewind Energy, Inc. (Tradewind Energy) conducted a sound and shadow flicker analysis for the proposed Aurora Wind Project (Project) located in Williams County, North Dakota. The analysis was conducted for array A031 and assumed a variety of potential wind turbine models. The wind turbine models analyzed and presented in this report include: GE 2.5-127 on 89 meter (m) hub height (HH); Gamesa G132-3.465 on 84 m and 114 m HH; Acciona AW125-3150 on 87.5 m HH; Vestas V136-3.45/3.6 on 82 and 105 m HH; and Vestas V136-4.0/4.2 on 82 and 105 m HH. To present worst case scenarios, the sound modeling results presented utilize the shortest hub height listed for that turbine model, while the shadow flicker results are based on the highest hub height of that specific turbine model. In conjunction with the Project wind turbines being modeled, wind turbines from the nearby Lindahl Wind Project located northeast of the Project were modeled to provide a comprehensive analysis.

Tradewind Energy staff has expertise and experience in conducting such analyses for regulatory bodies. In particular, Dr. Brandon Storm, who conducted the sound and shadow flicker studies for this report, has his PhD in Wind Science and Engineering from Texas Tech University. Dr. Storm has taught advanced training courses for windPRO, the software package used in these analyses. WindPRO is used throughout the world and is a recognized leader in sound and shadow flicker studies. In addition, Dr. Storm has provided sound and shadow flicker reports and verbal testimony to the North Dakota Public Service Commission (Commission).

Shadow Flicker Analysis

Shadow flicker, the effect seen when turbine blades pass between an observer and the sun, is not regulated by Williams County nor the State of North Dakota. While there is no existing permitting threshold with regards to shadow flicker, thirty hours per year of shadow flicker is the standard that has been utilized by the Commission in the past and the goal of the Project.

A shadow flicker analysis was completed for all known occupied residences within 1.5 miles of any proposed wind turbine locations in array A031 (a total of 61 receptors) using the windPRO software. All 130 wind turbine locations within A031 were modeled, even though most of the wind turbine models presented would not utilize all locations. The Lindahl Wind Project wind turbines were also incorporated in the modeling. Each residence was modeled in greenhouse mode, which assumes flicker from any direction is visible up to a distance of 2,000 m (6,562 ft) from a wind turbine, and sunshine probability data was incorporated, along with wind speed and direction information. The statistical reduction on the shadow flicker hours from the worst case scenario (i.e., the wind turbine always facing the sun, always operating, and no cloudy days), referred to as realistic shadow flicker or anticipated shadow flicker, assumes reductions

based on probability of the sun shining and the wind turbine operating in a direction to cause flicker at the house.

Table 1 shows results for the nine locations with realistic shadow flicker hours above 20 hours per year for the G132-3.465 on 114m HH, which is the model with the highest shadow flicker potential. Results for the other 52 modeled receptors fell below this arbitrary threshold.

Table 1: Modeled shadow flicker parameters for homes within 1.5 miles of proposed turbines and have realistic shadow flicker hours above 20 hours in a year. Location projections are in UTM NAD83 zone 13.

Receptor - Property Status	Easting	Northing	AW125-3.15 87.5m HH (hours/year)	GE 2.5-127 89m HH (hours/year)	V136-3.45/3.6/4.0/4.2 105m HH (hours/year)	G132-3.465 114m HH (hours/year)
57 - Participating	633,480	5,378,691	16:28	16:54	20:25	20:27
6 - Non-Participating	637,411	5,365,868	14:46	15:23	20:45	21:21
64 - Participating	639,268	5,377,996	12:01	13:02	21:30	23:09
8 - Non-Participating	638,435	5,378,666	19:45	20:20	24:47	25:00
42 - Participating	628,500	5,384,644	20:48	21:30	26:44	26:09
44 - Participating	629,997	5,384,325	22:25	23:23	29:40	26:27
47 - Participating	634,615	5,381,825	19:35	20:16	26:18	26:44
10 - Non-Participating [^]	643,279	5,372,615	26:57	27:47	34:26	35:21
45 - Participating [^]	633,554	5,377,057	27:24	28:55	42:39	45:10

[^]Surrounding obstacles (e.g., trees, outbuildings) would likely reduce shadow flicker below 30 hr/yr.

Since a conservative greenhouse, bare earth modeling analysis was conducted, four of the eight receptors modeled as potentially having annual shadow flicker above 30 hours per year are not likely to experience shadow flicker levels as high as the modeled results. In particular, there are substantial trees and buildings surrounding the four residences that were not taken into account in the modeling. When blockage due to foliage and other obstacles are taken into account, it is anticipated those four locations will be below 30 hours a year.

If the two occupied residences that were modeled above 30 hours per year continue to exceed the 30 hour threshold when the final Project layout is modeled, Aurora will obtain shadow flicker acknowledgments from the homeowners, or will employ measures to ensure that the occupied residences experience no more than 30 hours per year of shadow flicker. Compliance could be demonstrated through detailed modeling of trees and outbuildings, or by curtailment (i.e., turning select turbines off during specific times), if necessary. Shadow detection mitigation systems utilize shadow flicker results from windPRO in conjunction with light sensors to determine if a turbine should be temporarily turned off to avoid flicker on a home. The turbine controller can also be hard-coded to shut down the wind turbine during a specific time to avoid shadow flicker if a shadow detection mitigation system is not feasible for the final turbine model.

Maps and windPRO reports are provided for the five turbine models presented within this report, noting that the V136-3.45/3.6 and V136-4.0/4.2 are not presented twice since both models have the same shadow flicker results.

Sound Analysis

The Commission has a wind turbine sound level limit of 50 dBA within 100 feet of an inhabited residence or community building, unless a written waiver is obtained from the owner of the occupied residence or community building. A sound analysis was completed for all known occupied residences and community buildings within 1.5 miles of any proposed wind turbine locations in array A031 (a total of 61 receptors) using the windPRO software. Each residence was modeled assuming the ISO 9613-2 General sound model with a 0.5 general ground attenuation factor, commonly used and accepted model and settings for wind turbine sound analyses. These model settings simulate typical atmospheric and ground attenuation for sound propagation. All proposed 130 Aurora wind turbine locations were modeled for five different wind turbine models with a sound emission ranging from 106.1 dBA to 110.0 dBA plus a 2 dBA uncertainty factor. The Lindahl Wind Project wind turbines were also modeled to ensure residences between the two projects would be properly represented.

Table 2 shows results for those receptors modeled as potentially having sound levels above 40 dBA using the loudest potential turbine model (i.e., GE 2.5-127 on 89m HH). All other receptors were modeled at levels below the arbitrary 40 dBA threshold.

Table 2: Modeled sound results for homes within 1.5 miles of proposed wind turbines above 40.0 dBA. Location projections are in UTM NAD83 zone 13

Receptor - Property Status	Easting	Northing	G132-3.465	V136-4.0/4.2	V136-3.45/3.6	AW125-3.15	GE 2.5-127	GE 2.5-127
			84 m HH Sound (dBA)	82 m HH Sound (dBA)	82 m HH Sound (dBA)	87.5 m HH Sound (dBA)	89m HH Sound (dBA)	89m HH Distance to 50 dBA from Receptor (m/ft)
54 – Participating	643,167	5,375,685	35.7	36.7	37.4	38.4	40.0	1363 /4472
68 – Participating	635,378	5,369,828	35.6	36.8	37.7	38.8	40.6	1373 /4505
17 - Non-Participating	631,989	5,373,670	36.0	37.2	38.1	39.2	40.9	1139 /3737
4 - Non-Participating	632,031	5,373,676	36.2	37.3	38.3	39.3	41.1	1100 /3609
24 - Non-Participating	632,030	5,373,428	36.3	37.4	38.4	39.4	41.2	1068 /3504
3 - Non-Participating	630,488	5,379,437	36.9	38.1	39.0	40.0	41.7	804 /2638
2 - Non-Participating	647,930	5,371,801	40.7	40.9	41.1	41.3	41.8	884 /2900
31 - Non-Participating	633,553	5,383,375	37.2	38.3	39.3	40.3	42	883 /2897
46 – Participating	633,395	5,383,413	37.5	38.7	39.7	40.6	42.3	885 /2904
39 – Participating	643,400	5,373,972	38.2	39.2	40.2	41.0	42.6	817 /2680
59 – Participating	643,400	5,373,968	38.2	39.2	40.2	41.0	42.6	814 /2671
18 - Non-Participating	637,954	5,365,740	38.1	39.3	40.4	41.2	42.8	751 /2464
7 - Non-Participating	638,615	5,371,717	38.5	39.7	40.7	41.6	43.3	871 /2858
12 - Non-Participating	630,584	5,371,240	38.7	39.9	41.1	41.7	43.4	416 /1365
53 – Participating	642,413	5,373,644	39.6	40.7	41.8	42.5	44.1	445 /1460
6 - Non-Participating	637,411	5,365,868	39.5	40.7	41.9	42.5	44.2	451 /1480
10 - Non-Participating	643,279	5,372,615	39.8	41.0	42.1	42.7	44.3	436 /1430
16 - Non-Participating	630,734	5,381,835	39.8	41.0	42.1	42.9	44.5	646 /2119
11 - Non-Participating	643,282	5,373,088	40.1	41.3	42.4	43.0	44.6	362 /1188

Table 2: Continue

Receptor - Property Status	Easting	Northing	G132-3.465	V136-4.0/4.2	V136-3.45/3.6	AW125-3.15	GE 2.5-127	GE 2.5-127
			84 m HH Sound (dBA)	82 m HH Sound (dBA)	82 m HH Sound (dBA)	87.5 m HH Sound (dBA)	89m HH Sound (dBA)	89m HH Distance to 50 dBA from Receptor (m/ft)
51 – Participating	637,621	5,371,070	40.1	41.2	42.3	43.1	44.8	553 /1814
13 - Non-Participating	630,347	5,380,996	40.1	41.3	42.4	43.1	44.8	348 /1142
40 – Participating	643,453	5,372,099	40.6	41.7	42.8	43.5	45.1	410 /1345
62 – Participating	643,453	5,372,097	40.6	41.7	42.8	43.5	45.1	409 /1342
27 - Non-Participating	646,754	5,372,213	42.1	42.7	43.5	43.9	45.1	368 /1207
52 – Participating	640,276	5,365,862	40.9	42.1	43.4	43.8	45.5	254 /833
47 – Participating	634,615	5,381,825	41.2	42.4	43.5	44.3	45.9	415 /1362
5 - Non-Participating	636,328	5,376,974	41.5	42.6	43.7	44.5	46.1	498 /1634
61 – Participating	633,645	5,373,895	41.5	42.7	43.9	44.5	46.2	297 /974
50 – Participating	636,416	5,382,006	41.7	43.0	44.1	44.7	46.4	323 /1060
64 – Participating	639,268	5,377,996	41.9	43.1	44.3	44.8	46.5	210 /689
63 – Participating	641,300	5,368,154	42.2	43.4	44.5	45.1	46.7	435 /1427
9 - Non-Participating	640,413	5,369,191	42.2	43.4	44.6	45.1	46.8	246 /807
66 – Participating	638,244	5,370,747	42.2	43.4	44.6	45.1	46.8	203 /666
8 - Non-Participating	638,435	5,378,666	42.5	43.7	44.9	45.4	47.1	251 /823
55 – Participating	635,760	5,381,775	42.5	43.7	44.9	45.5	47.1	333 /1093
42 – Participating	628,500	5,384,644	42.6	43.8	45.0	45.6	47.2	274 /899
44 - Participating	629,997	5,384,325	42.7	43.9	45.1	45.6	47.3	212 /696
67 - Participating	637,448	5,370,698	42.8	44.0	45.2	45.7	47.4	160 /525
48 - Participating	634,891	5,378,584	44.1	45.3	46.4	47.1	48.7	155 /509
49 - Participating	636,455	5,380,259	44.1	45.4	46.6	47.1	48.8	152 /499
45 - Participating	633,554	5,377,057	44.4	45.6	46.8	47.4	49.0	190 /623
57 - Participating	633,480	5,378,691	44.6	45.8	47.1	47.6	49.2	77 /253

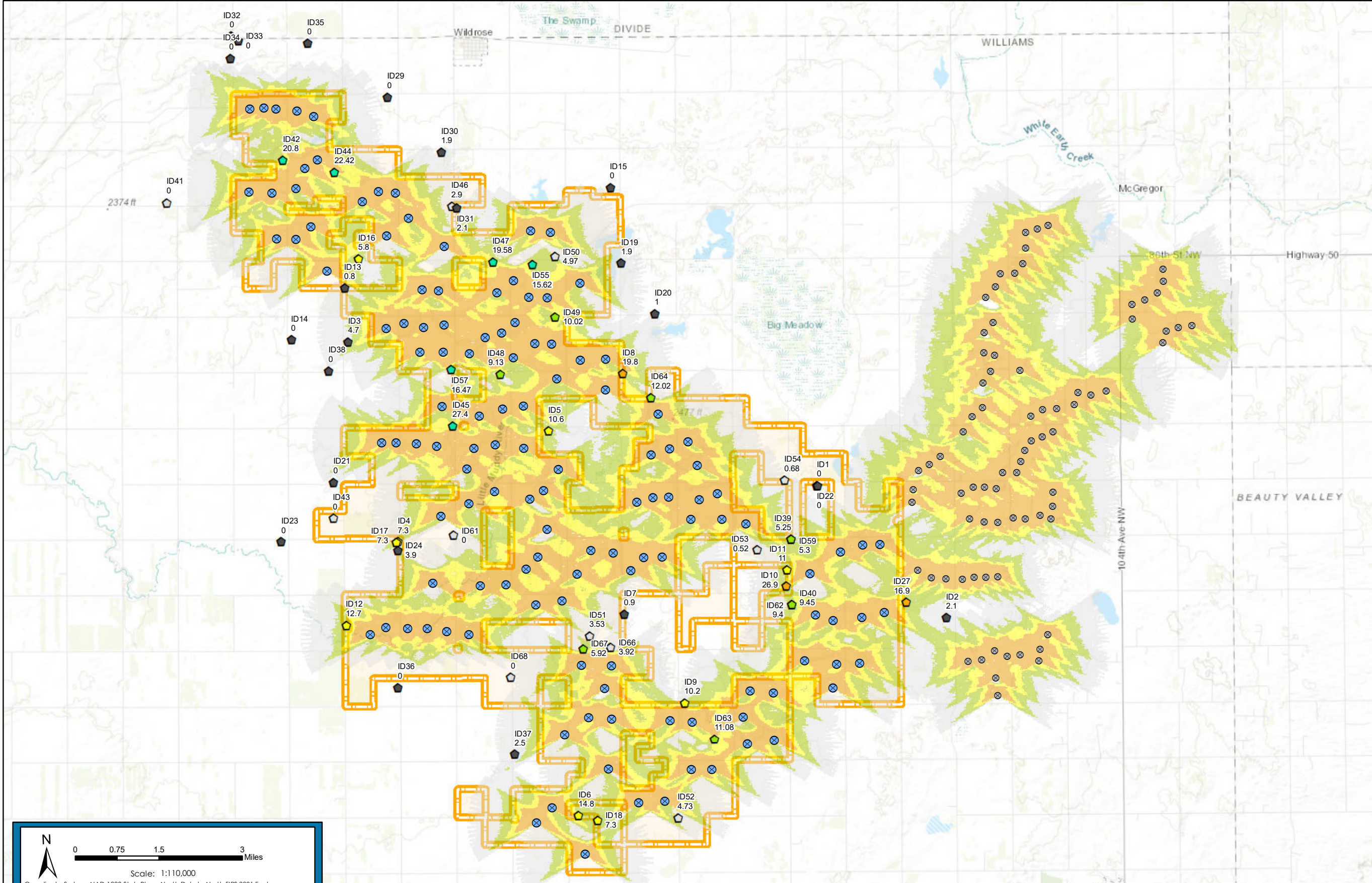
All receptors were modeled at sound levels below the 50 dBA limit, even with the 2 dBA uncertainty factor added to the wind turbine emission. If the final Project layout results in a modeled sound level above the 50 dBA limit at any receptor, Aurora will either obtain a written waiver of the sound avoidance requirement from the homeowner, or will take appropriate measures to ensure compliance (e.g., install Low Noise Trailing Edges (LNTE)).

Detailed maps and windPRO sound reports are included for reference.

Shadow Flicker Maps

Aurora Wind Project - Anticipated Realistic Shadow Flicker (Hours/Year)

AW125 3.15 87.5m HH



Legend

- Aurora
- Aurora Wind Project Turbine (A031)
- Lindahl Wind Project Turbine

Shadow Receptors (Non-Participating)

- Hours/Year
- 0.00 - 5.00
 - 5.01 - 15.00
 - 15.01 - 30.00
 - 30.01+

Shadow Receptors (Participating)

- Hours/Year
- 0.00 - 5.00
 - 5.01 - 15.00
 - 15.01 - 30.00
 - 30.01+

Realistic Shadow Flicker

- Hours/Year
- 0.01 - 5.00
 - 5.01 - 15.00
 - 15.01 - 30.00
 - 30.01+

Label Key

IDXX - Receptor ID
XX.XX - Result (Hours/Year)

N
0 0.75 1.5 3 Miles
Scale: 1:110,000
Coordinate System: NAD 1983 StatePlane North Dakota North FIPS 3301 Feet
Copyright 2019 Tradewind Energy, Inc.

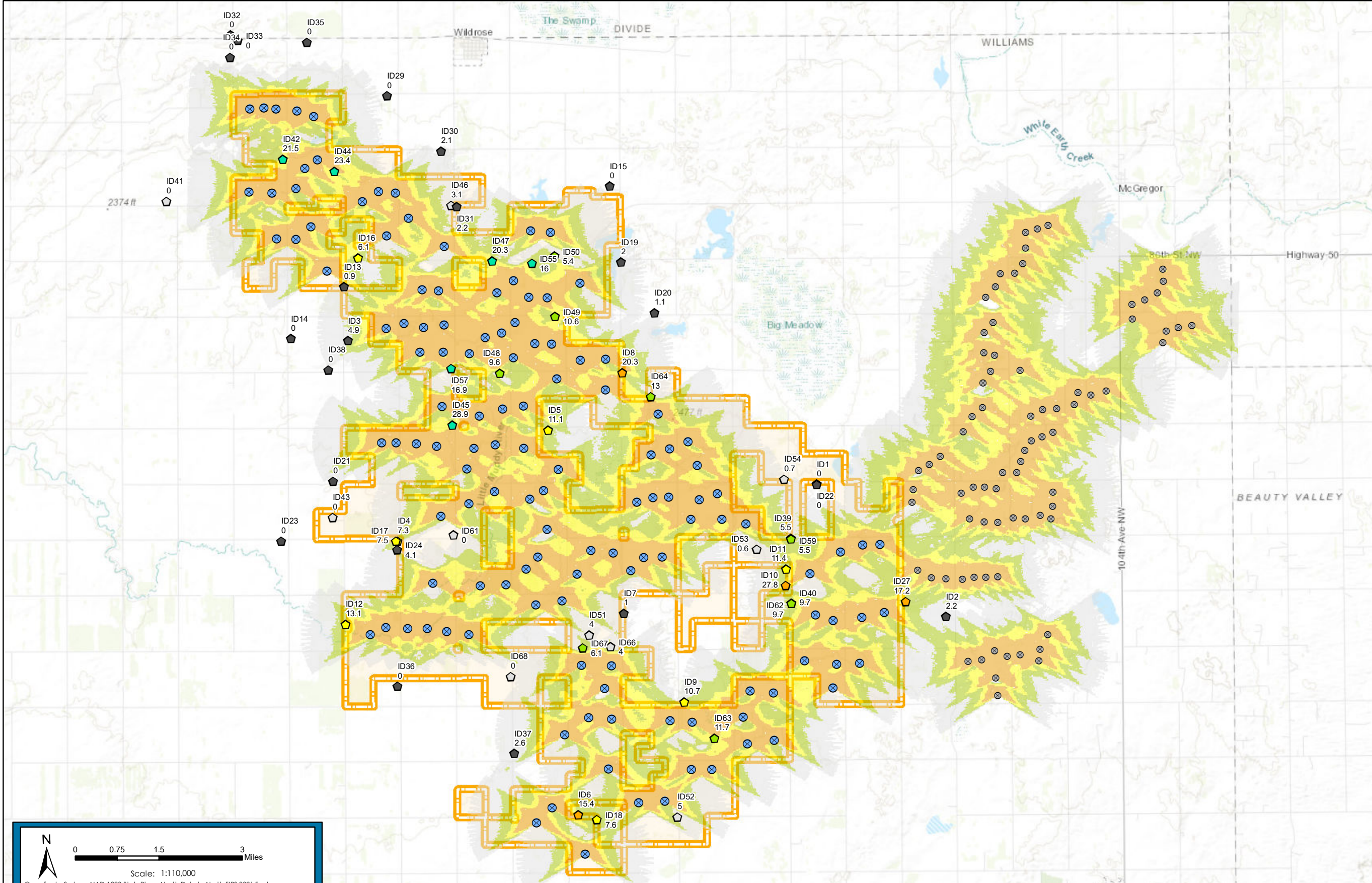
The following companies and organizations provided data that contributed to the production of this map.

- U.S. Geological Survey (USGS)
- Environmental Systems Research Institute (ESRI)
- U.S. Department of Agriculture (USDA)
- U.S. Federal Aviation Administration (FAA)
- WhiteStar Corporation
- CoreLogic
- Ventix Inc.

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Aurora Wind Project - Anticipated Realistic Shadow Flicker (Hours/Year)

GE 2.5 127 89m HH



Legend

- Aurora
- Aurora Wind Project Turbine (A031)
- Lindahl Wind Project Turbine

Shadow Receptors (Non-Participating)

- Hours/Year
- 0.00 - 5.00
 - 5.01 - 15.00
 - 15.01 - 30.00
 - 30.01+

Shadow Receptors (Participating)

- Hours/Year
- 0.00 - 5.00
 - 5.01 - 15.00
 - 15.01 - 30.00
 - 30.01+

Realistic Shadow Flicker

- Hours/Year
- 0.01 - 5.00
 - 5.01 - 15.00
 - 15.01 - 30.00
 - 30.01+

Label Key

IDXX - Receptor ID
XX.XX - Result (Hours/Year)

N
0 0.75 1.5 3 Miles
Scale: 1:110,000
Coordinate System: NAD 1983 StatePlane North Dakota North FIPS 3301 Feet
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The following companies and organizations provided data that contributed to the production of this map.

- U.S. Geological Survey (USGS)
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- U.S. Department of Agriculture (USDA)
- U.S. Federal Aviation Administration (FAA)
- WhiteStar Corporation
- CoreLogic
- Ventix Inc.

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Aurora Wind Project - Anticipated Realistic Shadow Flicker (Hours/Year)

V136 3.45/3.6/4.0/4.2 105m HH



Legend

- Aurora
- ⊗ Aurora Wind Project Turbine (A031)
- ⊗ Lindahl Wind Project Turbine

Shadow Receptors (Non-Participating)

- Hours/Year
- ⬠ 0.00 - 5.00
 - ⬠ 5.01 - 15.00
 - ⬠ 15.01 - 30.00
 - ⬠ 30.01+

Shadow Receptors (Participating)

- Hours/Year
- ⬠ 0.00 - 5.00
 - ⬠ 5.01 - 15.00
 - ⬠ 15.01 - 30.00
 - ⬠ 30.01+

Realistic Shadow Flicker

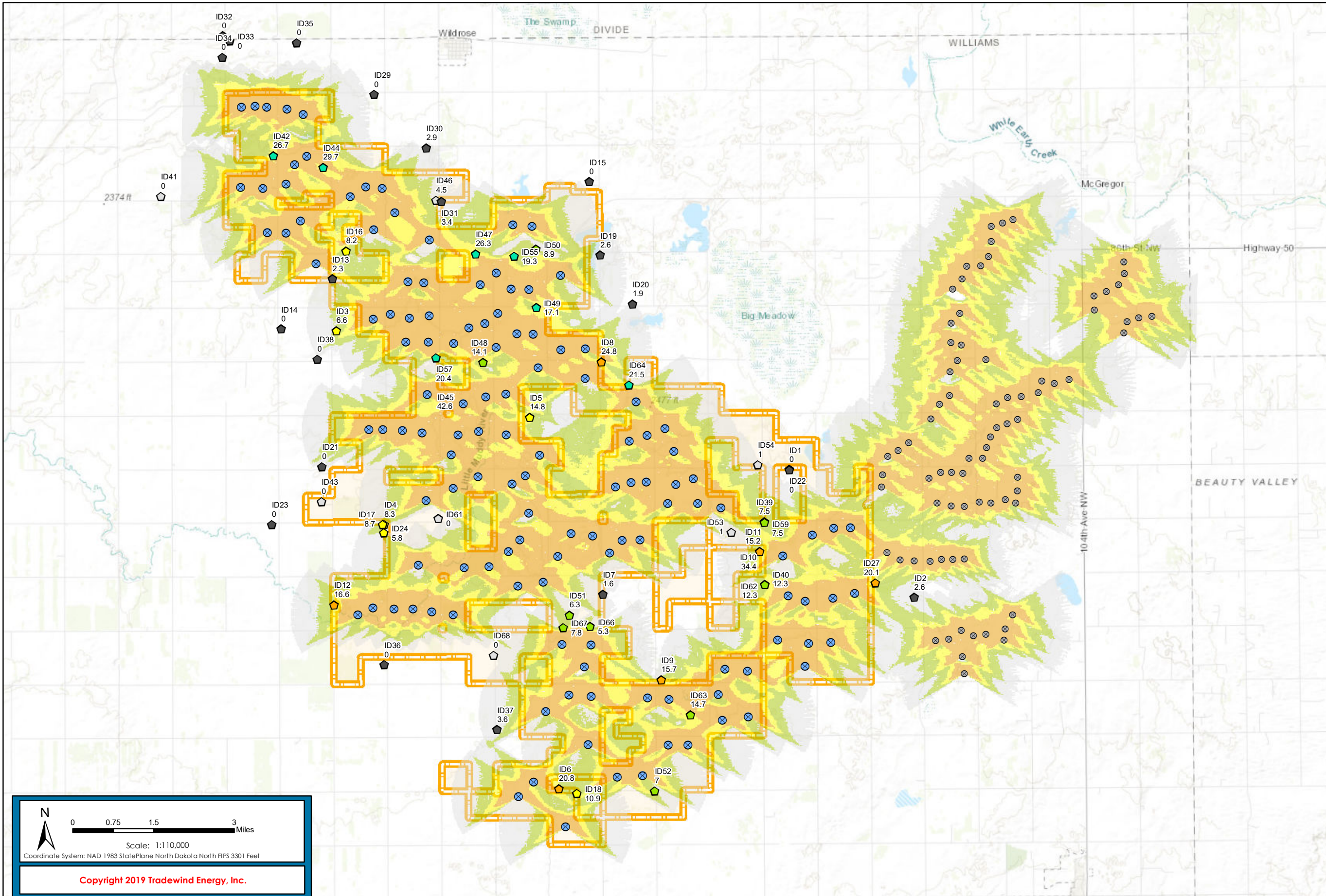
- Hours/Year
- 0.01 - 5.00
 - 5.01 - 15.00
 - 15.01 - 30.00
 - 30.01+

Label Key

IDXX - Receptor ID
XX.XX - Result (Hours/Year)

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- WhiteStar Corporation
- CoreLogic
- Ventix Inc.



N

Scale: 1:110,000

Coordinate System: NAD 1983 StatePlane North Dakota North FIPS 3301 Feet

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Aurora Wind Project - Anticipated Realistic Shadow Flicker (Hours/Year) G132 3.465 114m HH



Legend

- Aurora
- Aurora Wind Project Turbine (A031)
- Lindahl Wind Project Turbine

Shadow Receptors (Non-Participating)

- Hours/Year
- 0.00 - 5.00
 - 5.01 - 15.00
 - 15.01 - 30.00
 - 30.01+

Shadow Receptors (Participating)

- Hours/Year
- 0.00 - 5.00
 - 5.01 - 15.00
 - 15.01 - 30.00
 - 30.01+

Realistic Shadow Flicker

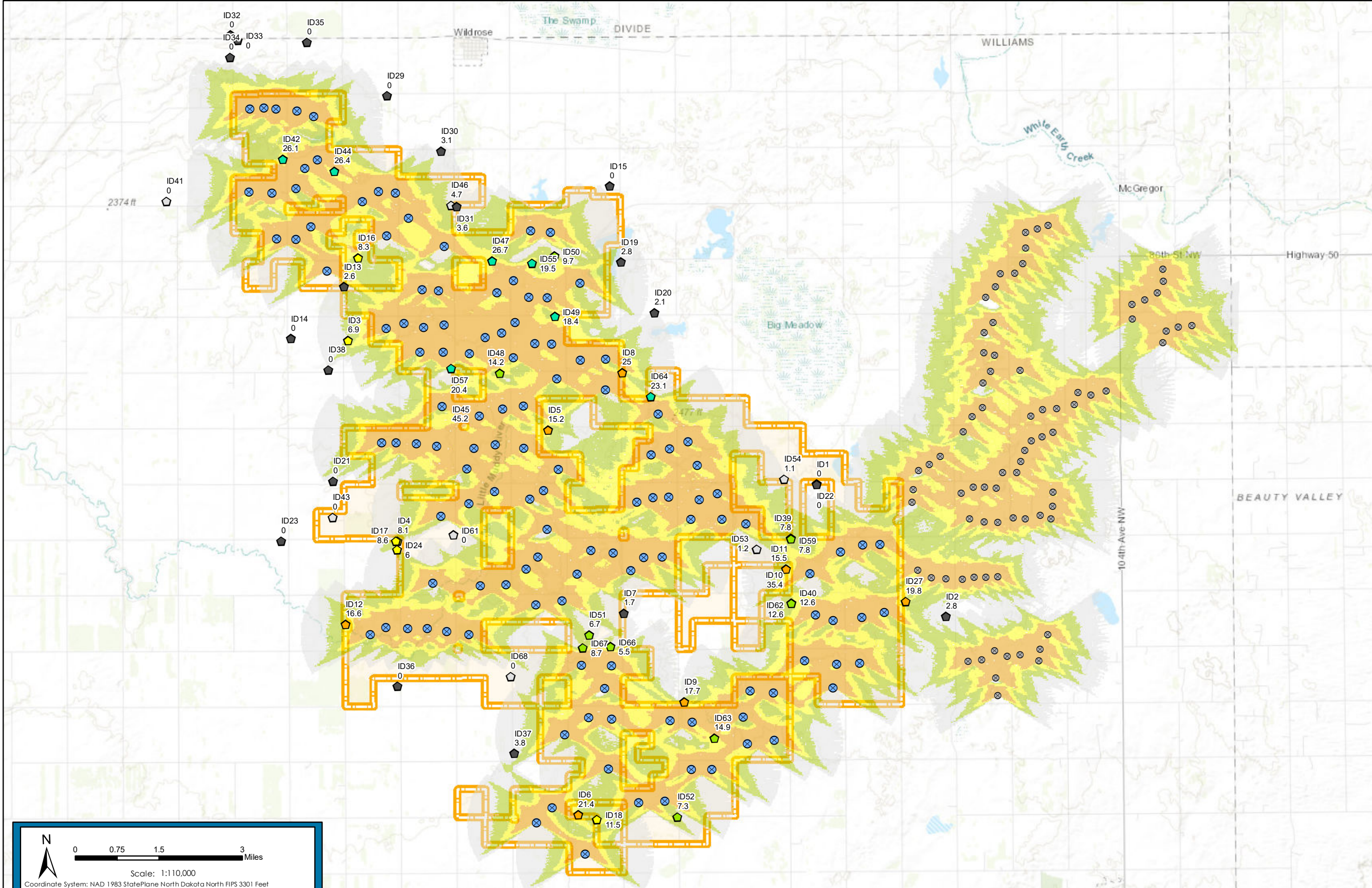
- Hours/Year
- 0.01 - 5.00
 - 5.01 - 15.00
 - 15.01 - 30.00
 - 30.01+

Label Key

IDXX - Receptor ID
XX.XX - Result (Hours/Year)

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- U.S. Department of Agriculture (USDA)
- U.S. Federal Aviation Administration (FAA)
- WhiteStar Corporation
- CoreLogic
- Ventix Inc.



N
0 0.75 1.5 3 Miles
Scale: 1:110,000
Coordinate System: NAD 1983 StatePlane North Dakota North FIPS 3301 Feet
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windPRO Shadow Flicker Reports

SHADOW - Main Result

Calculation: AW125-3.15 87.5m HH Shadow Flicker

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	X(East)	Y(North)	Z	Row data/Description	WTG type						
					Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]
			[m]								
27	636,095	5,373,292	733.9	T-46	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
28	634,438	5,372,432	701.0	T-57	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
29	634,798	5,376,526	725.4	T-71	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
30	638,928	5,374,941	737.6	T-59	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
31	639,384	5,375,074	737.6	T-60	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
32	639,838	5,375,100	737.6	T-61	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
33	640,492	5,374,466	743.6	T-40	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
34	644,695	5,369,685	736.0	T-15	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
35	644,792	5,370,371	743.7	T-16	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
36	645,456	5,370,405	735.1	T-17	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
37	642,975	5,369,494	737.6	T-12	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
38	642,303	5,369,536	734.9	T-13	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
39	638,102	5,369,527	710.5	T-26	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
40	638,282	5,370,192	712.5	T-25	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
41	642,122	5,368,780	734.6	T-10	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
42	641,239	5,367,252	719.1	T-8	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
43	633,243	5,379,162	737.6	T-94	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
44	634,001	5,379,136	737.6	T-95	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
45	634,443	5,379,605	731.5	T-96	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
46	634,918	5,379,749	728.5	T-121	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
47	629,136	5,384,387	713.2	T-142	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
48	629,347	5,382,713	710.2	T-131	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
49	628,366	5,382,343	707.1	T-129	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
50	628,893	5,383,804	717.2	T-141	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
51	633,253	5,379,950	729.4	T-123	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
52	630,815	5,383,459	711.9	T-144	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
53	631,275	5,383,767	710.7	T-145	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
54	631,767	5,383,732	713.2	T-146	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
55	635,699	5,382,724	710.2	T-122	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
56	629,834	5,381,441	713.0	T-117	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
57	628,926	5,382,328	703.0	T-130	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
58	638,268	5,373,457	731.5	T-44	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
59	635,628	5,376,434	728.5	T-72	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
60	639,307	5,376,310	731.5	T-75	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
61	636,056	5,371,908	719.3	T-34	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
62	636,215	5,375,218	731.5	T-74	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
63	633,243	5,377,581	731.5	T-81	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
64	631,582	5,379,814	726.8	T-98	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
65	635,586	5,377,640	725.5	T-85	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
66	634,183	5,376,389	733.5	T-86	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
67	636,542	5,378,452	715.1	T-87	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
68	633,261	5,374,418	716.3	T-51	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
69	640,641	5,368,602	728.5	T-23	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
70	643,024	5,368,138	728.5	T-11	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
71	639,998	5,368,634	725.4	T-22	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
72	633,064	5,372,478	698.0	T-5	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
73	642,243	5,368,015	730.6	T-9	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
74	635,270	5,379,029	725.4	T-90	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
75	635,883	5,379,448	720.6	T-91	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
76	636,364	5,379,455	716.0	T-92	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
77	633,072	5,380,925	729.9	T-106	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
78	632,659	5,379,855	737.2	T-100	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
79	634,758	5,380,905	718.9	T-107	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
80	632,089	5,379,958	731.5	T-99	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
81	629,494	5,384,648	709.6	T-143	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
82	635,222	5,381,271	716.3	T-108	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
83	635,678	5,380,785	716.0	T-109	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
84	636,220	5,380,785	716.3	T-110	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7

To be continued on next page...

SHADOW - Main Result

Calculation: AW125-3.15 87.5m HH Shadow Flicker

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]	
					Valid	Manufact.					
			[m]								
85	636,276	5,382,673	710.2	T-124	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
86	637,208	5,379,005	710.9	T-88	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
87	637,941	5,379,046	713.2	T-89	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
88	643,859	5,370,443	732.3	T-14	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
89	637,408	5,370,185	701.0	T-24	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
90	637,234	5,372,817	719.9	T-42	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
91	632,509	5,376,501	722.8	T-68	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
92	638,306	5,368,644	716.3	T-21	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
93	637,648	5,368,666	713.2	T-20	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
94	640,643	5,367,238	719.3	T-19	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
95	638,242	5,367,207	710.2	T-18	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
96	634,318	5,377,326	731.6	T-83	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
97	634,979	5,377,549	725.3	T-84	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
98	634,798	5,375,163	713.2	T-54	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
99	631,532	5,382,484	707.7	T-118	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
100	633,206	5,382,201	722.4	T-120	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
101	632,585	5,380,949	731.5	T-105	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
102	635,298	5,380,049	728.5	T-97	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
103	627,504	5,386,079	711.3	T-147	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
104	627,911	5,386,105	710.2	T-148	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
105	629,368	5,385,888	704.0	T-149	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
106	628,867	5,386,049	710.2	T-150	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
107	628,269	5,386,086	711.9	T-151	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
108	637,149	5,381,224	704.1	T-152	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
109	644,833	5,373,605	713.9	T-153	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
110	645,462	5,373,811	728.5	T-154	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
111	645,966	5,373,838	730.1	T-155	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
112	644,144	5,371,765	710.2	T-156	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
113	644,660	5,371,616	715.4	T-157	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
114	645,479	5,371,724	719.3	T-158	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
115	646,127	5,371,875	717.1	T-159	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
116	639,890	5,366,309	710.2	T-160	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
117	639,135	5,366,239	709.0	T-161	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
118	637,617	5,364,719	707.6	T-162	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
119	636,191	5,365,609	711.4	T-163	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
120	636,640	5,366,042	710.2	T-164	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
121	636,954	5,368,164	711.3	T-165	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
122	633,495	5,371,087	689.0	T-166	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
123	634,130	5,371,006	696.6	T-167	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
124	632,359	5,371,139	688.8	T-168	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
125	632,926	5,371,158	686.0	T-169	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
126	631,283	5,370,947	682.8	T-170	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
127	631,732	5,371,159	684.7	T-171	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
128	632,154	5,382,999	713.2	T-172	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
129	628,195	5,383,647	711.6	T-173	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
130	627,535	5,383,666	710.2	T-174	Yes	Acciona	AW3150/125-3,150	3,150	125.0	87.5	18.7
131	646,913	5,375,455	745.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
132	646,888	5,375,080	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
133	648,328	5,377,151	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
134	648,570	5,377,592	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
135	648,872	5,377,853	752.9	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
136	648,872	5,378,572	753.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
137	649,189	5,379,368	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
138	648,868	5,380,034	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
139	649,124	5,380,328	729.4	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
140	651,007	5,377,868	748.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
141	651,525	5,378,000	750.5	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
142	651,616	5,378,348	758.5	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	

To be continued on next page...

SHADOW - Main Result

Calculation: AW125-3.15 87.5m HH Shadow Flicker

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]
					Valid	Manufact.					
143	651,987	5,378,290	755.6	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
144	652,436	5,378,405	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
145	654,047	5,379,834	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
146	654,478	5,380,290	740.6	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
147	654,876	5,380,346	731.4	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
148	649,468	5,369,552	735.9	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
149	649,403	5,370,046	745.1	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
150	648,989	5,370,563	740.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
151	649,348	5,370,846	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
152	649,714	5,370,690	746.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
153	650,635	5,370,574	746.1	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
154	650,667	5,370,918	744.2	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
155	650,882	5,371,340	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
156	649,309	5,375,532	733.1	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
157	649,484	5,375,990	732.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
158	649,889	5,375,994	741.6	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
159	650,008	5,376,322	740.0	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
160	650,956	5,375,465	750.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
161	648,982	5,374,557	737.6	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
162	648,553	5,374,643	733.0	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
163	648,903	5,381,054	722.4	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
164	649,170	5,381,363	721.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
165	649,950	5,382,038	713.3	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
166	650,030	5,382,496	712.9	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
167	650,267	5,377,632	746.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
168	650,119	5,376,640	740.5	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
169	650,663	5,383,159	707.1	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
170	650,947	5,375,049	753.6	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
171	650,911	5,374,694	758.6	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
172	650,163	5,374,664	746.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
173	649,378	5,374,555	741.2	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
174	649,818	5,374,694	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
175	650,613	5,377,049	737.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
176	649,406	5,372,982	725.6	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
177	647,909	5,372,903	716.3	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
178	647,487	5,372,910	715.5	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
179	647,672	5,376,428	744.3	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
180	647,365	5,376,192	740.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
181	649,728	5,381,758	721.2	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
182	650,599	5,377,842	746.4	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
183	653,143	5,380,511	713.2	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
184	653,130	5,380,927	710.2	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
185	653,497	5,381,062	704.6	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
186	653,850	5,381,276	700.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
187	654,022	5,381,604	696.2	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
188	654,011	5,381,966	694.9	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
189	648,594	5,370,523	731.5	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
190	650,092	5,370,737	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
191	647,056	5,376,002	741.1	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
192	654,134	5,380,179	733.9	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
193	648,870	5,379,452	759.0	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
194	649,079	5,378,913	759.0	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
195	649,308	5,381,738	716.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
196	650,346	5,383,045	709.6	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
197	650,021	5,382,956	710.0	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
198	647,090	5,373,129	713.2	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
199	649,061	5,372,960	722.4	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	
200	648,724	5,372,961	720.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9	

To be continued on next page...

SHADOW - Main Result

Calculation: AW125-3.15 87.5m HH Shadow Flicker

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]
					Valid	Manufact. Type-generator				
201	648,383	5,372,886	719.3	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	Yes	VESTAS V100-2,000	2,000	100.0	80.0	14.9
202	648,975	5,375,560	735.2	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	Yes	VESTAS V100-2,000	2,000	100.0	80.0	14.9
203	648,641	5,375,554	726.1	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	Yes	VESTAS V100-2,000	2,000	100.0	80.0	14.9
204	648,297	5,375,376	728.5	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	Yes	VESTAS V100-2,000	2,000	100.0	80.0	14.9
205	649,928	5,378,956	741.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	Yes	VESTAS V100-2,000	2,000	100.0	80.0	14.9
206	650,591	5,374,779	748.5	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	Yes	VESTAS V100-2,000	2,000	100.0	80.0	14.9
207	650,301	5,376,922	735.1	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	Yes	VESTAS V100-2,000	2,000	100.0	80.0	14.9
208	650,917	5,377,197	740.0	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT... Yes	Yes	VESTAS V100-2,000	2,000	100.0	80.0	14.9

Shadow receptor-Input

No.	Name	X(East)	Y(North)	Z	Width [m]	Height [m]	Height a.g.l. [m]	Degrees from south cw [°]	Slope of window [°]	Direction mode
B 39 - Participating	643,400	5,373,971	711.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
C 2 - Non-Participating	647,930	5,371,801	718.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
D 40 - Participating	643,453	5,372,099	716.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
E 41 - Participating	625,162	5,383,364	711.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
F 42 - Participating	628,500	5,384,644	704.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
G 43 - Participating	630,148	5,374,326	691.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
H 44 - Participating	629,997	5,384,325	711.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
I 3 - Non-Participating	630,488	5,379,437	722.7	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
J 4 - Non-Participating	632,031	5,373,676	696.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
K 45 - Participating	633,554	5,377,057	735.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
L 46 - Participating	633,395	5,383,413	715.7	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
M 47 - Participating	634,615	5,381,825	716.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
N 48 - Participating	634,891	5,378,584	728.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
O 5 - Non-Participating	636,328	5,376,974	731.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
P 49 - Participating	636,455	5,380,259	709.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
Q 50 - Participating	636,416	5,382,006	707.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
R 51 - Participating	637,621	5,371,070	716.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
S 6 - Non-Participating	637,411	5,365,868	713.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
T 52 - Participating	640,276	5,365,862	710.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
U 7 - Non-Participating	638,615	5,371,717	720.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
V 8 - Non-Participating	638,435	5,378,666	709.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
W 9 - Non-Participating	640,413	5,369,191	728.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
X 10 - Non-Participating	643,279	5,372,615	722.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
Y 11 - Non-Participating	643,282	5,373,088	726.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
Z 53 - Participating	642,413	5,373,644	734.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AA 54 - Participating	643,167	5,375,685	714.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AB 12 - Non-Participating	630,584	5,371,240	682.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AC 13 - Non-Participating	630,347	5,380,996	717.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AD 14 - Non-Participating	628,838	5,379,465	705.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AE 55 - Participating	635,760	5,381,775	711.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AF 15 - Non-Participating	637,972	5,384,054	715.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AG 57 - Participating	633,480	5,378,691	739.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AH 59 - Participating	643,400	5,373,968	711.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AI 61 - Participating	633,645	5,373,895	713.7	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AJ 62 - Participating	643,453	5,372,097	716.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AK 63 - Participating	641,300	5,368,154	725.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AL 16 - Non-Participating	630,734	5,381,835	710.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AM 17 - Non-Participating	631,989	5,373,670	695.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AN 18 - Non-Participating	637,954	5,365,740	710.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AO 64 - Participating	639,268	5,377,996	720.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AP 19 - Non-Participating	638,331	5,381,857	701.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"	
AQ 20 - Non-Participating	639,333	5,380,415	707.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"	

To be continued on next page...

SHADOW - Main Result

Calculation: AW125-3.15 87.5m HH Shadow Flicker

...continued from previous page

No.	Name	X(East)	Y(North)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
				[m]	[m]	[m]	[m]	[°]	[°]	
AR 21 - Non-Participating		630,142	5,375,377	701.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AS 22 - Non-Participating		644,117	5,375,554	701.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AT 23 - Non-Participating		628,666	5,373,611	682.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AU 24 - Non-Participating		632,030	5,373,428	696.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AV 27 - Non-Participating		646,754	5,372,213	713.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AW 29 - Non-Participating		631,486	5,386,533	696.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AX 30 - Non-Participating		633,067	5,384,963	707.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AY 31 - Non-Participating		633,553	5,383,375	714.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AZ 66 - Participating		638,244	5,370,747	710.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BA 67 - Participating		637,448	5,370,698	712.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BB 68 - Participating		635,378	5,369,828	692.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BC 32 - Non-Participating		626,925	5,388,203	701.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BD 33 - Non-Participating		627,137	5,388,066	701.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BE 34 - Non-Participating		626,921	5,387,556	704.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BF 35 - Non-Participating		629,137	5,388,039	693.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BG 36 - Non-Participating		632,118	5,369,480	691.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BH 37 - Non-Participating		635,531	5,367,600	699.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BI 38 - Non-Participating		629,941	5,378,583	713.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"

Calculation Results

Shadow receptor

No.	Name	Shadow, worst case			Shadow, expected values
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
A 1 - Non-Participating		0:00	0	0:00	0:00
B 39 - Participating		12:05	56	0:22	5:14
C 2 - Non-Participating		5:48	44	0:14	2:09
D 40 - Participating		26:54	58	0:46	9:26
E 41 - Participating		0:00	0	0:00	0:00
F 42 - Participating		59:04	144	0:44	20:47
G 43 - Participating		0:00	0	0:00	0:00
H 44 - Participating		55:25	158	0:40	22:25
I 3 - Non-Participating		11:23	41	0:26	4:39
J 4 - Non-Participating		17:30	63	0:22	7:14
K 45 - Participating		79:44	169	1:02	27:23
L 46 - Participating		7:59	47	0:20	2:54
M 47 - Participating		56:35	150	0:40	19:35
N 48 - Participating		20:22	121	0:19	9:08
O 5 - Non-Participating		33:42	126	0:36	10:35
P 49 - Participating		27:54	143	0:26	10:00
Q 50 - Participating		16:39	68	0:22	4:58
R 51 - Participating		7:02	52	0:13	3:31
S 6 - Non-Participating		33:53	93	0:39	14:46
T 52 - Participating		9:59	40	0:23	4:44
U 7 - Non-Participating		2:10	18	0:11	0:57
V 8 - Non-Participating		70:26	139	0:47	19:45
W 9 - Non-Participating		37:01	91	0:42	10:13
X 10 - Non-Participating		66:28	159	0:46	26:56
Y 11 - Non-Participating		26:21	74	0:42	10:59
Z 53 - Participating		1:28	15	0:08	0:31
AA 54 - Participating		1:56	15	0:12	0:40
AB 12 - Non-Participating		33:20	87	0:40	12:41
AC 13 - Non-Participating		2:28	18	0:10	0:44
AD 14 - Non-Participating		0:00	0	0:00	0:00
AE 55 - Participating		58:17	117	0:47	15:36
AF 15 - Non-Participating		0:00	0	0:00	0:00

To be continued on next page...

SHADOW - Main Result

Calculation: AW125-3.15 87.5m HH Shadow Flicker

...continued from previous page

No.	Name	Shadow, worst case			Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	Shadow hours per year [h/year]
AG 57 - Participating		34:05	124	0:30	16:27	
AH 59 - Participating		12:10	58	0:22	5:17	
AI 61 - Participating		0:00	0	0:00	0:00	
AJ 62 - Participating		26:47	58	0:46	9:24	
AK 63 - Participating		24:50	106	0:32	11:05	
AL 16 - Non-Participating		17:02	85	0:31	5:48	
AM 17 - Non-Participating		17:41	66	0:21	7:21	
AN 18 - Non-Participating		16:55	84	0:22	7:14	
AO 64 - Participating		36:14	78	0:46	12:01	
AP 19 - Non-Participating		6:18	29	0:20	1:51	
AQ 20 - Non-Participating		4:17	26	0:12	1:01	
AR 21 - Non-Participating		0:00	0	0:00	0:00	
AS 22 - Non-Participating		0:00	0	0:00	0:00	
AT 23 - Non-Participating		0:00	0	0:00	0:00	
AU 24 - Non-Participating		12:04	42	0:22	3:52	
AV 27 - Non-Participating		50:40	143	0:54	16:56	
AW 29 - Non-Participating		0:00	0	0:00	0:00	
AX 30 - Non-Participating		7:37	40	0:14	1:55	
AY 31 - Non-Participating		5:35	38	0:16	2:05	
AZ 66 - Participating		14:08	48	0:29	3:54	
BA 67 - Participating		17:26	52	0:32	5:55	
BB 68 - Participating		0:00	0	0:00	0:00	
BC 32 - Non-Participating		0:00	0	0:00	0:00	
BD 33 - Non-Participating		0:00	0	0:00	0:00	
BE 34 - Non-Participating		0:00	0	0:00	0:00	
BF 35 - Non-Participating		0:00	0	0:00	0:00	
BG 36 - Non-Participating		0:00	0	0:00	0:00	
BH 37 - Non-Participating		5:58	31	0:18	2:28	
BI 38 - Non-Participating		0:00	0	0:00	0:00	

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
1	T-43	0:00	0:00
2	T-41	8:22	3:53
3	T-63	1:56	0:40
4	T-62	0:00	0:00
5	T-45	0:00	0:00
6	T-35	2:10	0:57
7	T-47	0:00	0:00
8	T-56	0:00	0:00
9	T-55	0:00	0:00
10	T-39	0:00	0:00
11	T-38	0:00	0:00
12	T-37	0:00	0:00
13	T-70	0:00	0:00
14	T-77	0:00	0:00
15	T-53	0:00	0:00
16	T-67	1:56	0:36
17	T-66	0:00	0:00
18	T-69	15:38	4:31
19	T-93	30:24	15:06
20	T-80	66:15	18:01
21	T-58	0:00	0:00
22	T-73	0:00	0:00
23	T-28	73:54	30:51
24	T-78	31:04	9:45

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Project:
Aurora

Description:

Licensed user:
TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/15/2018 3:20 AM/3.0.654

SHADOW - Main Result

Calculation: AW125-3.15 87.5m HH Shadow Flicker

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
25	T-76	0:00	0:00
26	T-79	0:00	0:00
27	T-46	0:00	0:00
28	T-57	0:00	0:00
29	T-71	7:26	2:28
30	T-59	0:00	0:00
31	T-60	0:00	0:00
32	T-61	0:00	0:00
33	T-40	0:00	0:00
34	T-15	0:00	0:00
35	T-16	0:00	0:00
36	T-17	0:00	0:00
37	T-12	0:00	0:00
38	T-13	1:46	0:42
39	T-26	0:00	0:00
40	T-25	17:26	5:55
41	T-10	2:21	0:53
42	T-8	0:00	0:00
43	T-94	3:28	1:39
44	T-95	8:22	4:04
45	T-96	0:00	0:00
46	T-121	3:44	1:13
47	T-142	50:49	19:54
48	T-131	2:06	1:02
49	T-129	0:00	0:00
50	T-141	8:06	2:38
51	T-123	0:00	0:00
52	T-144	5:33	1:42
53	T-145	5:13	1:43
54	T-146	11:58	3:38
55	T-122	0:00	0:00
56	T-117	13:30	4:10
57	T-130	1:26	0:37
58	T-44	0:00	0:00
59	T-72	25:09	6:55
60	T-75	0:00	0:00
61	T-34	7:02	3:31
62	T-74	0:00	0:00
63	T-81	1:49	0:29
64	T-98	13:50	5:24
65	T-85	0:00	0:00
66	T-86	21:35	6:27
67	T-87	3:18	1:25
68	T-51	19:13	7:58
69	T-23	1:53	0:55
70	T-11	2:16	0:59
71	T-22	39:57	12:03
72	T-5	12:04	3:52
73	T-9	13:38	5:46
74	T-90	6:12	1:48
75	T-91	0:00	0:00
76	T-92	4:54	2:08
77	T-106	3:01	0:49
78	T-100	0:00	0:00
79	T-107	20:22	6:06
80	T-99	3:34	1:25
81	T-143	27:51	12:59
82	T-108	104:08	30:30
83	T-109	4:18	1:32
84	T-110	2:15	0:46

To be continued on next page...

SHADOW - Main Result

Calculation: AW125-3.15 87.5m HH Shadow Flicker

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
85	T-124	2:24	1:00
86	T-88	7:52	3:34
87	T-89	10:08	2:51
88	T-14	0:00	0:00
89	T-24	14:08	3:54
90	T-42	0:00	0:00
91	T-68	7:15	2:15
92	T-21	0:00	0:00
93	T-20	0:00	0:00
94	T-19	0:00	0:00
95	T-18	0:00	0:00
96	T-83	28:25	11:47
97	T-84	12:16	5:20
98	T-54	0:00	0:00
99	T-118	0:00	0:00
100	T-120	5:19	2:22
101	T-105	0:00	0:00
102	T-97	8:57	3:33
103	T-147	0:00	0:00
104	T-148	0:00	0:00
105	T-149	0:00	0:00
106	T-150	0:00	0:00
107	T-151	0:00	0:00
108	T-152	19:22	6:06
109	T-153	13:03	5:13
110	T-154	0:00	0:00
111	T-155	0:00	0:00
112	T-156	32:52	11:12
113	T-157	10:33	3:44
114	T-158	5:30	1:41
115	T-159	32:31	9:59
116	T-160	0:00	0:00
117	T-161	21:04	9:23
118	T-162	0:00	0:00
119	T-163	7:51	3:01
120	T-164	25:52	11:42
121	T-165	5:58	2:28
122	T-166	0:00	0:00
123	T-167	0:00	0:00
124	T-168	2:12	0:57
125	T-169	0:00	0:00
126	T-170	25:13	9:06
127	T-171	8:07	3:33
128	T-172	8:00	2:40
129	T-173	1:23	0:26
130	T-174	13:49	3:26
131	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (1)	0:00	0:00
132	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (2)	0:00	0:00
133	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (3)	0:00	0:00
134	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (4)	0:00	0:00
135	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (5)	0:00	0:00
136	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (6)	0:00	0:00
137	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (7)	0:00	0:00
138	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (8)	0:00	0:00
139	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (9)	0:00	0:00
140	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (10)	0:00	0:00
141	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (11)	0:00	0:00
142	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (12)	0:00	0:00
143	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (13)	0:00	0:00
144	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (14)	0:00	0:00

To be continued on next page...

SHADOW - Main Result

Calculation: AW125-3.15 87.5m HH Shadow Flicker

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
145	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (15)	0:00	0:00
146	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (16)	0:00	0:00
147	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (17)	0:00	0:00
148	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (18)	0:00	0:00
149	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (19)	0:00	0:00
150	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (20)	0:00	0:00
151	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (21)	4:06	1:25
152	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (22)	0:00	0:00
153	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (23)	0:00	0:00
154	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (24)	0:00	0:00
155	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (25)	0:00	0:00
156	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (26)	0:00	0:00
157	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (27)	0:00	0:00
158	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (28)	0:00	0:00
159	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (29)	0:00	0:00
160	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (30)	0:00	0:00
161	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (31)	0:00	0:00
162	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (32)	0:00	0:00
163	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (33)	0:00	0:00
164	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (34)	0:00	0:00
165	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (35)	0:00	0:00
166	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (36)	0:00	0:00
167	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (37)	0:00	0:00
168	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (38)	0:00	0:00
169	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (39)	0:00	0:00
170	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (40)	0:00	0:00
171	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (41)	0:00	0:00
172	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (42)	0:00	0:00
173	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (43)	0:00	0:00
174	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (44)	0:00	0:00
175	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (45)	0:00	0:00
176	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (46)	0:00	0:00
177	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (47)	12:37	5:14
178	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (48)	0:00	0:00
179	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (49)	0:00	0:00
180	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (50)	0:00	0:00
181	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (51)	0:00	0:00
182	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (52)	0:00	0:00
183	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (53)	0:00	0:00
184	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (54)	0:00	0:00
185	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (55)	0:00	0:00
186	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (56)	0:00	0:00
187	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (57)	0:00	0:00
188	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (58)	0:00	0:00
189	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (59)	0:00	0:00
190	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (60)	0:00	0:00
191	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (61)	0:00	0:00
192	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (62)	0:00	0:00
193	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (63)	0:00	0:00
194	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (64)	0:00	0:00
195	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (65)	0:00	0:00
196	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (66)	0:00	0:00
197	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (67)	0:00	0:00
198	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (68)	0:00	0:00
199	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (69)	0:00	0:00
200	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (70)	0:00	0:00
201	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (71)	1:44	0:43
202	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (72)	0:00	0:00
203	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (73)	0:00	0:00
204	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (74)	0:00	0:00

To be continued on next page...

Project: Description:

Aurora

Licensed user:

TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308

Kevin Walter / kwalter@tradewindenergy.com

Calculated:

9/15/2018 3:20 AM/3.0.654

SHADOW - Main Result

Calculation: AW125-3.15 87.5m HH Shadow Flicker

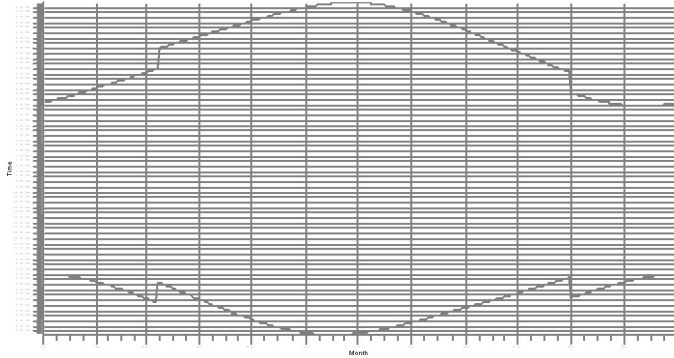
...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
205	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (75)	0:00	0:00
206	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (76)	0:00	0:00
207	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (77)	0:00	0:00
208	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (78)	0:00	0:00

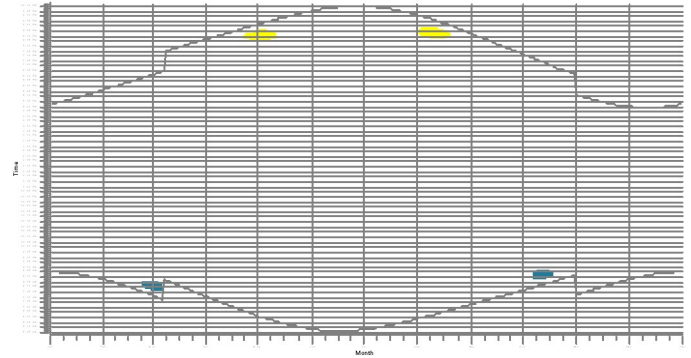
SHADOW - Calendar, graphical

Calculation: AW125-3.15 87.5m HH Shadow Flicker

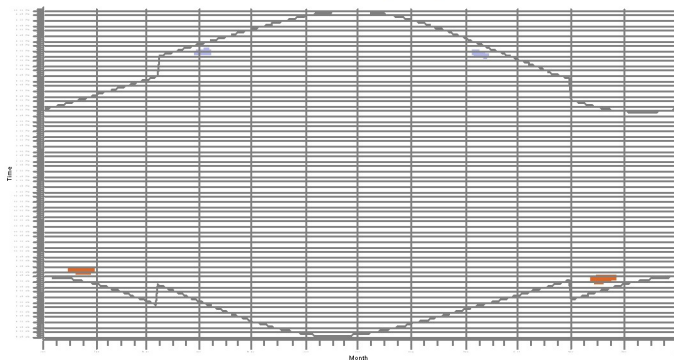
A: 1 - Non-Participating



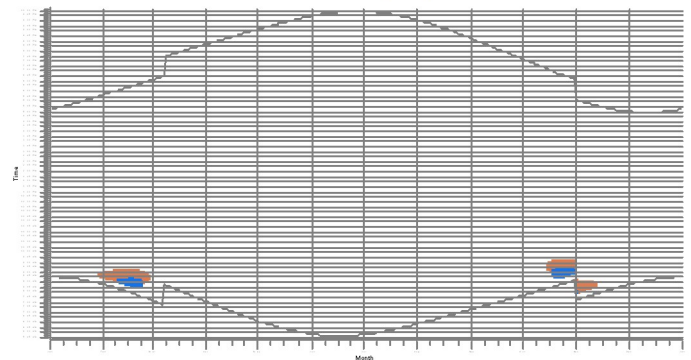
B: 39 - Participating



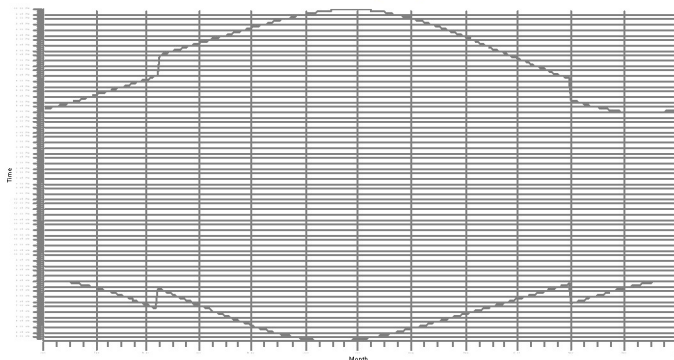
C: 2 - Non-Participating



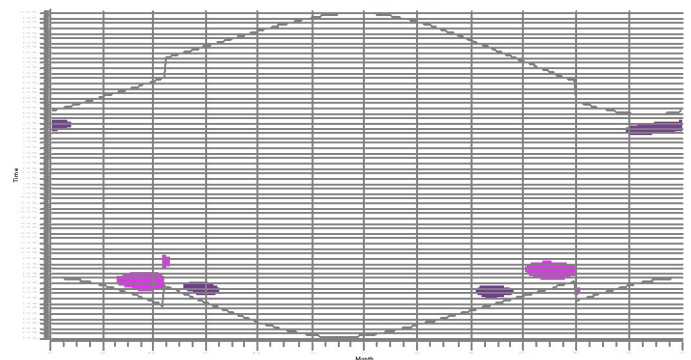
D: 40 - Participating



E: 41 - Participating



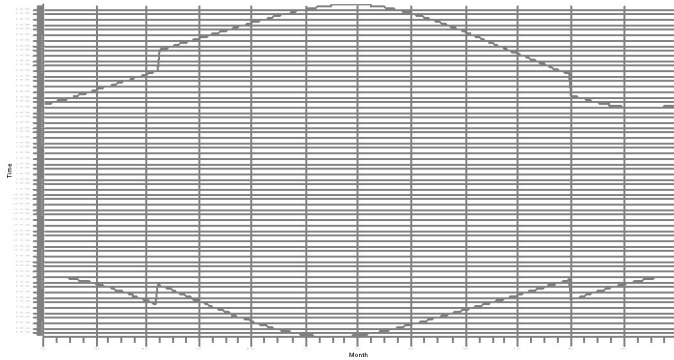
F: 42 - Participating



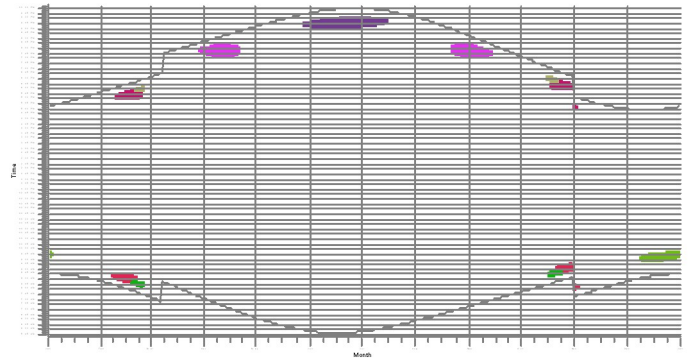
SHADOW - Calendar, graphical

Calculation: AW125-3.15 87.5m HH Shadow Flicker

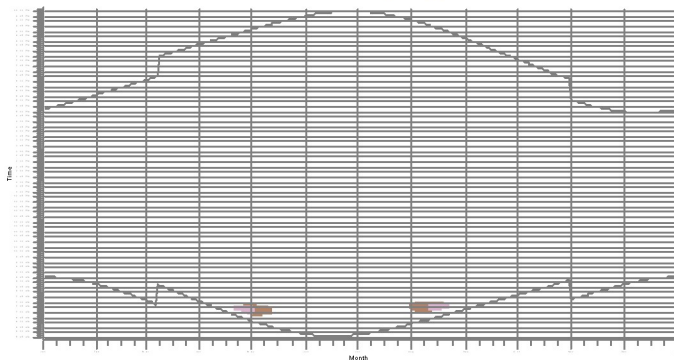
G: 43 - Participating



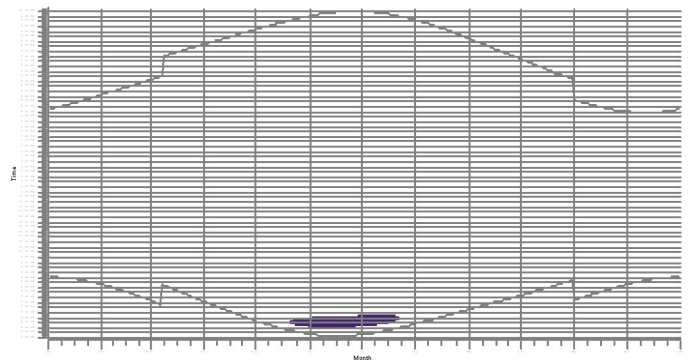
H: 44 - Participating



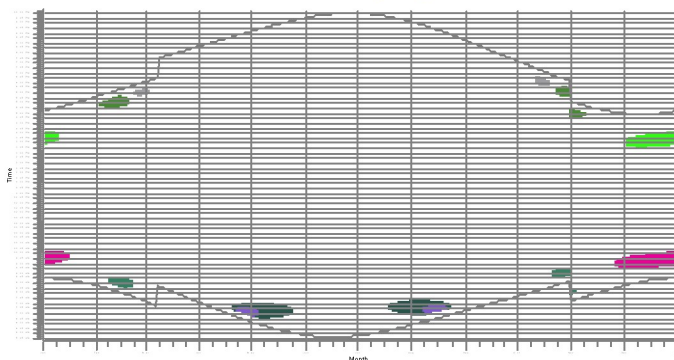
I: 3 - Non-Participating



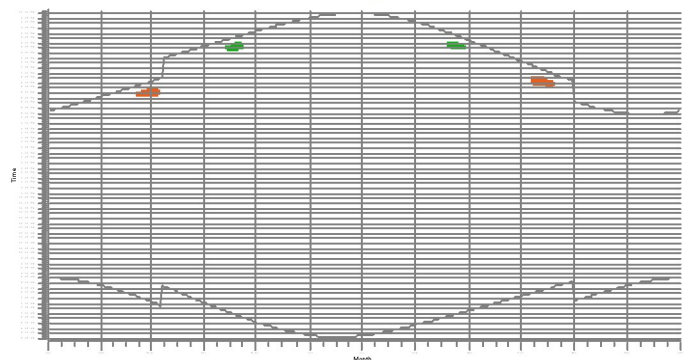
J: 4 - Non-Participating



K: 45 - Participating



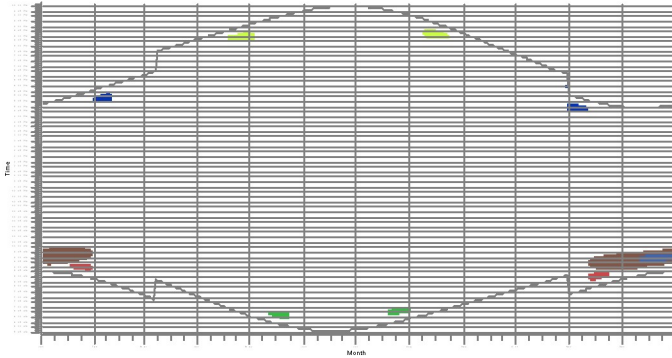
L: 46 - Participating



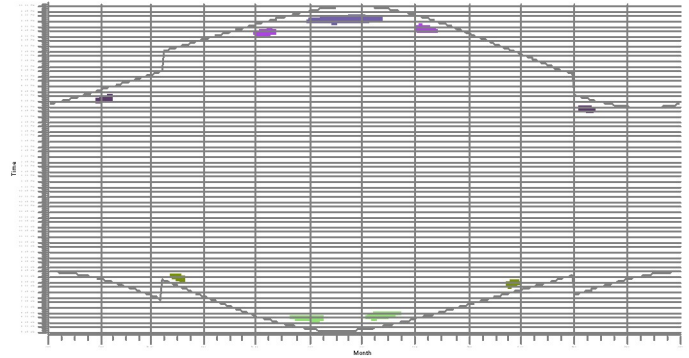
SHADOW - Calendar, graphical

Calculation: AW125-3.15 87.5m HH Shadow Flicker

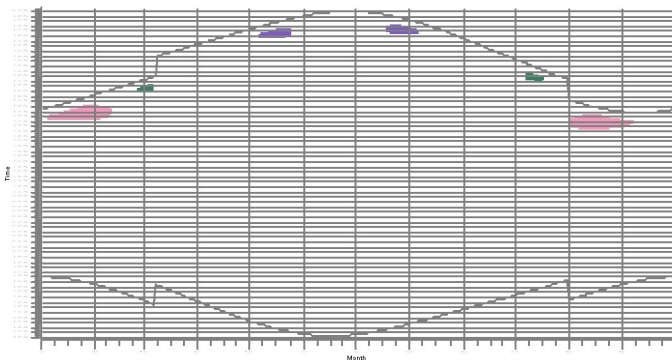
M: 47 - Participating



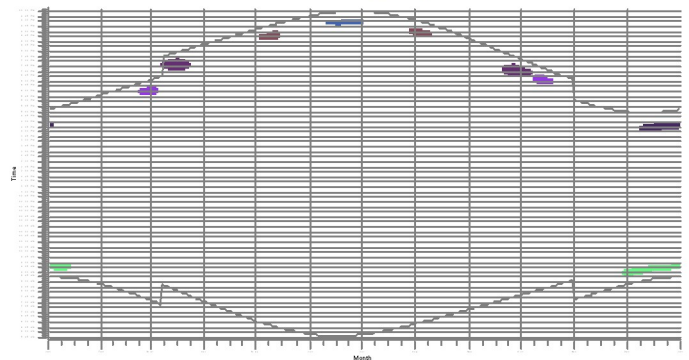
N: 48 - Participating



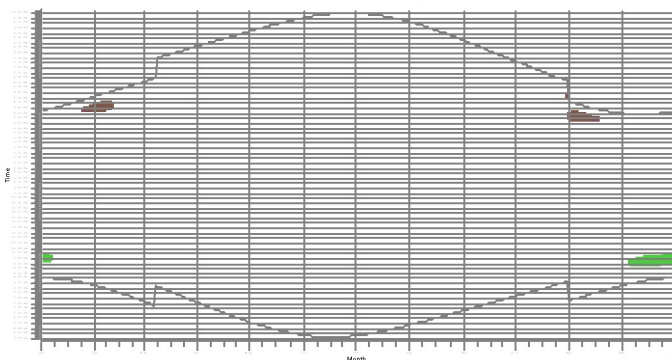
O: 5 - Non-Participating



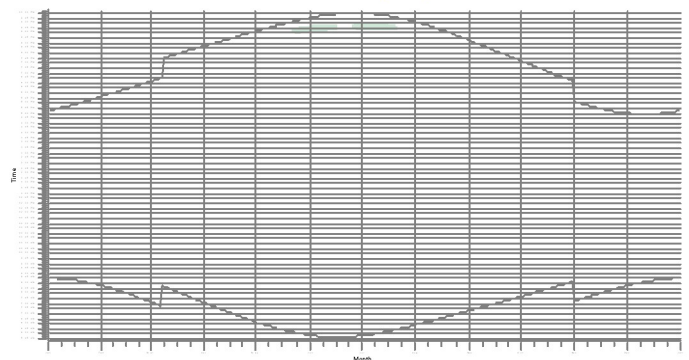
P: 49 - Participating



Q: 50 - Participating



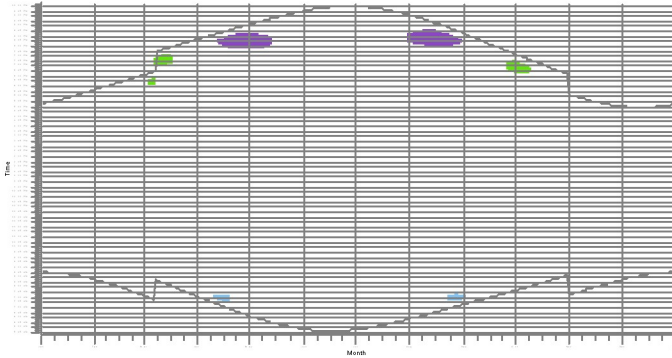
R: 51 - Participating



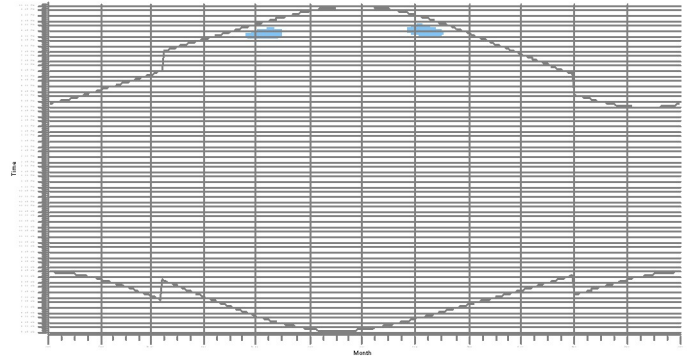
SHADOW - Calendar, graphical

Calculation: AW125-3.15 87.5m HH Shadow Flicker

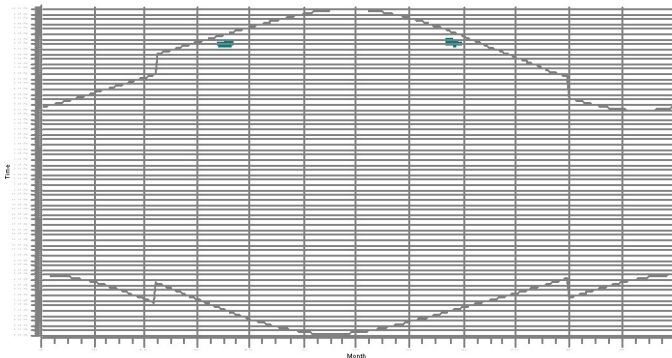
S: 6 - Non-Participating



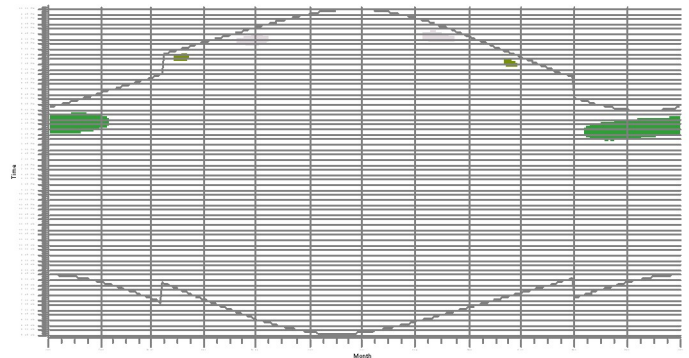
T: 52 - Participating



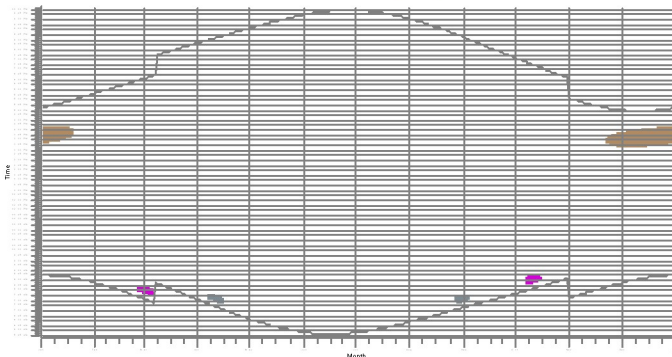
U: 7 - Non-Participating



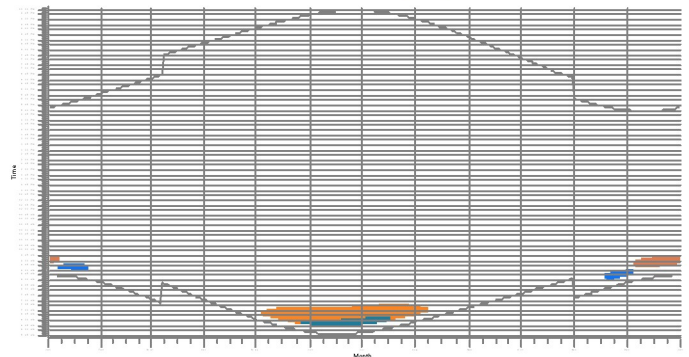
V: 8 - Non-Participating



W: 9 - Non-Participating



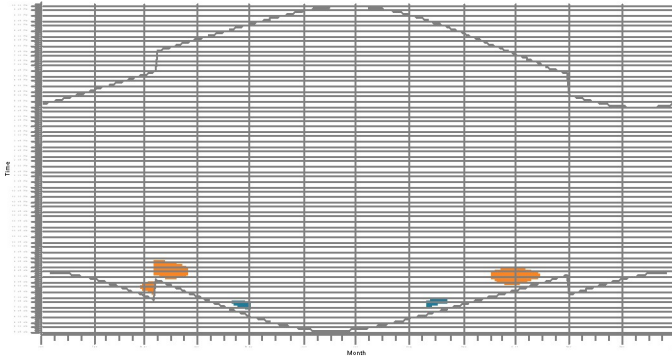
X: 10 - Non-Participating



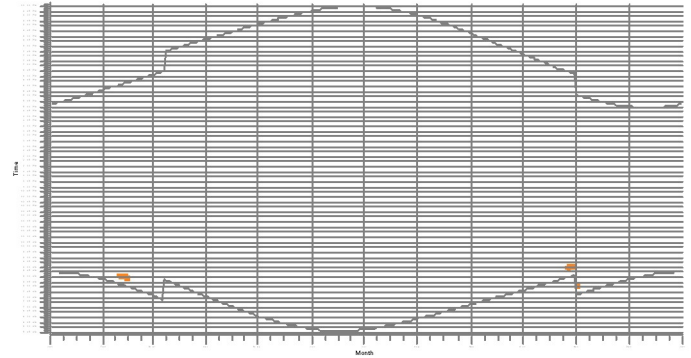
SHADOW - Calendar, graphical

Calculation: AW125-3.15 87.5m HH Shadow Flicker

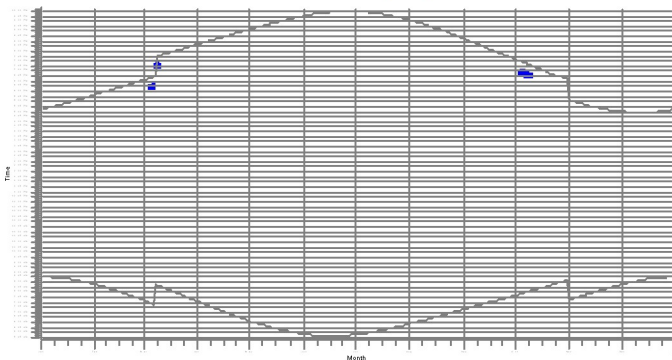
Y: 11 - Non-Participating



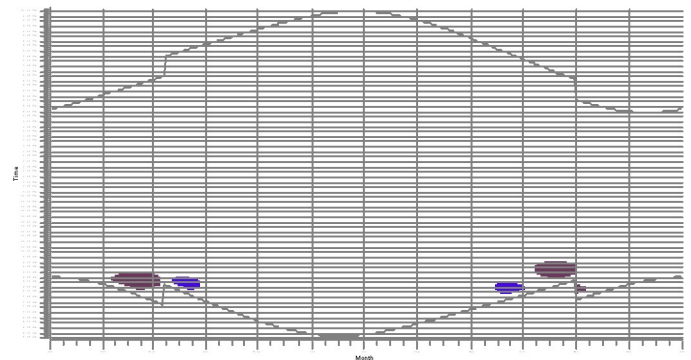
Z: 53 - Participating



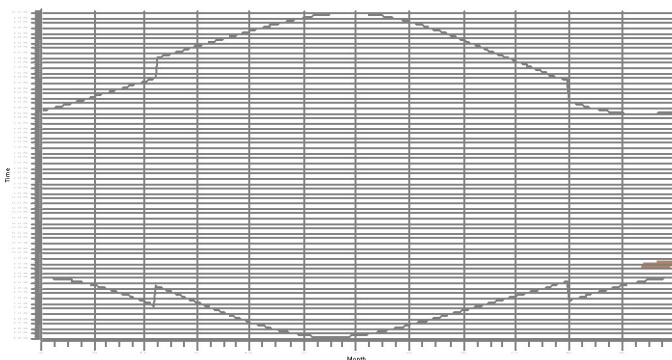
AA: 54 - Participating



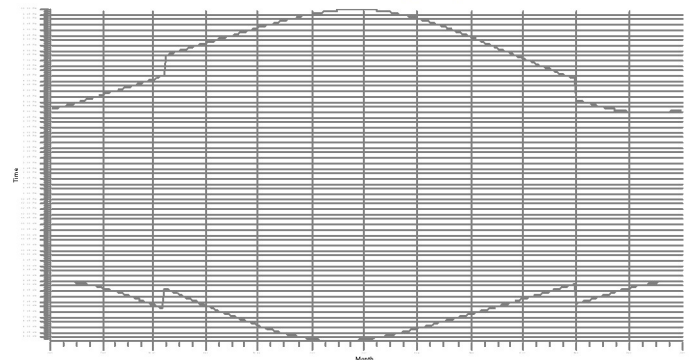
AB: 12 - Non-Participating



AC: 13 - Non-Participating



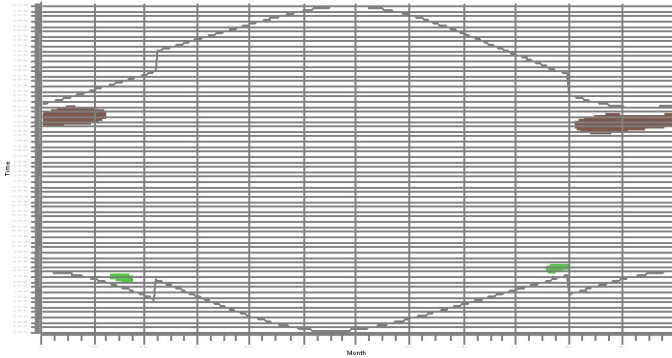
AD: 14 - Non-Participating



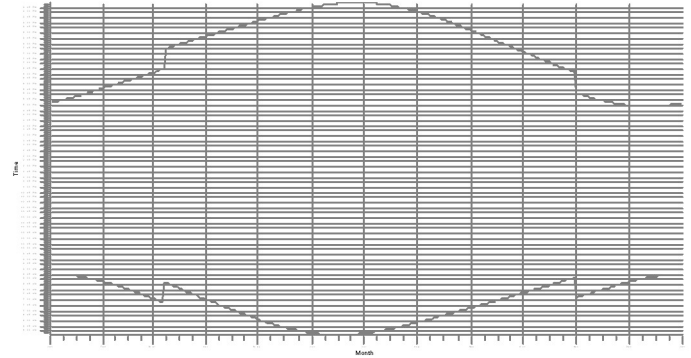
SHADOW - Calendar, graphical

Calculation: AW125-3.15 87.5m HH Shadow Flicker

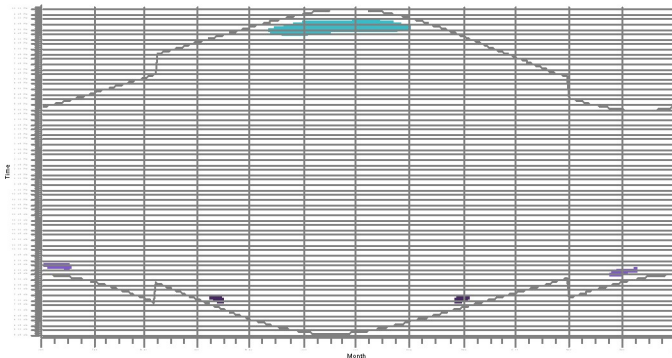
AE: 55 - Participating



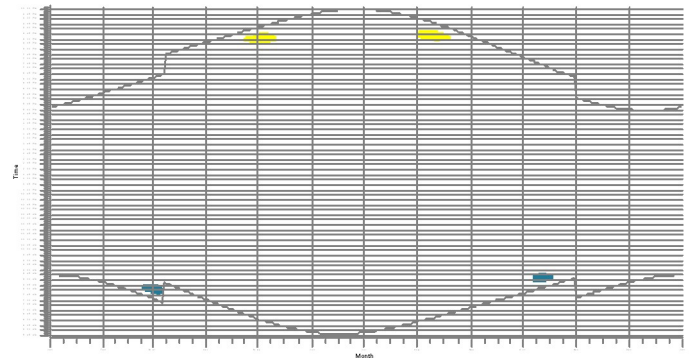
AF: 15 - Non-Participating



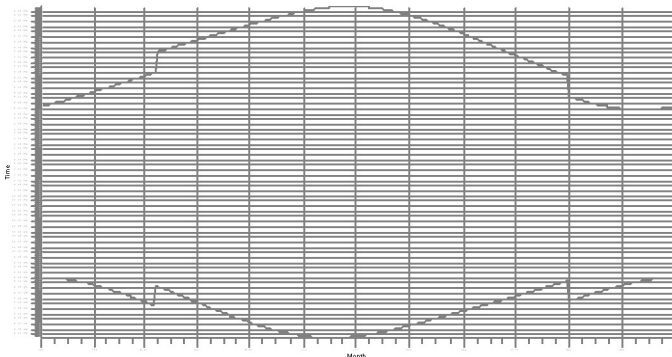
AG: 57 - Participating



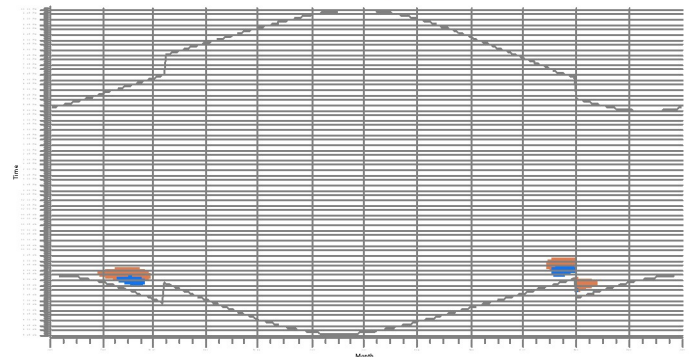
AH: 59 - Participating



AI: 61 - Participating



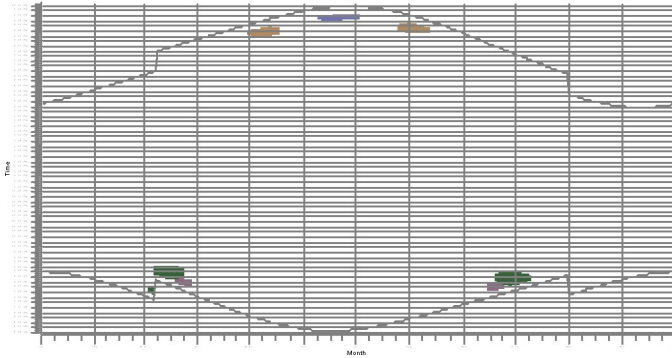
AJ: 62 - Participating



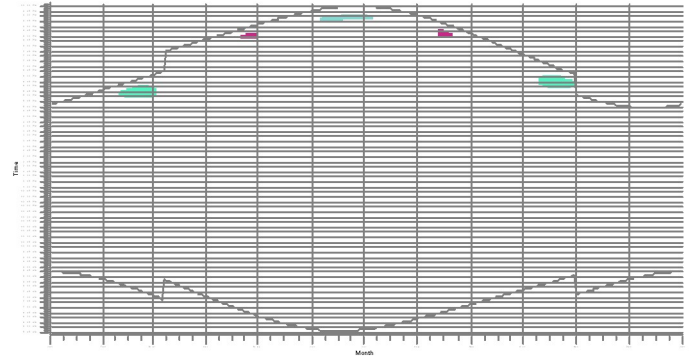
SHADOW - Calendar, graphical

Calculation: AW125-3.15 87.5m HH Shadow Flicker

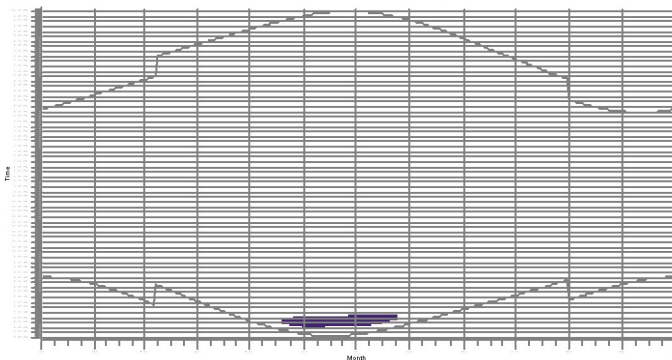
AK: 63 - Participating



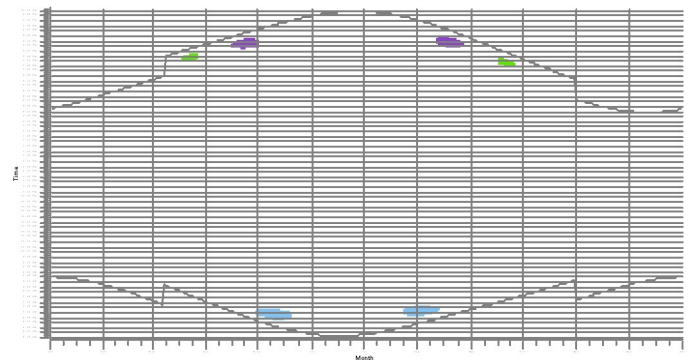
AL: 16 - Non-Participating



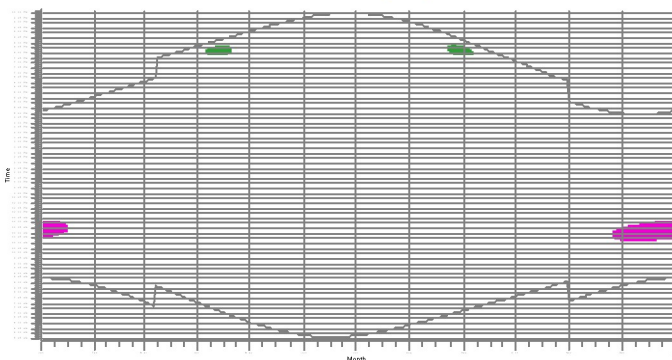
AM: 17 - Non-Participating



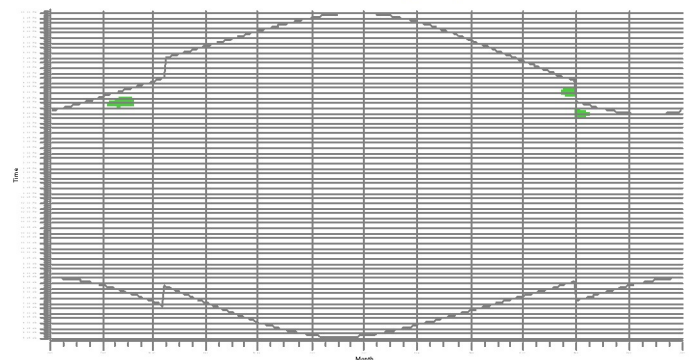
AN: 18 - Non-Participating



AO: 64 - Participating



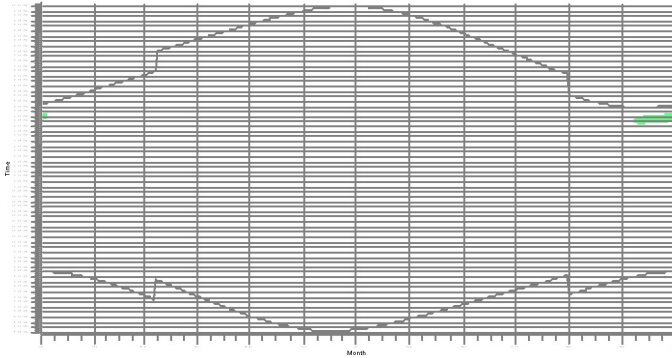
AP: 19 - Non-Participating



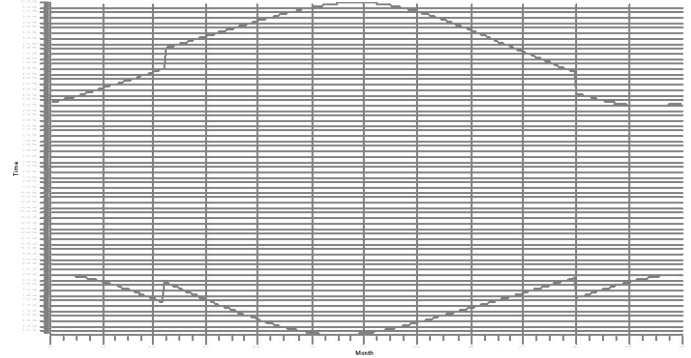
SHADOW - Calendar, graphical

Calculation: AW125-3.15 87.5m HH Shadow Flicker

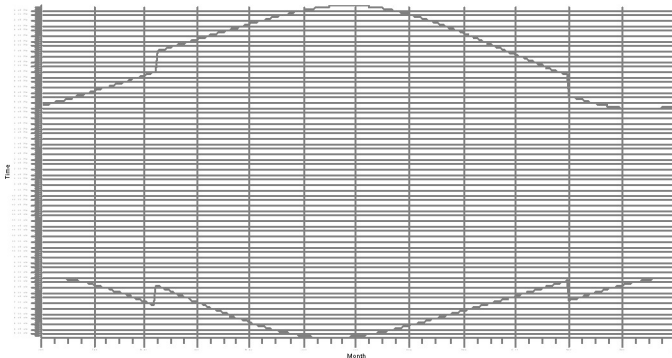
AQ: 20 - Non-Participating



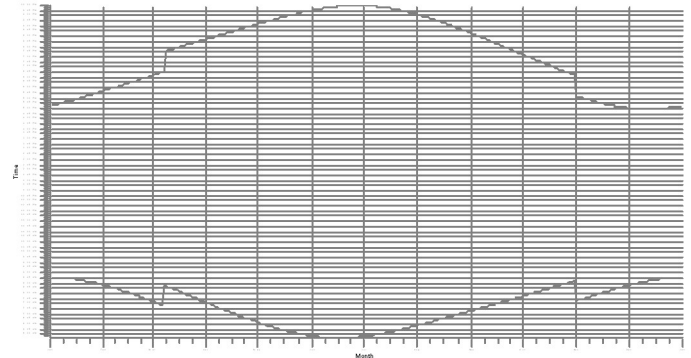
AR: 21 - Non-Participating



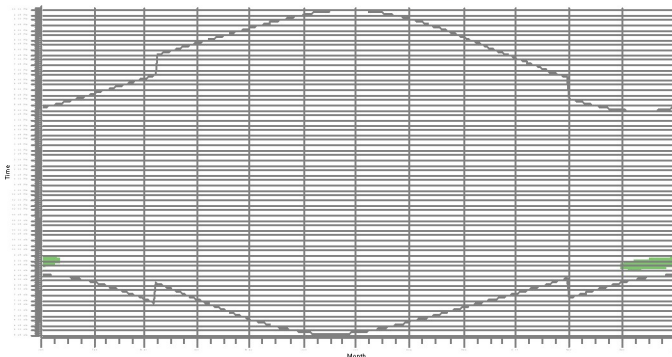
AS: 22 - Non-Participating



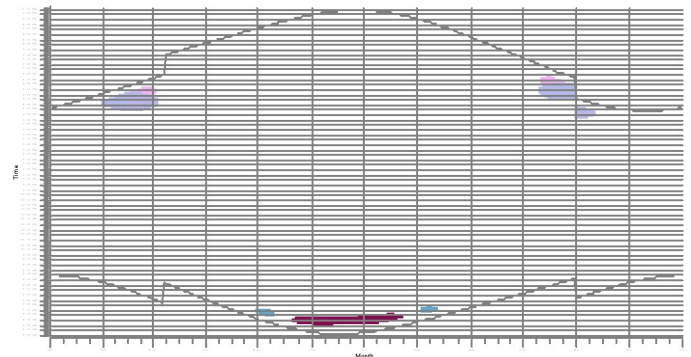
AT: 23 - Non-Participating



AU: 24 - Non-Participating



AV: 27 - Non-Participating



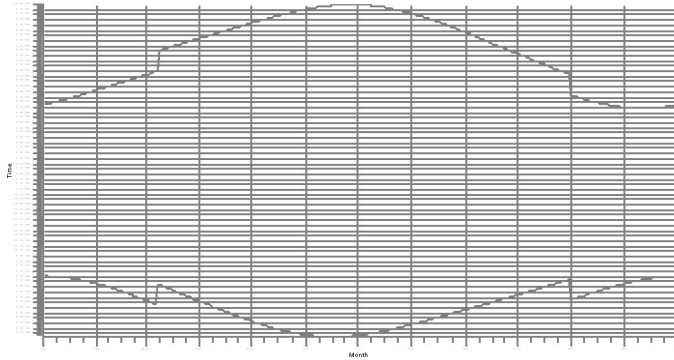
WFO: 0: 1.6 0: 1.6 114: 1.04 114: 1.04

171: 143146 V100 2000 100.0 00 Nub: 80.0 w (20): 120.0 w (20) 201: 143146 V100 2000 100.0 00 Nub: 80.0 w (20): 120.0 w (20)

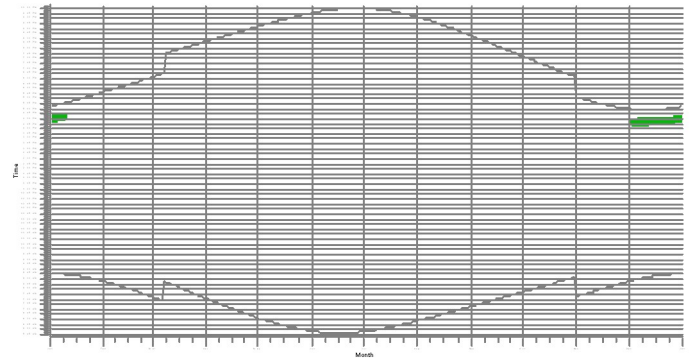
SHADOW - Calendar, graphical

Calculation: AW125-3.15 87.5m HH Shadow Flicker

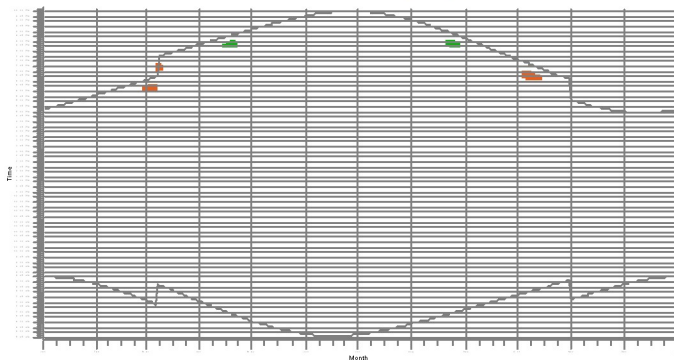
AW: 29 - Non-Participating



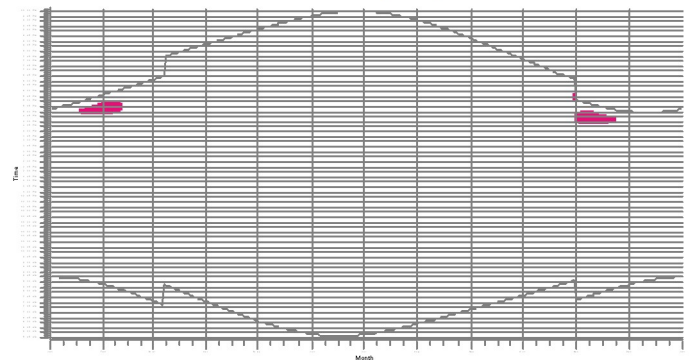
AX: 30 - Non-Participating



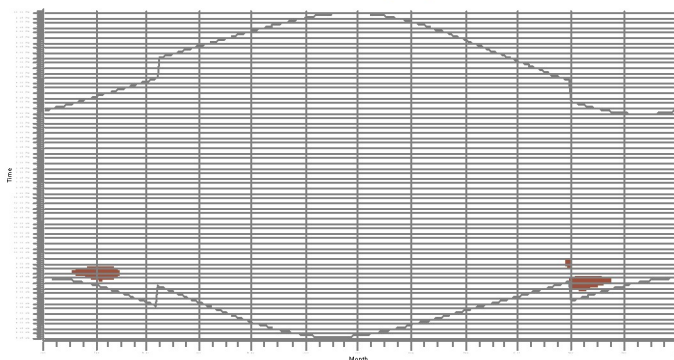
AY: 31 - Non-Participating



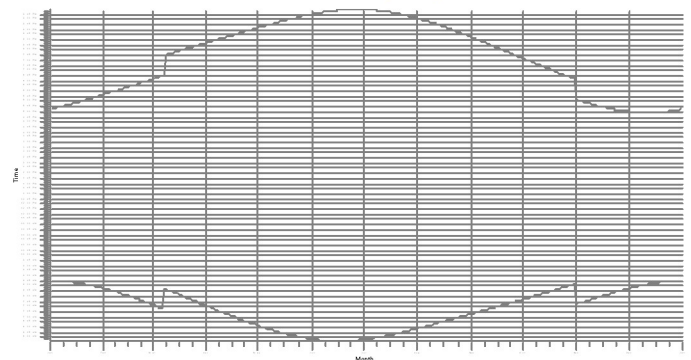
AZ: 66 - Participating



BA: 67 - Participating



BB: 68 - Participating

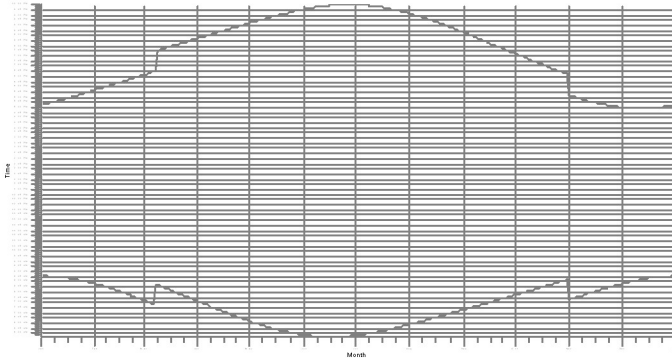


WFO: 40 1:25 40 1:16 40 1:24 100 1:02

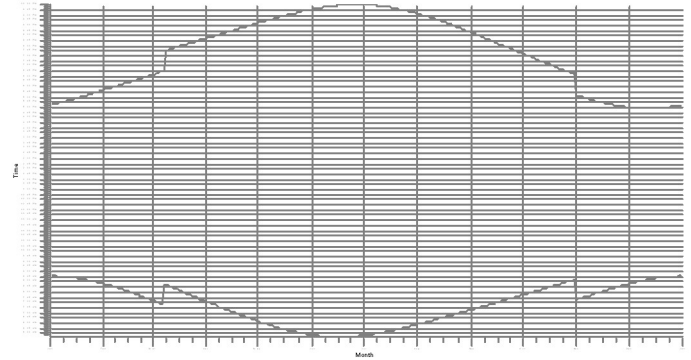
SHADOW - Calendar, graphical

Calculation: AW125-3.15 87.5m HH Shadow Flicker

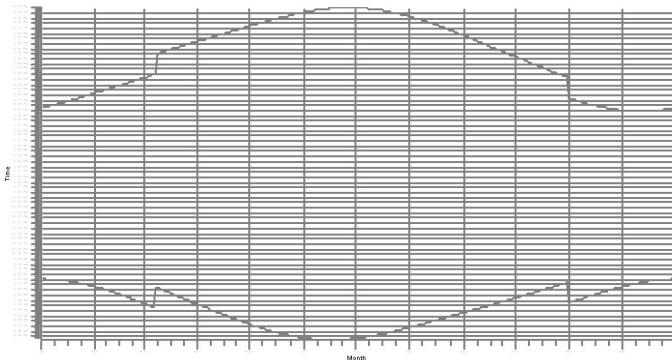
BC: 32 - Non-Participating



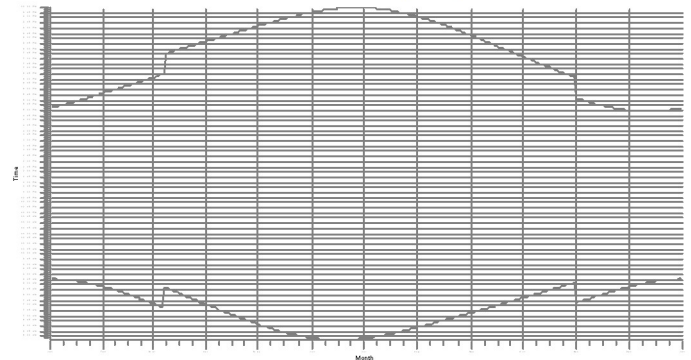
BD: 33 - Non-Participating



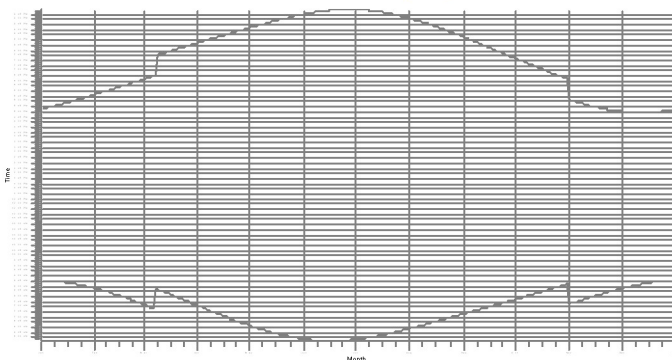
BE: 34 - Non-Participating



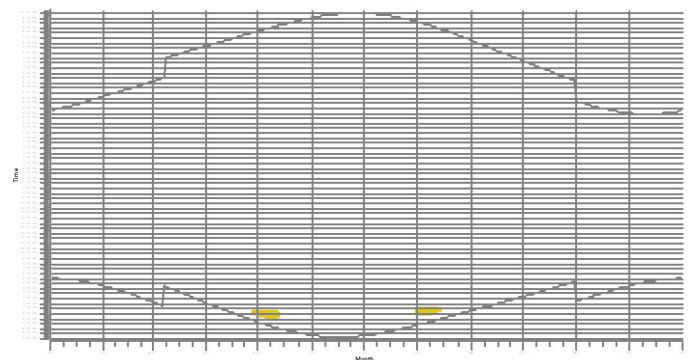
BF: 35 - Non-Participating



BG: 36 - Non-Participating



BH: 37 - Non-Participating



WFO: 121.1-144

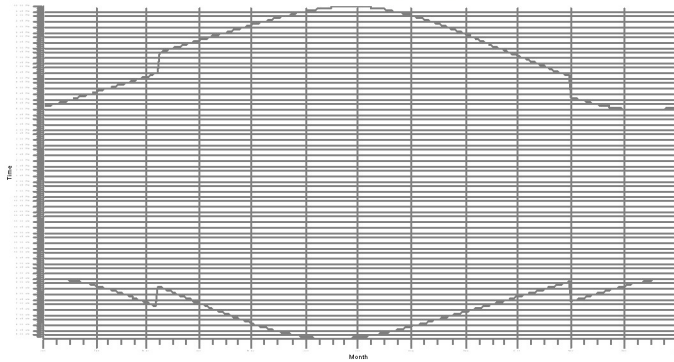
Project: Aurora
Description:

Licensed user:
TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/15/2018 3:20 AM/3.0.654

SHADOW - Calendar, graphical

Calculation: AW125-3.15 87.5m HH Shadow Flicker

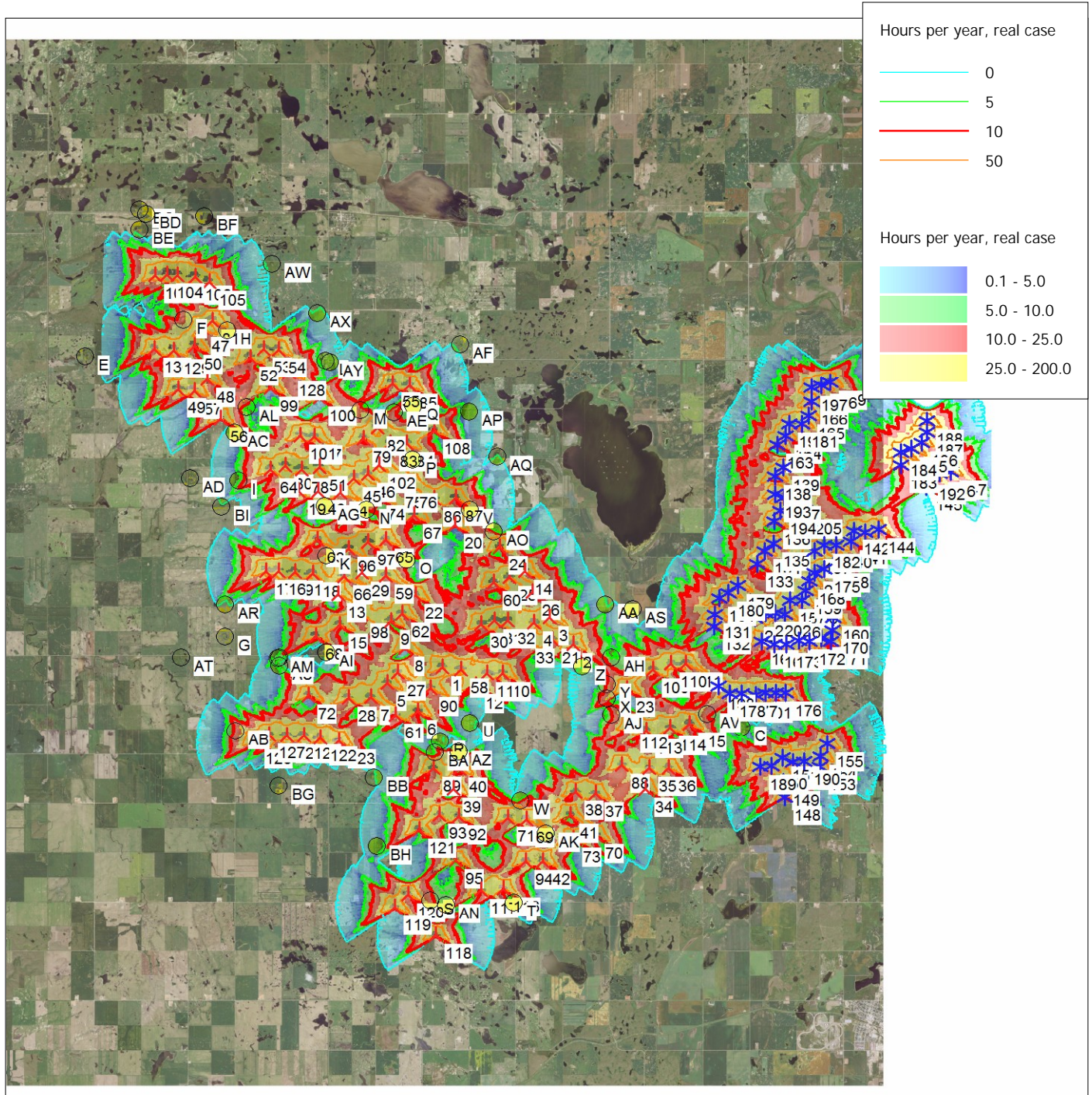
Bl: 38 - Non-Participating



wfo

SHADOW - Map

Calculation: AW125-3.15 87.5m HH Shadow Flicker



0 2.5 5 7.5 10km

Map: US Naval Research Laboratory , Print scale 1:200,000, Map center UTM WGS84 Zone: 13 East: 640,676 North: 5,375,910

▲ New WTG

★ Existing WTG

● Shadow receptor

Flicker map level: Height Contours: 150921_TWE_LindahIWest_10ftHCLsfrom10mNED.wpo (3)

SHADOW - Main Result

Calculation: GE 2.5-127 89m HH Shadow Flicker

Assumptions for shadow calculations

Maximum distance for influence 2,000 m
 Minimum sun height over horizon for influence 3 °
 Day step for calculation 1 days
 Time step for calculation 1 minutes

Sunshine probability S (Average daily sunshine hours) [BISMARCK]
 Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec
 4.92 5.13 7.45 8.03 10.20 11.21 11.69 10.35 8.68 5.69 4.02 3.69

Operational hours are calculated from WTGs in calculation and wind distribution:
 0162 3/18 SDO

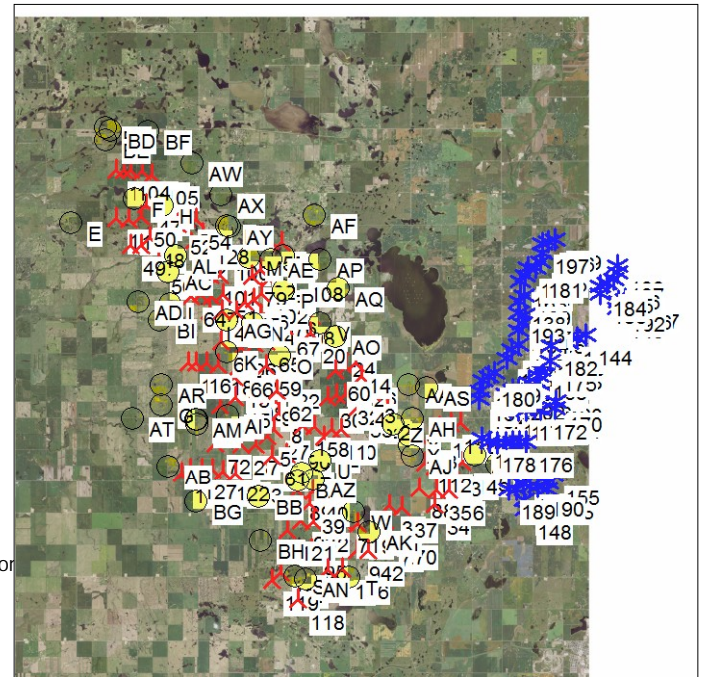
Operational time
 N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
 717 455 305 337 519 943 718 577 729 1,000 1,119 1,167 8,587
 Idle start wind speed: Cut in wind speed from power curve

A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
 Height contours used: Height Contours: 150921_TWE_LindahlWest_10ftHCLsfrom
 Obstacles used in calculation
 Eye height: 1.5 m
 Grid resolution: 10.0 m

All coordinates are in
 UTM WGS84 Zone: 13

WTGs

	X(East)	Y(North)	Z	Row data/Description
			[m]	
1	637,619	5,373,512	727.5	T-43
2	642,085	5,374,363	728.5	T-41
3	641,252	5,375,220	737.7	T-63
4	640,729	5,375,038	740.7	T-62
5	635,764	5,372,945	724.6	T-45
6	636,817	5,372,047	728.5	T-35
7	635,193	5,372,473	710.2	T-47
8	636,346	5,374,109	734.6	T-56
9	635,830	5,374,972	728.5	T-55
10	639,692	5,373,363	740.7	T-39
11	639,157	5,373,344	739.4	T-38
12	638,790	5,372,951	734.6	T-37
13	633,988	5,375,810	737.6	T-70
14	640,372	5,376,713	738.1	T-77
15	634,074	5,374,798	721.2	T-53
16	631,934	5,376,511	729.8	T-67
17	631,510	5,376,507	731.5	T-66
18	633,108	5,376,447	723.9	T-69
19	632,563	5,379,145	737.6	T-93
20	637,951	5,378,169	715.2	T-80
21	641,389	5,374,486	737.7	T-58
22	636,640	5,375,835	734.6	T-73
23	643,972	5,372,967	712.3	T-28
24	639,495	5,377,499	738.7	T-78
25	639,840	5,376,489	737.6	T-76
26	640,649	5,376,031	731.5	T-79



Scale 1:400,000
 ▲ New WTG
 * Existing WTG
 ● Shadow receptor

WTG type	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
GE 2.5-127-2,500	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7

To be continued on next page...

Project:
Aurora

Description:

Licensed user:
TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/15/2018 4:32 AM/3.0.654

SHADOW - Main Result

Calculation: GE 2.5-127 89m HH Shadow Flicker

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]	
					Valid	Manufact.					Type-generator
			[m]								
27	636,095	5,373,292	733.9	T-46	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
28	634,438	5,372,432	701.0	T-57	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
29	634,798	5,376,526	725.4	T-71	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
30	638,928	5,374,941	737.6	T-59	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
31	639,384	5,375,074	737.6	T-60	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
32	639,838	5,375,100	737.6	T-61	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
33	640,492	5,374,466	743.6	T-40	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
34	644,695	5,369,685	736.0	T-15	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
35	644,792	5,370,371	743.7	T-16	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
36	645,456	5,370,405	735.1	T-17	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
37	642,975	5,369,494	737.6	T-12	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
38	642,303	5,369,536	734.9	T-13	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
39	638,102	5,369,527	710.5	T-26	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
40	638,282	5,370,192	712.5	T-25	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
41	642,122	5,368,780	734.6	T-10	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
42	641,239	5,367,252	719.1	T-8	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
43	633,243	5,379,162	737.6	T-94	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
44	634,001	5,379,136	737.6	T-95	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
45	634,443	5,379,605	731.5	T-96	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
46	634,918	5,379,749	728.5	T-121	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
47	629,136	5,384,387	713.2	T-142	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
48	629,347	5,382,713	710.2	T-131	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
49	628,366	5,382,343	707.1	T-129	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
50	628,893	5,383,804	717.2	T-141	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
51	633,253	5,379,950	729.4	T-123	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
52	630,815	5,383,459	711.9	T-144	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
53	631,275	5,383,767	710.7	T-145	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
54	631,767	5,383,732	713.2	T-146	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
55	635,699	5,382,724	710.2	T-122	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
56	629,834	5,381,441	713.0	T-117	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
57	628,926	5,382,328	703.0	T-130	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
58	638,268	5,373,457	731.5	T-44	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
59	635,628	5,376,434	728.5	T-72	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
60	639,307	5,376,310	731.5	T-75	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
61	636,056	5,371,908	719.3	T-34	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
62	636,215	5,375,218	731.5	T-74	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
63	633,243	5,377,581	731.5	T-81	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
64	631,582	5,379,814	726.8	T-98	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
65	635,586	5,377,640	725.5	T-85	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
66	634,183	5,376,389	733.5	T-86	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
67	636,542	5,378,452	715.1	T-87	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
68	633,261	5,374,418	716.3	T-51	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
69	640,641	5,368,602	728.5	T-23	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
70	643,024	5,368,138	728.5	T-11	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
71	639,998	5,368,634	725.4	T-22	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
72	633,064	5,372,478	698.0	T-5	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
73	642,243	5,368,015	730.6	T-9	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
74	635,270	5,379,029	725.4	T-90	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
75	635,883	5,379,448	720.6	T-91	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
76	636,364	5,379,455	716.0	T-92	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
77	633,072	5,380,925	729.9	T-106	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
78	632,659	5,379,855	737.2	T-100	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
79	634,758	5,380,905	718.9	T-107	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
80	632,089	5,379,958	731.5	T-99	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
81	629,494	5,384,648	709.6	T-143	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
82	635,222	5,381,271	716.3	T-108	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
83	635,678	5,380,785	716.0	T-109	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
84	636,220	5,380,785	716.3	T-110	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7

To be continued on next page...

SHADOW - Main Result

Calculation: GE 2.5-127 89m HH Shadow Flicker

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]
					Valid	Manufact.					
			[m]								
85	636,276	5,382,673	710.2	T-124	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
86	637,208	5,379,005	710.9	T-88	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
87	637,941	5,379,046	713.2	T-89	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
88	643,859	5,370,443	732.3	T-14	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
89	637,408	5,370,185	701.0	T-24	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
90	637,234	5,372,817	719.9	T-42	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
91	632,509	5,376,501	722.8	T-68	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
92	638,306	5,368,644	716.3	T-21	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
93	637,648	5,368,666	713.2	T-20	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
94	640,643	5,367,238	719.3	T-19	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
95	638,242	5,367,207	710.2	T-18	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
96	634,318	5,377,326	731.6	T-83	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
97	634,979	5,377,549	725.3	T-84	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
98	634,798	5,375,163	713.2	T-54	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
99	631,532	5,382,484	707.7	T-118	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
100	633,206	5,382,201	722.4	T-120	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
101	632,585	5,380,949	731.5	T-105	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
102	635,298	5,380,049	728.5	T-97	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
103	627,504	5,386,079	711.3	T-147	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
104	627,911	5,386,105	710.2	T-148	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
105	629,368	5,385,888	704.0	T-149	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
106	628,867	5,386,049	710.2	T-150	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
107	628,269	5,386,086	711.9	T-151	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
108	637,149	5,381,224	704.1	T-152	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
109	644,833	5,373,605	713.9	T-153	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
110	645,462	5,373,811	728.5	T-154	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
111	645,966	5,373,838	730.1	T-155	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
112	644,144	5,371,765	710.2	T-156	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
113	644,660	5,371,616	715.4	T-157	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
114	645,479	5,371,724	719.3	T-158	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
115	646,127	5,371,875	717.1	T-159	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
116	639,890	5,366,309	710.2	T-160	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
117	639,135	5,366,239	709.0	T-161	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
118	637,617	5,364,719	707.6	T-162	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
119	636,191	5,365,609	711.4	T-163	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
120	636,640	5,366,042	710.2	T-164	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
121	636,954	5,368,164	711.3	T-165	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
122	633,495	5,371,087	689.0	T-166	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
123	634,130	5,371,006	696.6	T-167	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
124	632,359	5,371,139	688.8	T-168	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
125	632,926	5,371,158	686.0	T-169	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
126	631,283	5,370,947	682.8	T-170	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
127	631,732	5,371,159	684.7	T-171	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
128	632,154	5,382,999	713.2	T-172	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
129	628,195	5,383,647	711.6	T-173	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
130	627,535	5,383,666	710.2	T-174	Yes	GE WIND ENERGY	GE 2.5-127-2,500	2,500	127.0	89.0	15.7
131	646,913	5,375,455	745.7	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
132	646,888	5,375,080	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
133	648,328	5,377,151	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
134	648,570	5,377,592	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
135	648,872	5,377,853	752.9	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
136	648,872	5,378,572	753.8	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
137	649,189	5,379,368	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
138	648,868	5,380,034	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
139	649,124	5,380,328	729.4	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
140	651,007	5,377,868	748.7	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
141	651,525	5,378,000	750.5	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
142	651,616	5,378,348	758.5	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9

To be continued on next page...

SHADOW - Main Result

Calculation: GE 2.5-127 89m HH Shadow Flicker

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]
					Valid	Manufact.					
143	651,987	5,378,290	755.6	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
144	652,436	5,378,405	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
145	654,047	5,379,834	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
146	654,478	5,380,290	740.6	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
147	654,876	5,380,346	731.4	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
148	649,468	5,369,552	735.9	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
149	649,403	5,370,046	745.1	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
150	648,989	5,370,563	740.7	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
151	649,348	5,370,846	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
152	649,714	5,370,690	746.8	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
153	650,635	5,370,574	746.1	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
154	650,667	5,370,918	744.2	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
155	650,882	5,371,340	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
156	649,309	5,375,532	733.1	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
157	649,484	5,375,990	732.8	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
158	649,889	5,375,994	741.6	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
159	650,008	5,376,322	740.0	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
160	650,956	5,375,465	750.7	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
161	648,982	5,374,557	737.6	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
162	648,553	5,374,643	733.0	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
163	648,903	5,381,054	722.4	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
164	649,170	5,381,363	721.8	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
165	649,950	5,382,038	713.3	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
166	650,030	5,382,496	712.9	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
167	650,267	5,377,632	746.8	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
168	650,119	5,376,640	740.5	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
169	650,663	5,383,159	707.1	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
170	650,947	5,375,049	753.6	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
171	650,911	5,374,694	758.6	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
172	650,163	5,374,664	746.8	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
173	649,378	5,374,555	741.2	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
174	649,818	5,374,694	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
175	650,613	5,377,049	737.7	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
176	649,406	5,372,982	725.6	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
177	647,909	5,372,903	716.3	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
178	647,487	5,372,910	715.5	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
179	647,672	5,376,428	744.3	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
180	647,365	5,376,192	740.8	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
181	649,728	5,381,758	721.2	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
182	650,599	5,377,842	746.4	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
183	653,143	5,380,511	713.2	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
184	653,130	5,380,927	710.2	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
185	653,497	5,381,062	704.6	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
186	653,850	5,381,276	700.8	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
187	654,022	5,381,604	696.2	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
188	654,011	5,381,966	694.9	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
189	648,594	5,370,523	731.5	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
190	650,092	5,370,737	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
191	647,056	5,376,002	741.1	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
192	654,134	5,380,179	733.9	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
193	648,870	5,379,452	759.0	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
194	649,079	5,378,913	759.0	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
195	649,308	5,381,738	716.7	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
196	650,346	5,383,045	709.6	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
197	650,021	5,382,956	710.0	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
198	647,090	5,373,129	713.2	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
199	649,061	5,372,960	722.4	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	
200	648,724	5,372,961	720.7	VESTAS V100 2000 100.0 !O! hub: 80.0 ... Yes VESTAS		V100-2,000	2,000	100.0	80.0	14.9	

To be continued on next page...

SHADOW - Main Result

Calculation: GE 2.5-127 89m HH Shadow Flicker

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]
					Valid	Manufact.					
201	648,383	5,372,886	719.3	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
202	648,975	5,375,560	735.2	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
203	648,641	5,375,554	726.1	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
204	648,297	5,375,376	728.5	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
205	649,928	5,378,956	741.8	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
206	650,591	5,374,779	748.5	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
207	650,301	5,376,922	735.1	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
208	650,917	5,377,197	740.0	VESTAS V100 2000 100.0 !O! hub: 80.0 ...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9

Shadow receptor-Input

No.	Name	X(East)	Y(North)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
		[m]	[m]	[m]	[m]	[m]	[m]	[°]	[°]	
A 1	- Non-Participating	644,116	5,375,554	701.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
B 39	- Participating	643,400	5,373,971	711.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
C 2	- Non-Participating	647,930	5,371,801	718.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"
D 40	- Participating	643,453	5,372,099	716.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
E 41	- Participating	625,162	5,383,364	711.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
F 42	- Participating	628,500	5,384,644	704.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"
G 43	- Participating	630,148	5,374,326	691.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
H 44	- Participating	629,997	5,384,325	711.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
I 3	- Non-Participating	630,488	5,379,437	722.7	1.0	11.0	1.0	0.0	90.0	"Green house mode"
J 4	- Non-Participating	632,031	5,373,676	696.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
K 45	- Participating	633,554	5,377,057	735.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
L 46	- Participating	633,395	5,383,413	715.7	1.0	11.0	1.0	0.0	90.0	"Green house mode"
M 47	- Participating	634,615	5,381,825	716.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
N 48	- Participating	634,891	5,378,584	728.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
O 5	- Non-Participating	636,328	5,376,974	731.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
P 49	- Participating	636,455	5,380,259	709.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
Q 50	- Participating	636,416	5,382,006	707.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
R 51	- Participating	637,621	5,371,070	716.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
S 6	- Non-Participating	637,411	5,365,868	713.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
T 52	- Participating	640,276	5,365,862	710.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
U 7	- Non-Participating	638,615	5,371,717	720.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
V 8	- Non-Participating	638,435	5,378,666	709.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
W 9	- Non-Participating	640,413	5,369,191	728.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
X 10	- Non-Participating	643,279	5,372,615	722.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
Y 11	- Non-Participating	643,282	5,373,088	726.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
Z 53	- Participating	642,413	5,373,644	734.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AA 54	- Participating	643,167	5,375,685	714.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AB 12	- Non-Participating	630,584	5,371,240	682.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AC 13	- Non-Participating	630,347	5,380,996	717.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AD 14	- Non-Participating	628,838	5,379,465	705.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AE 55	- Participating	635,760	5,381,775	711.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AF 15	- Non-Participating	637,972	5,384,054	715.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AG 57	- Participating	633,480	5,378,691	739.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AH 59	- Participating	643,400	5,373,968	711.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AI 61	- Participating	633,645	5,373,895	713.7	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AJ 62	- Participating	643,453	5,372,097	716.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AK 63	- Participating	641,300	5,368,154	725.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AL 16	- Non-Participating	630,734	5,381,835	710.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AM 17	- Non-Participating	631,989	5,373,670	695.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AN 18	- Non-Participating	637,954	5,365,740	710.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AO 64	- Participating	639,268	5,377,996	720.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AP 19	- Non-Participating	638,331	5,381,857	701.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AQ 20	- Non-Participating	639,333	5,380,415	707.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...

SHADOW - Main Result

Calculation: GE 2.5-127 89m HH Shadow Flicker

...continued from previous page

No.	Name	X(East)	Y(North)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
				[m]	[m]	[m]	[m]	[°]	[°]	
AR 21 - Non-Participating		630,142	5,375,377	701.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AS 22 - Non-Participating		644,117	5,375,554	701.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AT 23 - Non-Participating		628,666	5,373,611	682.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AU 24 - Non-Participating		632,030	5,373,428	696.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AV 27 - Non-Participating		646,754	5,372,213	713.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AW 29 - Non-Participating		631,486	5,386,533	696.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AX 30 - Non-Participating		633,067	5,384,963	707.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AY 31 - Non-Participating		633,553	5,383,375	714.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AZ 66 - Participating		638,244	5,370,747	710.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BA 67 - Participating		637,448	5,370,698	712.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BB 68 - Participating		635,378	5,369,828	692.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BC 32 - Non-Participating		626,925	5,388,203	701.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BD 33 - Non-Participating		627,137	5,388,066	701.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BE 34 - Non-Participating		626,921	5,387,556	704.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BF 35 - Non-Participating		629,137	5,388,039	693.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BG 36 - Non-Participating		632,118	5,369,480	691.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BH 37 - Non-Participating		635,531	5,367,600	699.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BI 38 - Non-Participating		629,941	5,378,583	713.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"

Calculation Results

Shadow receptor

No.	Name	Shadow, worst case			Shadow, expected values
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
A 1 - Non-Participating		0:00	0	0:00	0:00
B 39 - Participating		12:38	59	0:22	5:26
C 2 - Non-Participating		5:55	44	0:14	2:11
D 40 - Participating		27:47	58	0:47	9:41
E 41 - Participating		0:00	0	0:00	0:00
F 42 - Participating		61:26	147	0:45	21:29
G 43 - Participating		0:00	0	0:00	0:00
H 44 - Participating		58:22	163	0:42	23:23
I 3 - Non-Participating		11:58	42	0:26	4:52
J 4 - Non-Participating		17:45	63	0:23	7:18
K 45 - Participating		84:54	173	1:05	28:54
L 46 - Participating		8:29	47	0:20	3:04
M 47 - Participating		58:49	155	0:40	20:15
N 48 - Participating		21:36	123	0:20	9:36
O 5 - Non-Participating		35:14	127	0:36	11:02
P 49 - Participating		29:52	146	0:26	10:36
Q 50 - Participating		18:02	73	0:22	5:22
R 51 - Participating		8:04	60	0:13	4:01
S 6 - Non-Participating		35:30	94	0:40	15:22
T 52 - Participating		10:35	42	0:24	4:59
U 7 - Non-Participating		2:22	18	0:12	1:02
V 8 - Non-Participating		72:48	141	0:47	20:19
W 9 - Non-Participating		39:06	94	0:43	10:43
X 10 - Non-Participating		69:06	160	0:47	27:46
Y 11 - Non-Participating		27:27	75	0:43	11:22
Z 53 - Participating		1:39	17	0:09	0:34
AA 54 - Participating		2:03	16	0:12	0:42
AB 12 - Non-Participating		34:26	88	0:41	13:02
AC 13 - Non-Participating		3:02	20	0:11	0:54
AD 14 - Non-Participating		0:00	0	0:00	0:00
AE 55 - Participating		60:07	120	0:48	16:00
AF 15 - Non-Participating		0:00	0	0:00	0:00

To be continued on next page...

SHADOW - Main Result

Calculation: GE 2.5-127 89m HH Shadow Flicker

...continued from previous page

No.	Name	Shadow, worst case			Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	Shadow hours per year [h/year]
AG 57 - Participating		35:16	124	0:31	16:53	
AH 59 - Participating		12:38	59	0:22	5:28	
AI 61 - Participating		0:00	0	0:00	0:00	
AJ 62 - Participating		27:50	59	0:47	9:43	
AK 63 - Participating		26:22	108	0:32	11:42	
AL 16 - Non-Participating		17:58	87	0:31	6:06	
AM 17 - Non-Participating		18:11	67	0:22	7:30	
AN 18 - Non-Participating		17:54	86	0:22	7:37	
AO 64 - Participating		39:28	80	0:48	13:01	
AP 19 - Non-Participating		6:40	30	0:21	1:57	
AQ 20 - Non-Participating		4:39	28	0:12	1:06	
AR 21 - Non-Participating		0:00	0	0:00	0:00	
AS 22 - Non-Participating		0:00	0	0:00	0:00	
AT 23 - Non-Participating		0:00	0	0:00	0:00	
AU 24 - Non-Participating		12:42	42	0:22	4:03	
AV 27 - Non-Participating		51:59	144	0:56	17:14	
AW 29 - Non-Participating		0:00	0	0:00	0:00	
AX 30 - Non-Participating		8:12	42	0:15	2:04	
AY 31 - Non-Participating		5:57	39	0:17	2:12	
AZ 66 - Participating		14:44	49	0:30	4:03	
BA 67 - Participating		18:05	53	0:32	6:06	
BB 68 - Participating		0:00	0	0:00	0:00	
BC 32 - Non-Participating		0:00	0	0:00	0:00	
BD 33 - Non-Participating		0:00	0	0:00	0:00	
BE 34 - Non-Participating		0:00	0	0:00	0:00	
BF 35 - Non-Participating		0:00	0	0:00	0:00	
BG 36 - Non-Participating		0:00	0	0:00	0:00	
BH 37 - Non-Participating		6:15	31	0:19	2:34	
BI 38 - Non-Participating		0:00	0	0:00	0:00	

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
1	T-43	0:00	0:00
2	T-41	8:41	4:00
3	T-63	2:03	0:42
4	T-62	0:00	0:00
5	T-45	0:00	0:00
6	T-35	2:22	1:02
7	T-47	0:00	0:00
8	T-56	0:00	0:00
9	T-55	0:00	0:00
10	T-39	0:00	0:00
11	T-38	0:00	0:00
12	T-37	0:00	0:00
13	T-70	0:00	0:00
14	T-77	0:00	0:00
15	T-53	0:00	0:00
16	T-67	2:07	0:40
17	T-66	0:00	0:00
18	T-69	17:29	5:02
19	T-93	31:14	15:25
20	T-80	68:26	18:31
21	T-58	0:00	0:00
22	T-73	0:00	0:00
23	T-28	76:14	31:38
24	T-78	33:54	10:36

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Project:
Aurora

Description:

Licensed user:
TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/15/2018 4:32 AM/3.0.654

SHADOW - Main Result

Calculation: GE 2.5-127 89m HH Shadow Flicker

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
25	T-76	0:00	0:00
26	T-79	0:00	0:00
27	T-46	0:00	0:00
28	T-57	0:00	0:00
29	T-71	7:52	2:36
30	T-59	0:00	0:00
31	T-60	0:00	0:00
32	T-61	0:00	0:00
33	T-40	0:00	0:00
34	T-15	0:00	0:00
35	T-16	0:00	0:00
36	T-17	0:00	0:00
37	T-12	0:00	0:00
38	T-13	1:51	0:44
39	T-26	0:00	0:00
40	T-25	18:05	6:06
41	T-10	2:27	0:55
42	T-8	0:00	0:00
43	T-94	3:40	1:44
44	T-95	8:44	4:12
45	T-96	0:00	0:00
46	T-121	3:56	1:16
47	T-142	52:49	20:35
48	T-131	2:16	1:06
49	T-129	0:00	0:00
50	T-141	8:27	2:44
51	T-123	0:00	0:00
52	T-144	6:32	2:00
53	T-145	5:30	1:48
54	T-146	12:52	3:53
55	T-122	0:00	0:00
56	T-117	14:06	4:21
57	T-130	1:36	0:42
58	T-44	0:00	0:00
59	T-72	26:04	7:07
60	T-75	0:00	0:00
61	T-34	8:04	4:01
62	T-74	0:00	0:00
63	T-81	1:59	0:32
64	T-98	14:59	5:46
65	T-85	0:00	0:00
66	T-86	22:49	6:46
67	T-87	3:35	1:31
68	T-51	19:39	8:05
69	T-23	2:06	1:01
70	T-11	2:28	1:04
71	T-22	42:20	12:42
72	T-5	12:42	4:03
73	T-9	14:16	6:00
74	T-90	6:52	2:00
75	T-91	0:16	0:04
76	T-92	5:17	2:18
77	T-106	3:14	0:53
78	T-100	0:00	0:00
79	T-107	21:15	6:21
80	T-99	3:44	1:28
81	T-143	28:40	13:16
82	T-108	107:16	31:13
83	T-109	5:04	1:47
84	T-110	2:28	0:50

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SHADOW - Main Result

Calculation: GE 2.5-127 89m HH Shadow Flicker

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No.	Name	Worst case [h/year]	Expected [h/year]
85	T-124	2:38	1:05
86	T-88	8:17	3:44
87	T-89	10:44	3:00
88	T-14	0:00	0:00
89	T-24	14:44	4:03
90	T-42	0:00	0:00
91	T-68	7:35	2:21
92	T-21	0:00	0:00
93	T-20	0:00	0:00
94	T-19	0:00	0:00
95	T-18	0:00	0:00
96	T-83	29:41	12:14
97	T-84	13:16	5:44
98	T-54	0:00	0:00
99	T-118	0:00	0:00
100	T-120	5:40	2:31
101	T-105	0:00	0:00
102	T-97	9:22	3:42
103	T-147	0:00	0:00
104	T-148	0:00	0:00
105	T-149	0:00	0:00
106	T-150	0:00	0:00
107	T-151	0:00	0:00
108	T-152	20:51	6:32
109	T-153	13:45	5:28
110	T-154	0:00	0:00
111	T-155	0:00	0:00
112	T-156	34:44	11:46
113	T-157	11:07	3:54
114	T-158	5:48	1:46
115	T-159	33:41	10:17
116	T-160	0:00	0:00
117	T-161	22:23	9:54
118	T-162	0:00	0:00
119	T-163	8:23	3:13
120	T-164	26:57	12:07
121	T-165	6:15	2:34
122	T-166	0:00	0:00
123	T-167	0:00	0:00
124	T-168	2:17	0:59
125	T-169	0:00	0:00
126	T-170	26:00	9:20
127	T-171	8:26	3:40
128	T-172	8:24	2:47
129	T-173	1:26	0:27
130	T-174	14:31	3:36
131	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (1)	0:00	0:00
132	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (2)	0:00	0:00
133	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (3)	0:00	0:00
134	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (4)	0:00	0:00
135	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (5)	0:00	0:00
136	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (6)	0:00	0:00
137	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (7)	0:00	0:00
138	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (8)	0:00	0:00
139	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (9)	0:00	0:00
140	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (10)	0:00	0:00
141	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (11)	0:00	0:00
142	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (12)	0:00	0:00
143	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (13)	0:00	0:00
144	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (14)	0:00	0:00

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SHADOW - Main Result

Calculation: GE 2.5-127 89m HH Shadow Flicker

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
145	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (15)	0:00	0:00
146	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (16)	0:00	0:00
147	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (17)	0:00	0:00
148	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (18)	0:00	0:00
149	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (19)	0:00	0:00
150	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (20)	0:00	0:00
151	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (21)	4:06	1:25
152	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (22)	0:00	0:00
153	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (23)	0:00	0:00
154	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (24)	0:00	0:00
155	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (25)	0:00	0:00
156	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (26)	0:00	0:00
157	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (27)	0:00	0:00
158	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (28)	0:00	0:00
159	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (29)	0:00	0:00
160	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (30)	0:00	0:00
161	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (31)	0:00	0:00
162	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (32)	0:00	0:00
163	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (33)	0:00	0:00
164	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (34)	0:00	0:00
165	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (35)	0:00	0:00
166	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (36)	0:00	0:00
167	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (37)	0:00	0:00
168	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (38)	0:00	0:00
169	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (39)	0:00	0:00
170	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (40)	0:00	0:00
171	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (41)	0:00	0:00
172	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (42)	0:00	0:00
173	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (43)	0:00	0:00
174	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (44)	0:00	0:00
175	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (45)	0:00	0:00
176	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (46)	0:00	0:00
177	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (47)	12:37	5:12
178	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (48)	0:00	0:00
179	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (49)	0:00	0:00
180	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (50)	0:00	0:00
181	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (51)	0:00	0:00
182	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (52)	0:00	0:00
183	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (53)	0:00	0:00
184	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (54)	0:00	0:00
185	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (55)	0:00	0:00
186	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (56)	0:00	0:00
187	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (57)	0:00	0:00
188	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (58)	0:00	0:00
189	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (59)	0:00	0:00
190	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (60)	0:00	0:00
191	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (61)	0:00	0:00
192	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (62)	0:00	0:00
193	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (63)	0:00	0:00
194	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (64)	0:00	0:00
195	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (65)	0:00	0:00
196	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (66)	0:00	0:00
197	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (67)	0:00	0:00
198	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (68)	0:00	0:00
199	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (69)	0:00	0:00
200	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (70)	0:00	0:00
201	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (71)	1:44	0:42
202	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (72)	0:00	0:00
203	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (73)	0:00	0:00
204	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (74)	0:00	0:00

To be continued on next page...

Project: Description:

Aurora

Licensed user:

TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/15/2018 4:32 AM/3.0.654

SHADOW - Main Result

Calculation: GE 2.5-127 89m HH Shadow Flicker

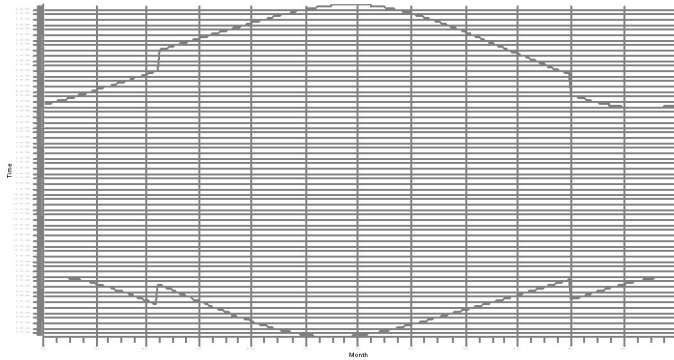
...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
205	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (75)	0:00	0:00
206	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (76)	0:00	0:00
207	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (77)	0:00	0:00
208	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (78)	0:00	0:00

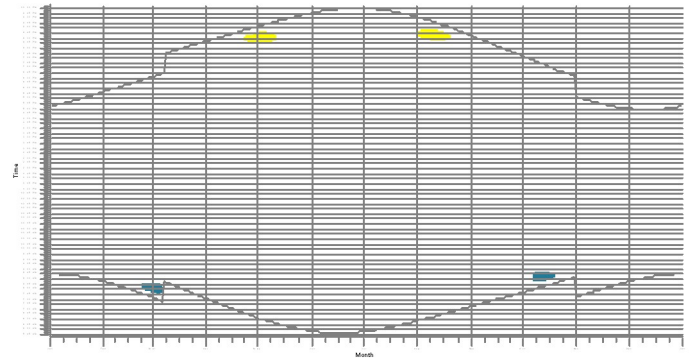
SHADOW - Calendar, graphical

Calculation: GE 2.5-127 89m HH Shadow Flicker

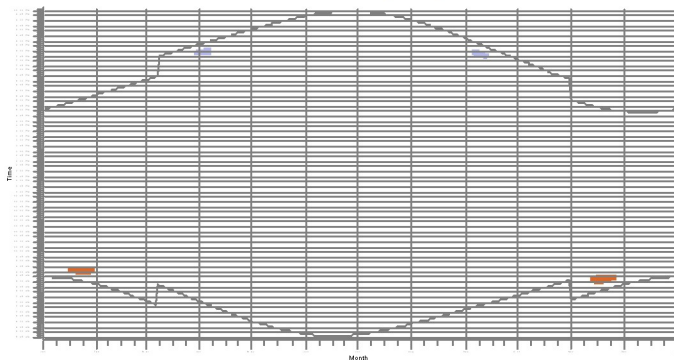
A: 1 - Non-Participating



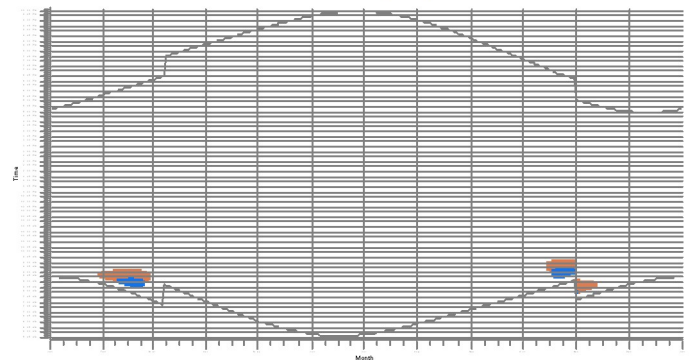
B: 39 - Participating



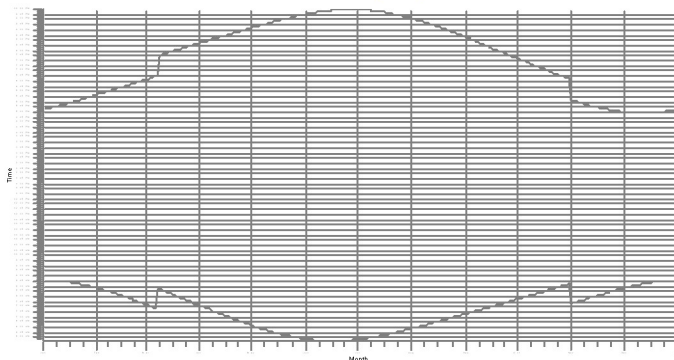
C: 2 - Non-Participating



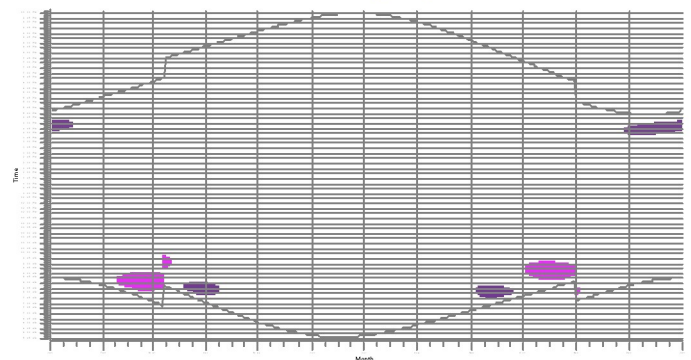
D: 40 - Participating



E: 41 - Participating



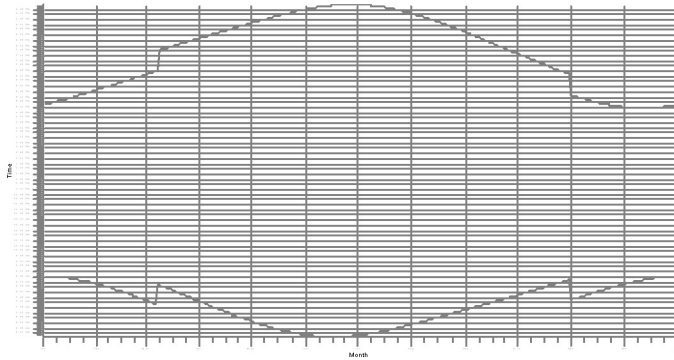
F: 42 - Participating



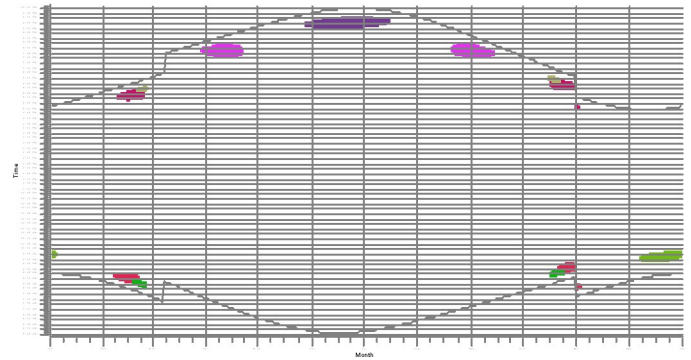
SHADOW - Calendar, graphical

Calculation: GE 2.5-127 89m HH Shadow Flicker

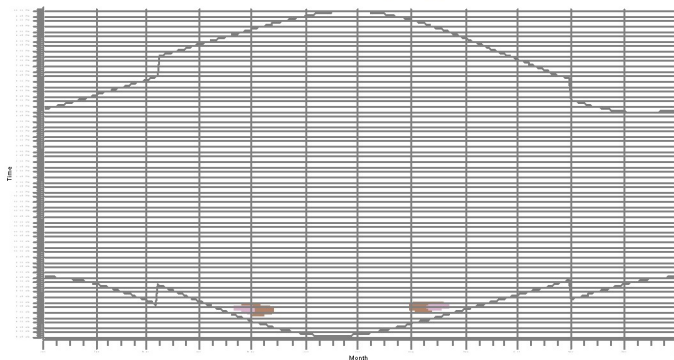
G: 43 - Participating



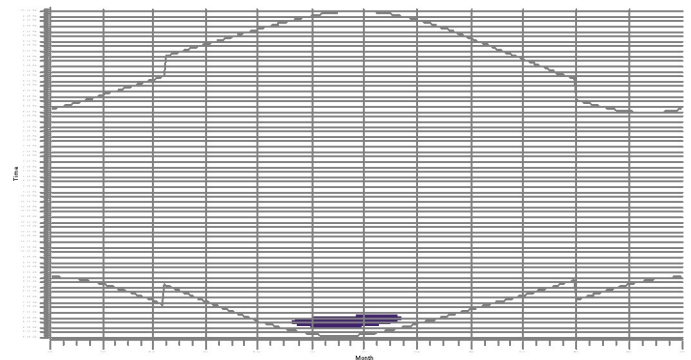
H: 44 - Participating



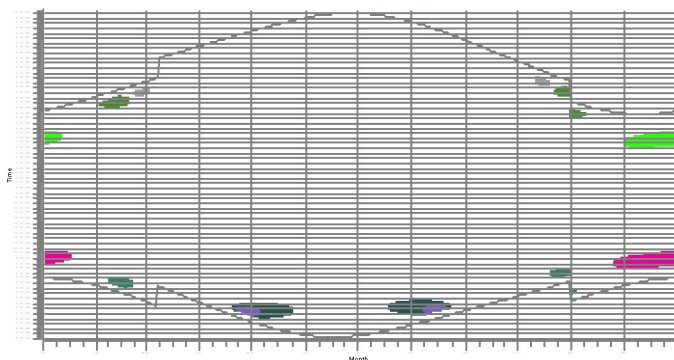
I: 3 - Non-Participating



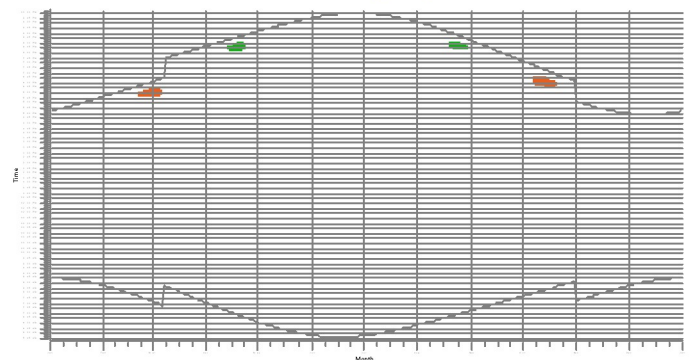
J: 4 - Non-Participating



K: 45 - Participating

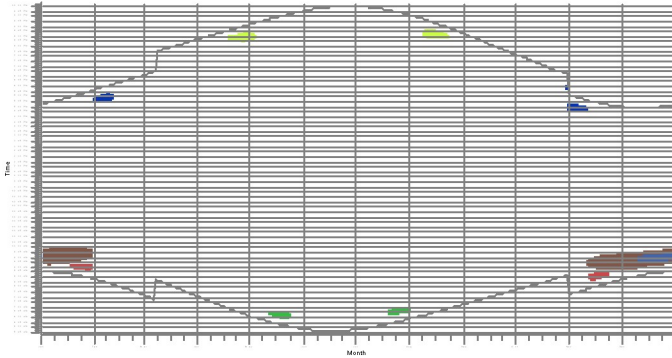


L: 46 - Participating

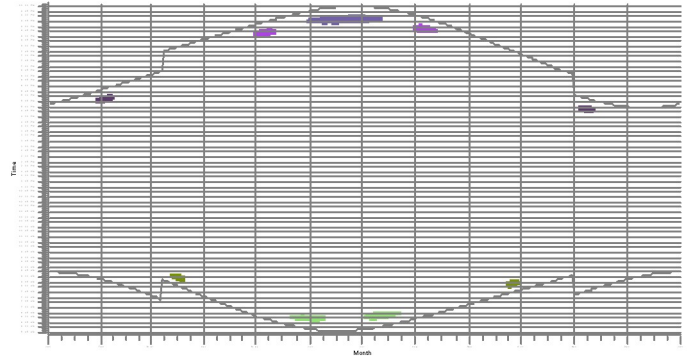


SHADOW - Calendar, graphical
 Calculation: GE 2.5-127 89m HH Shadow Flicker

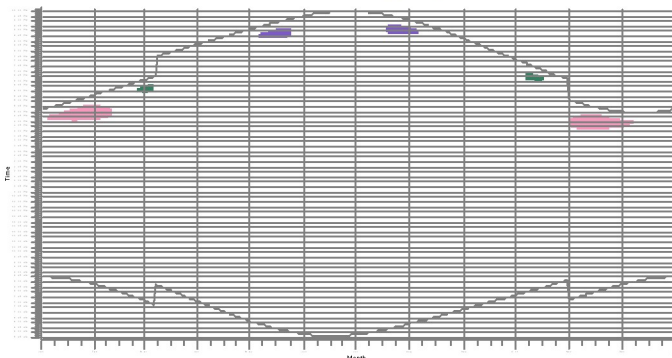
M: 47 - Participating



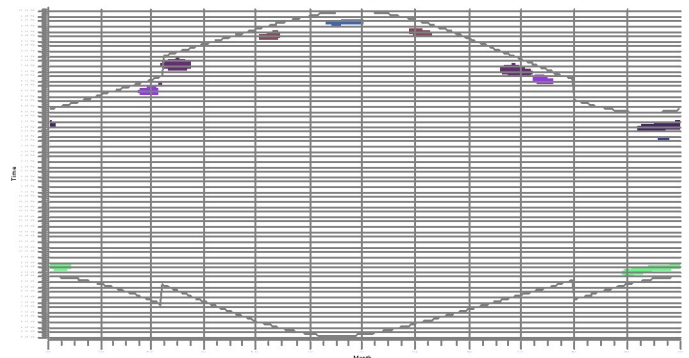
N: 48 - Participating



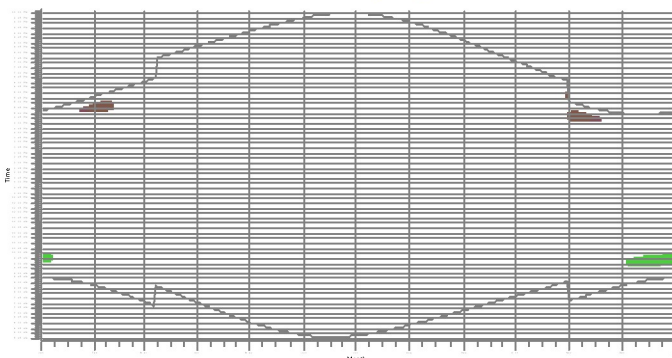
O: 5 - Non-Participating



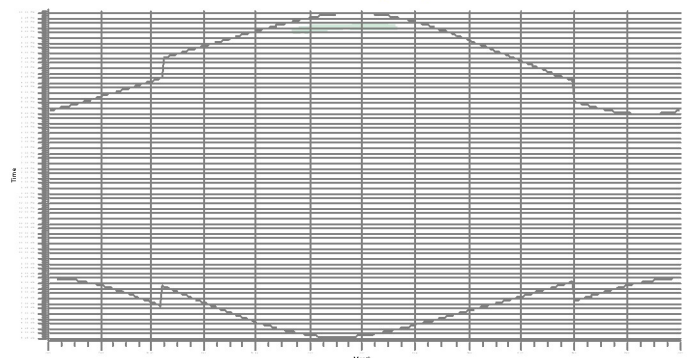
P: 49 - Participating



Q: 50 - Participating



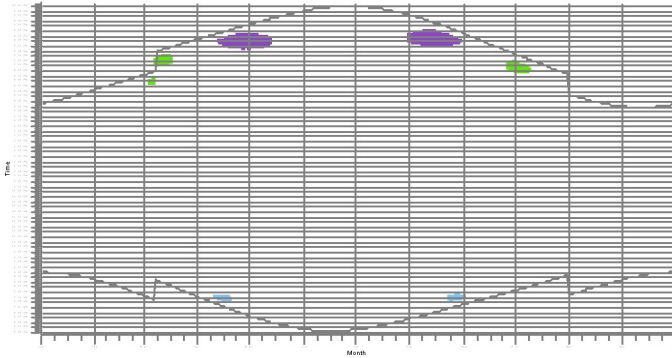
R: 51 - Participating



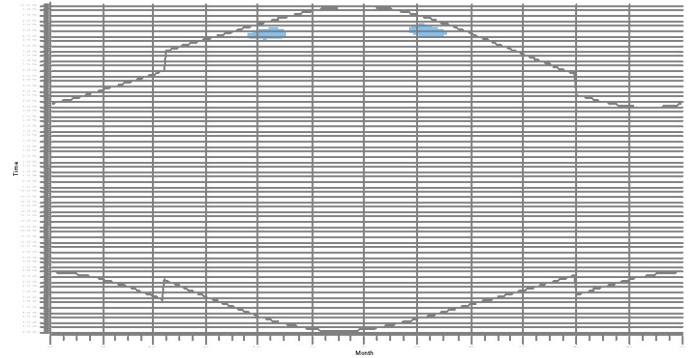
SHADOW - Calendar, graphical

Calculation: GE 2.5-127 89m HH Shadow Flicker

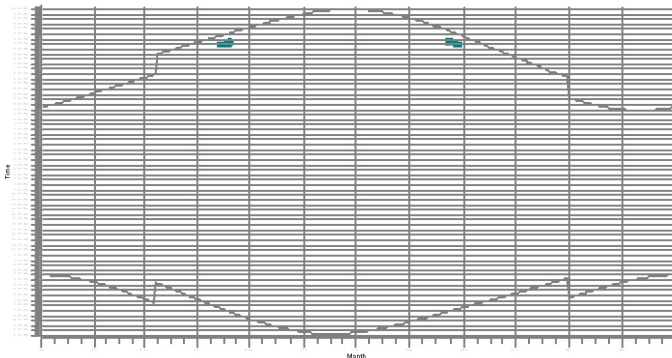
S: 6 - Non-Participating



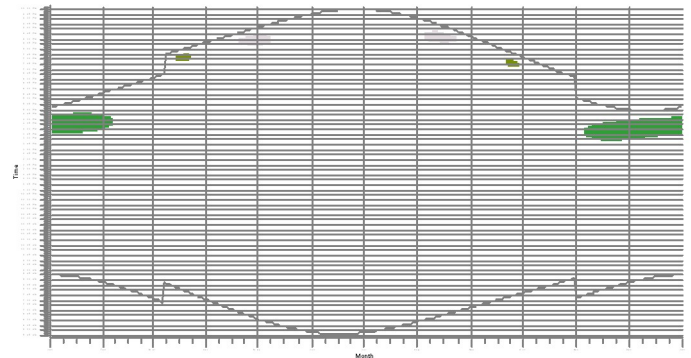
T: 52 - Participating



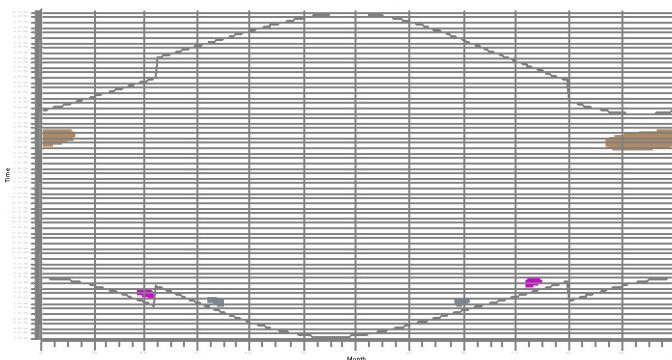
U: 7 - Non-Participating



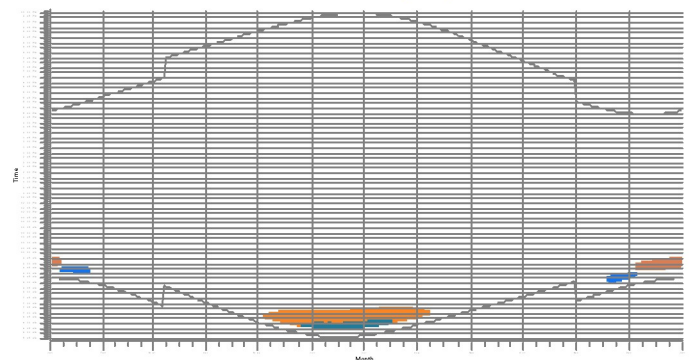
V: 8 - Non-Participating



W: 9 - Non-Participating



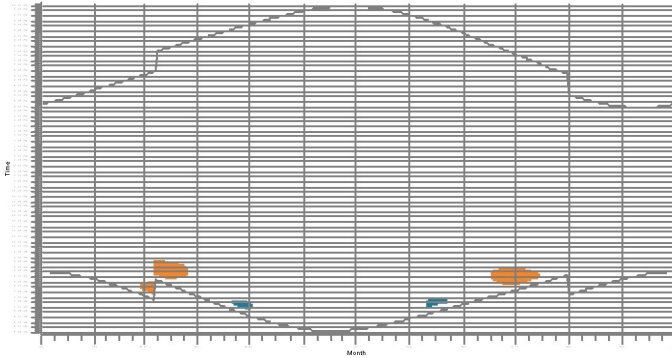
X: 10 - Non-Participating



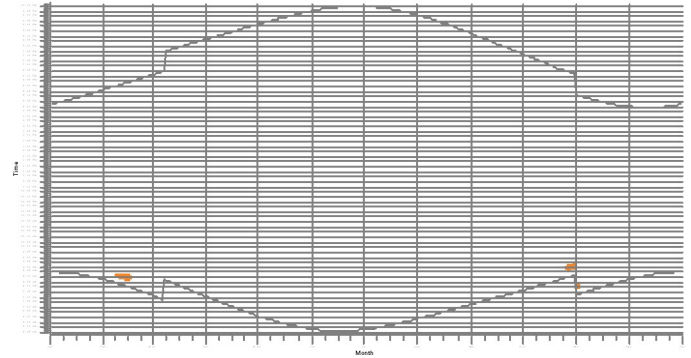
SHADOW - Calendar, graphical

Calculation: GE 2.5-127 89m HH Shadow Flicker

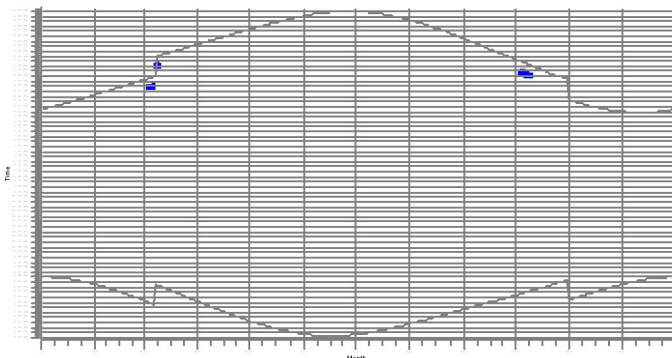
Y: 11 - Non-Participating



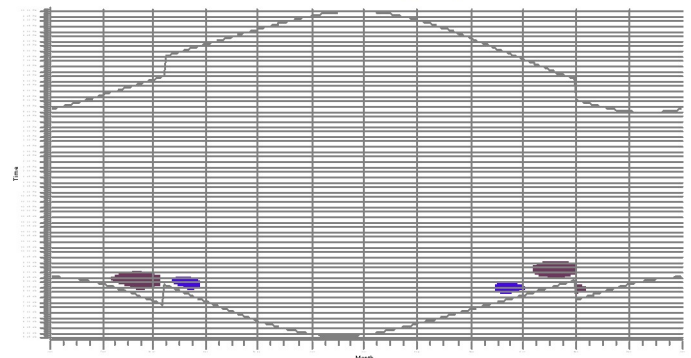
Z: 53 - Participating



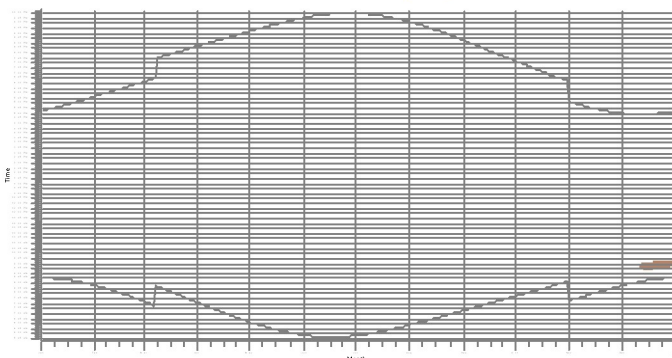
AA: 54 - Participating



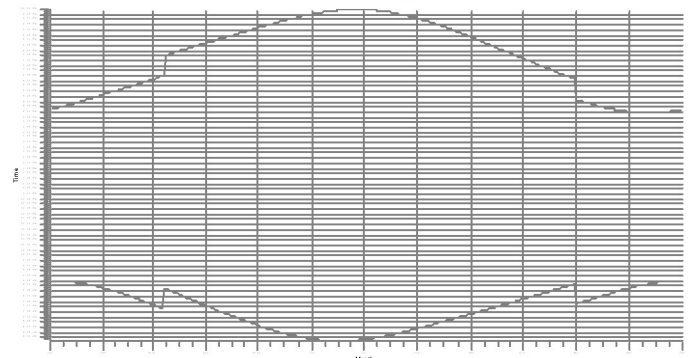
AB: 12 - Non-Participating



AC: 13 - Non-Participating



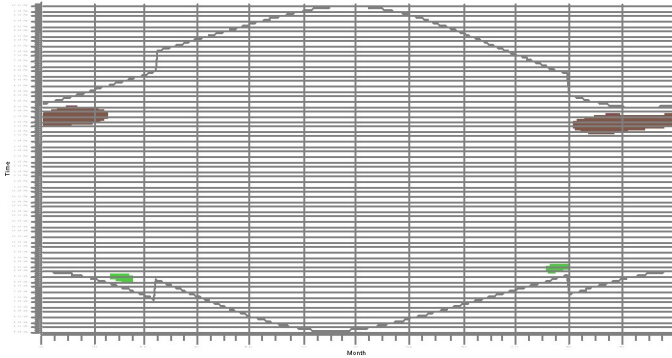
AD: 14 - Non-Participating



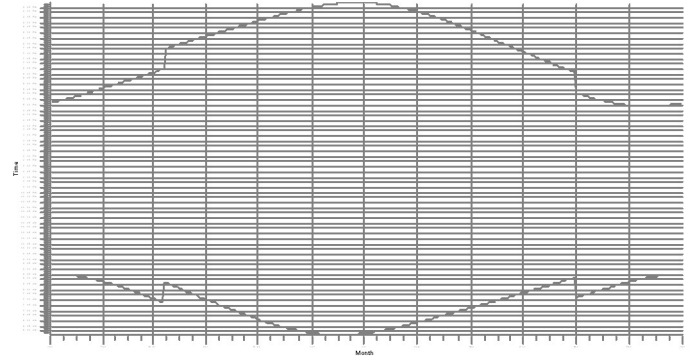
SHADOW - Calendar, graphical

Calculation: GE 2.5-127 89m HH Shadow Flicker

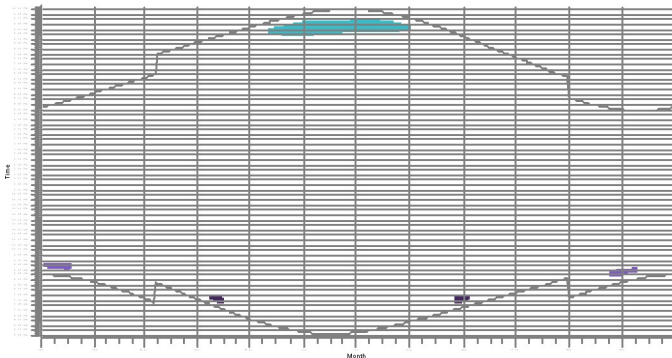
AE: 55 - Participating



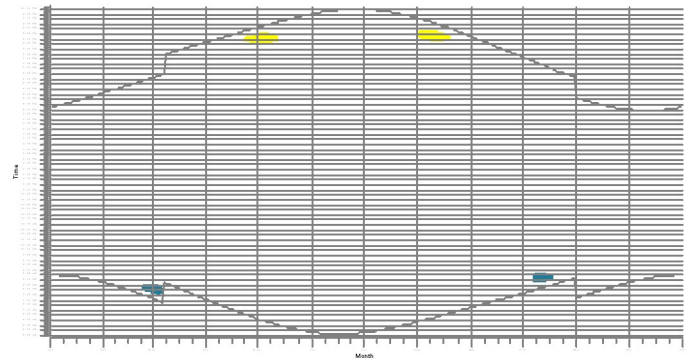
AF: 15 - Non-Participating



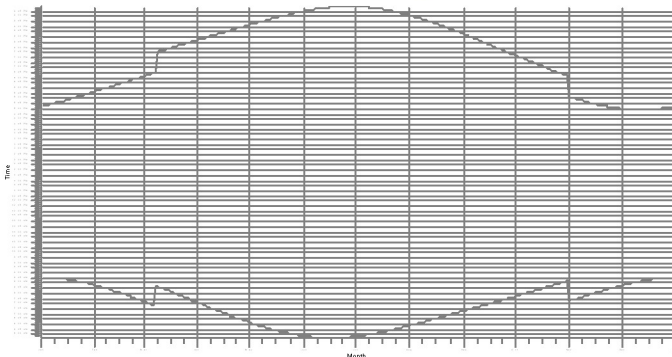
AG: 57 - Participating



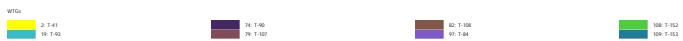
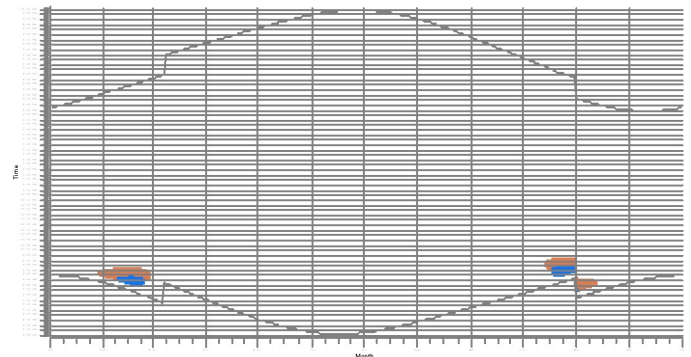
AH: 59 - Participating



AI: 61 - Participating



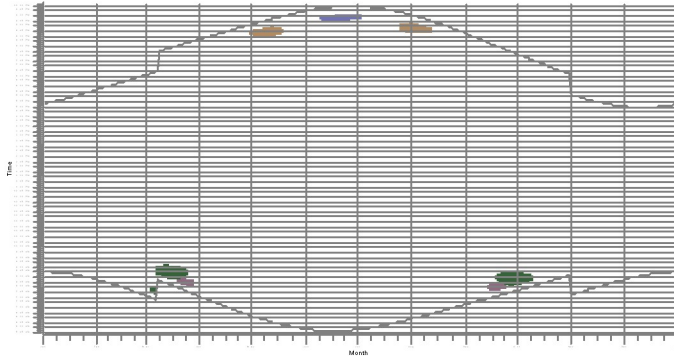
AJ: 62 - Participating



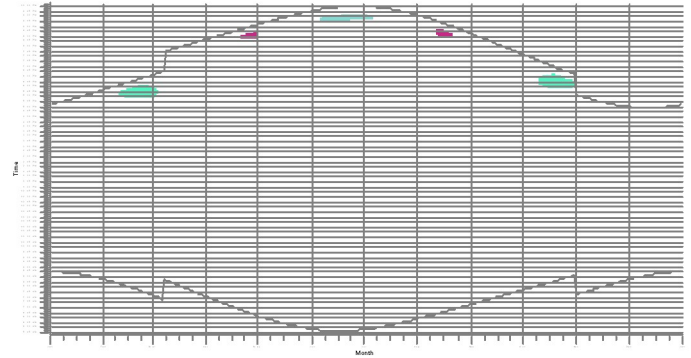
SHADOW - Calendar, graphical

Calculation: GE 2.5-127 89m HH Shadow Flicker

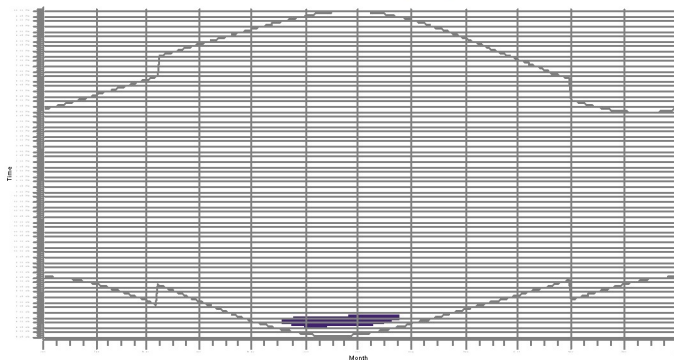
AK: 63 - Participating



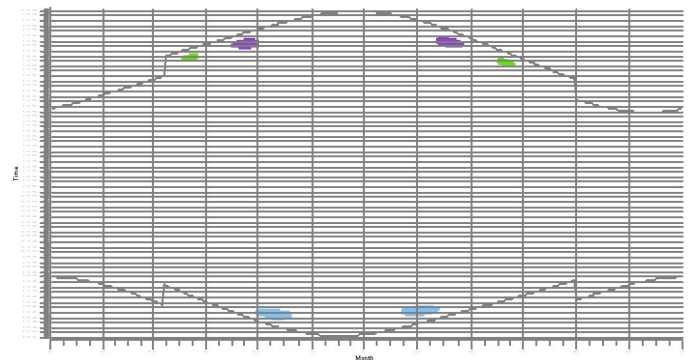
AL: 16 - Non-Participating



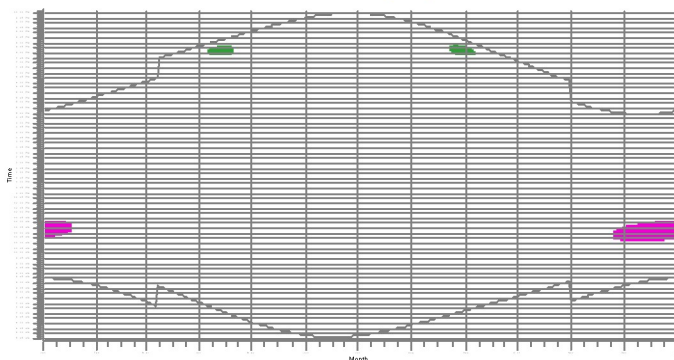
AM: 17 - Non-Participating



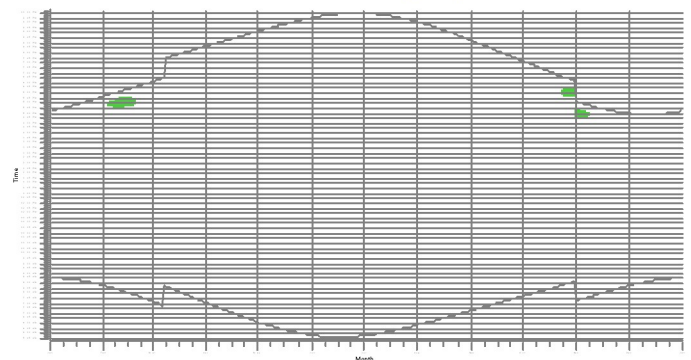
AN: 18 - Non-Participating



AO: 64 - Participating



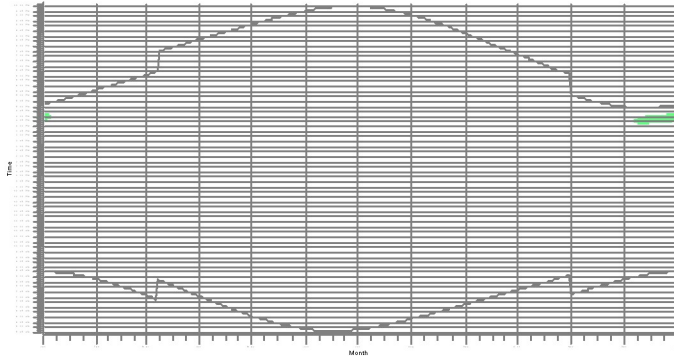
AP: 19 - Non-Participating



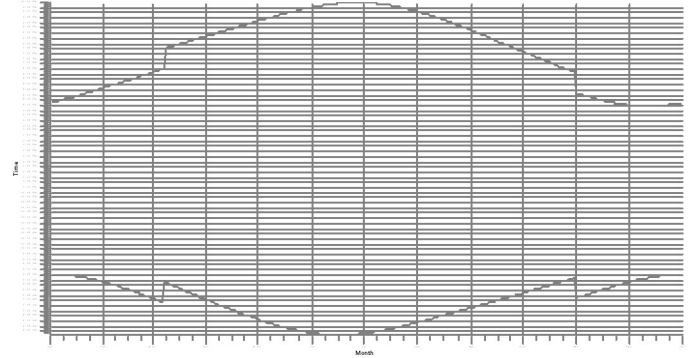
SHADOW - Calendar, graphical

Calculation: GE 2.5-127 89m HH Shadow Flicker

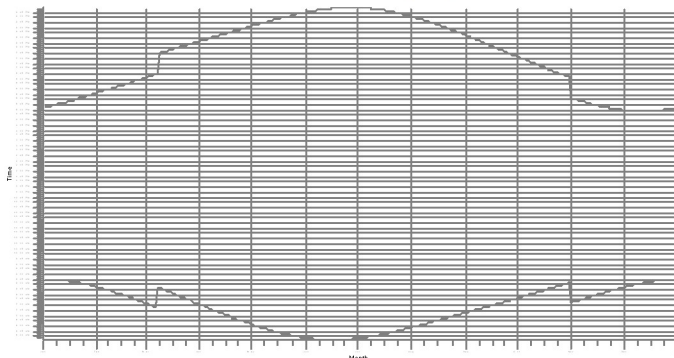
AQ: 20 - Non-Participating



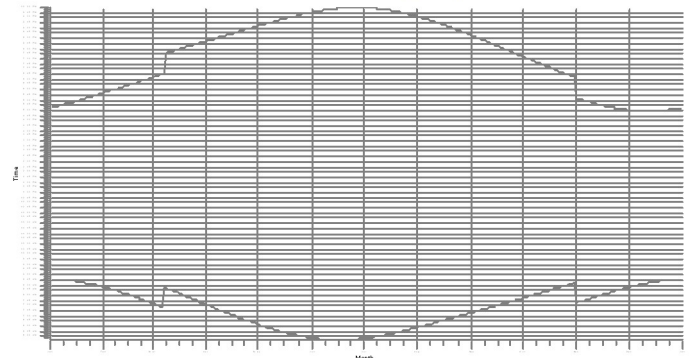
AR: 21 - Non-Participating



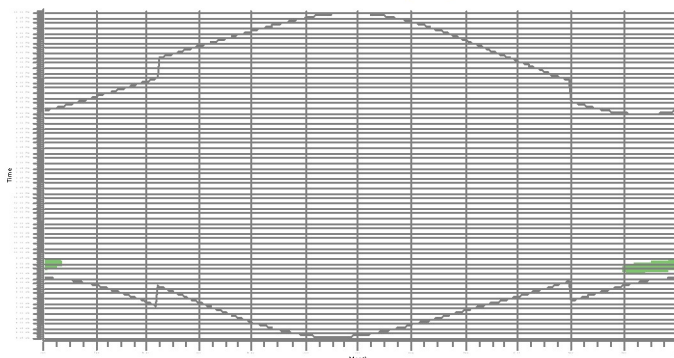
AS: 22 - Non-Participating



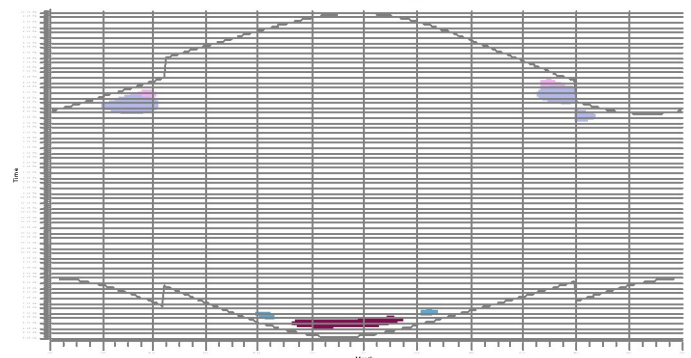
AT: 23 - Non-Participating



AU: 24 - Non-Participating



AV: 27 - Non-Participating



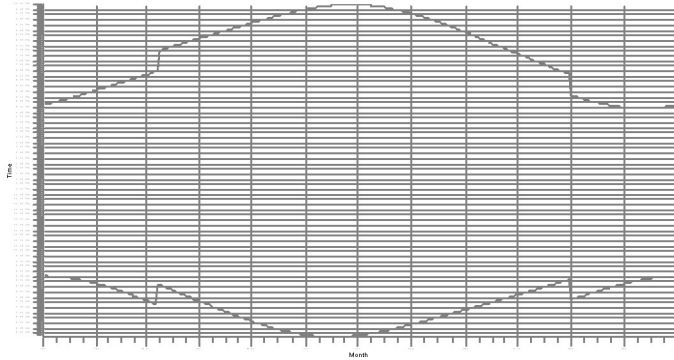
WFO: 0: 1.6 0: 1.6 114: 1.04 114: 1.04

171: 143346 V100 2000 100.0 00 Ndb 80.0 w (20): 120.0 w (20) 201: 143346 V100 2000 100.0 00 Ndb 80.0 w (20): 120.0 w (20)

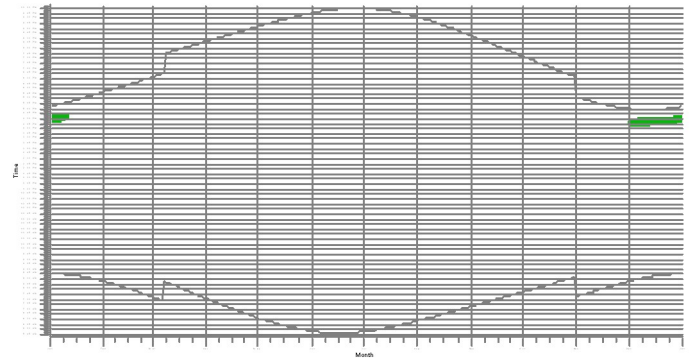
SHADOW - Calendar, graphical

Calculation: GE 2.5-127 89m HH Shadow Flicker

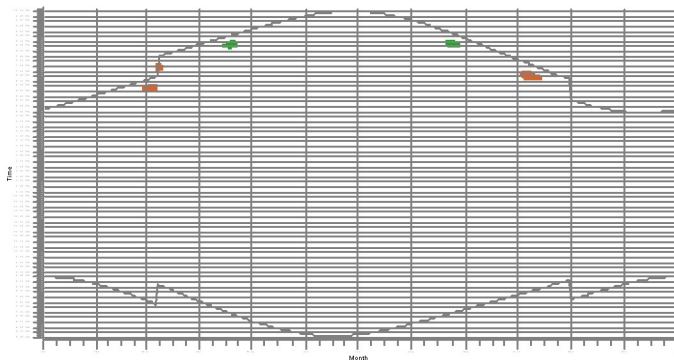
AW: 29 - Non-Participating



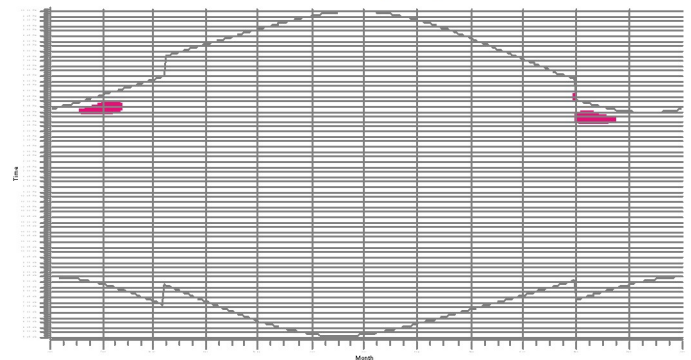
AX: 30 - Non-Participating



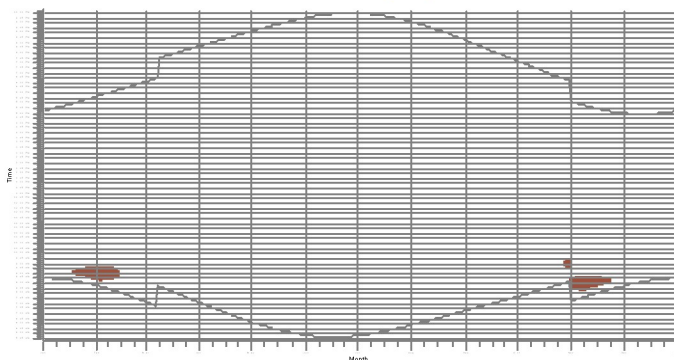
AY: 31 - Non-Participating



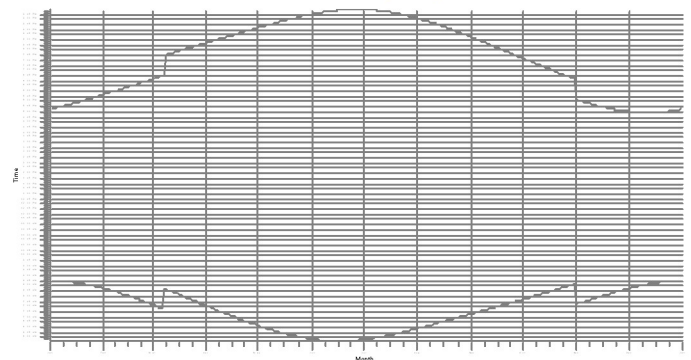
AZ: 66 - Participating



BA: 67 - Participating



BB: 68 - Participating

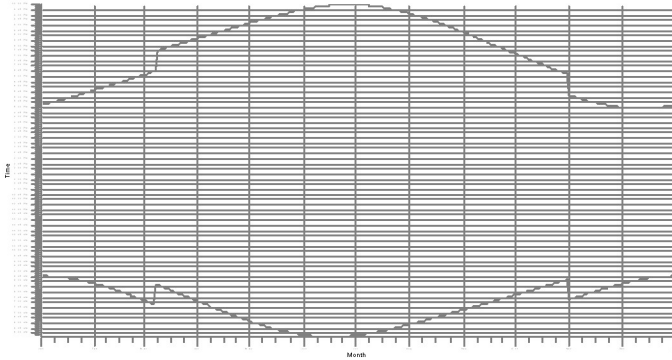


WFO: 40-1-25 40-1-16 40-1-24 100-1-102

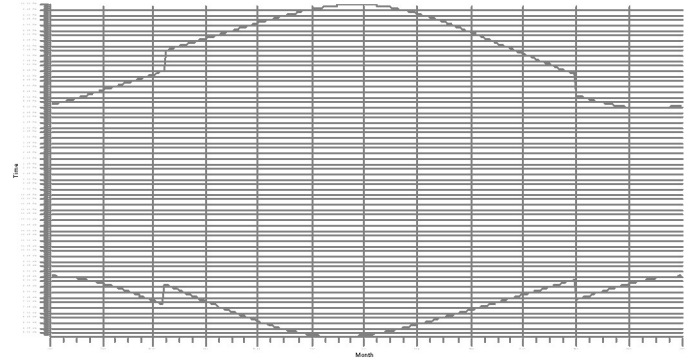
SHADOW - Calendar, graphical

Calculation: GE 2.5-127 89m HH Shadow Flicker

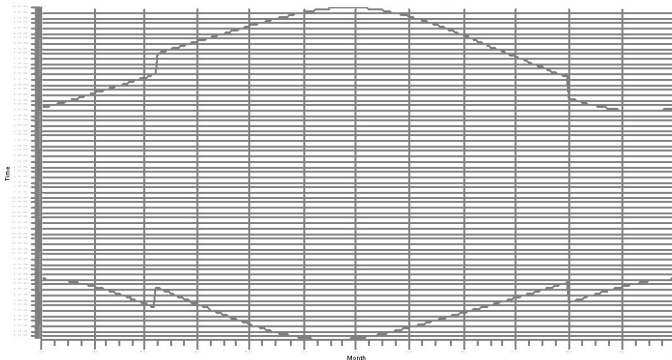
BC: 32 - Non-Participating



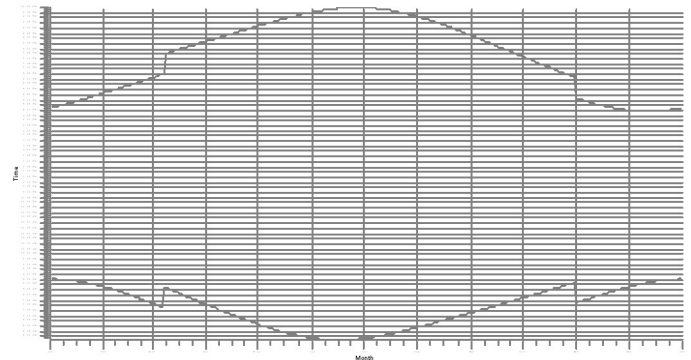
BD: 33 - Non-Participating



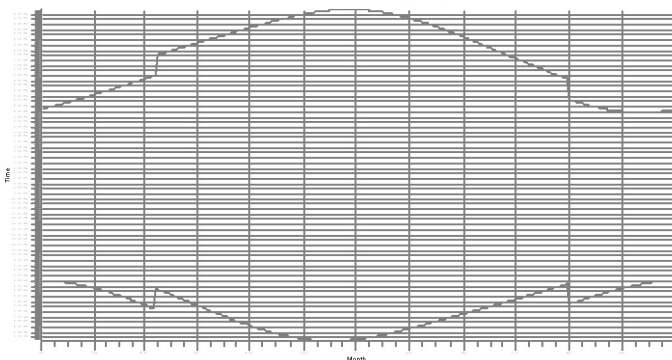
BE: 34 - Non-Participating



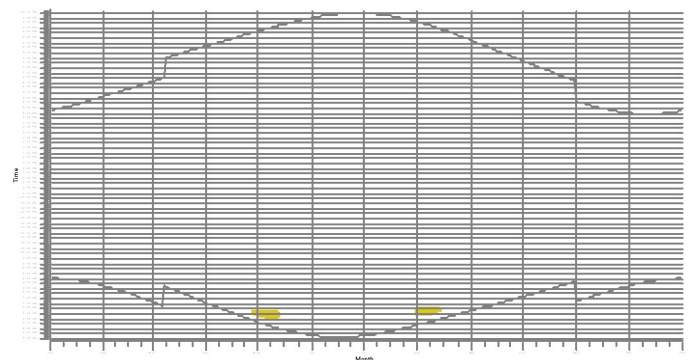
BF: 35 - Non-Participating



BG: 36 - Non-Participating



BH: 37 - Non-Participating



WFO: 121.1-144

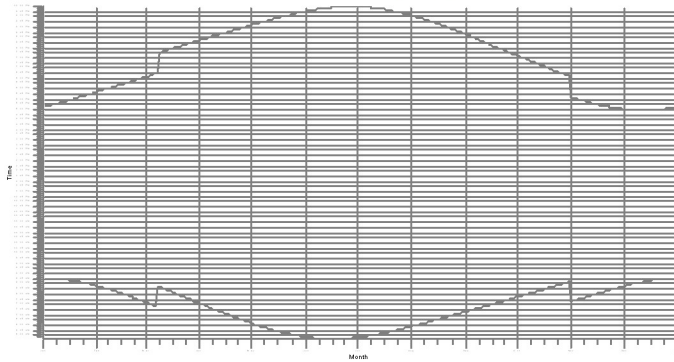
Project: Aurora
Description:

Licensed user:
TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/15/2018 4:32 AM/3.0.654

SHADOW - Calendar, graphical

Calculation: GE 2.5-127 89m HH Shadow Flicker

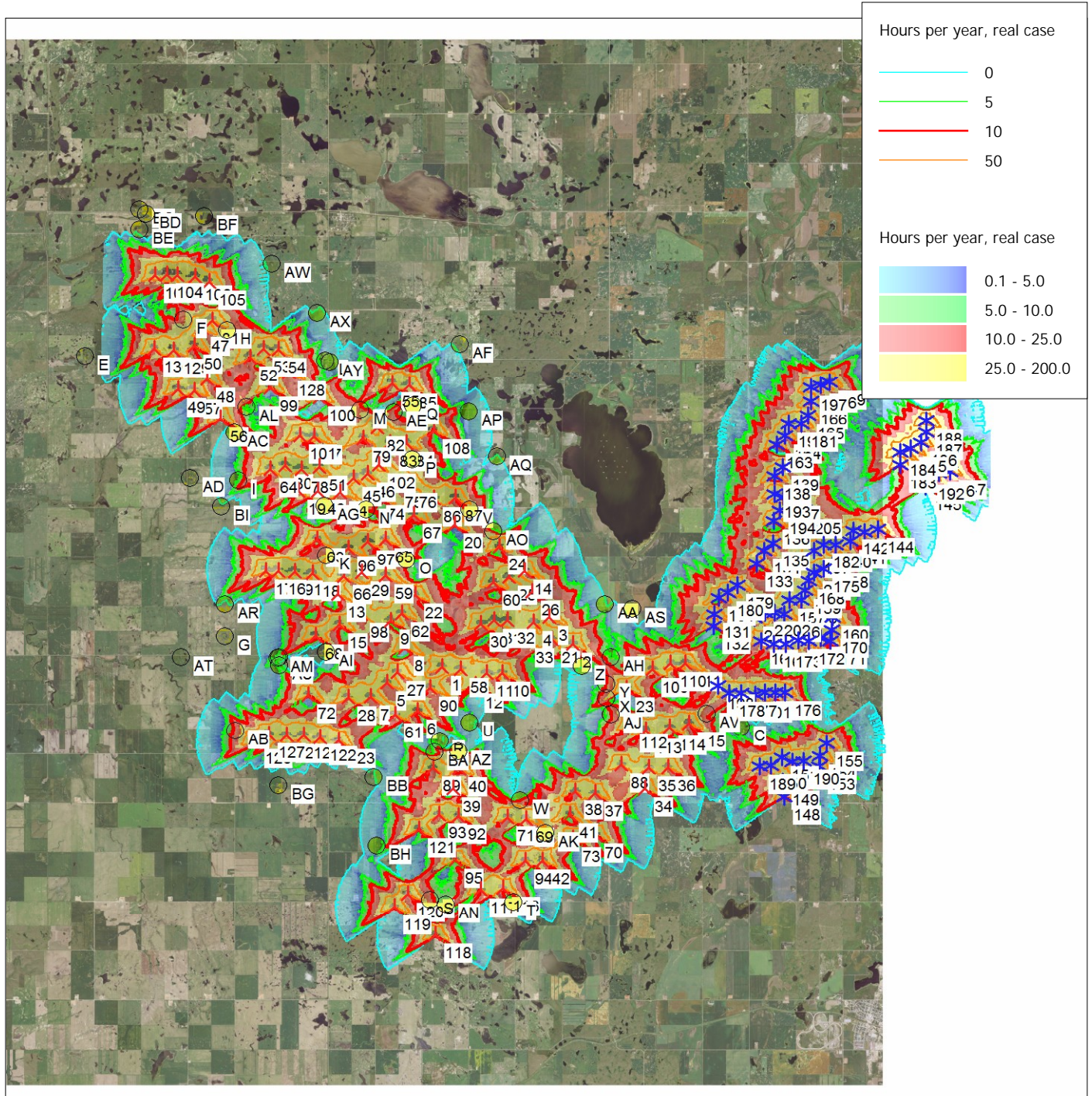
BI: 38 - Non-Participating



wfo

SHADOW - Map

Calculation: GE 2.5-127 89m HH Shadow Flicker



Map: US Naval Research Laboratory , Print scale 1:200,000, Map center UTM WGS84 Zone: 13 East: 640,676 North: 5,375,910
 New WTG Existing WTG Shadow receptor
 Flicker map level: Height Contours: 150921_TWE_LindahIWest_10ftHCLsfrom10mNED.wpo (3)

SHADOW - Main Result

Calculation: V136 105m HH Shadow Flicker

Assumptions for shadow calculations

Maximum distance for influence	2,000 m
Minimum sun height over horizon for influence	3 °
Day step for calculation	1 days
Time step for calculation	1 minutes

Sunshine probability S (Average daily sunshine hours) [BISMARCK]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4.92	5.13	7.45	8.03	10.20	11.21	11.69	10.35	8.68	5.69	4.02	3.69

Operational hours are calculated from WTGs in calculation and wind distribution:
 0162 3/18 SDO

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
722	459	308	340	523	950	724	582	734	1,008	1,127	1,176	8,652

Idle start wind speed: Cut in wind speed from power curve

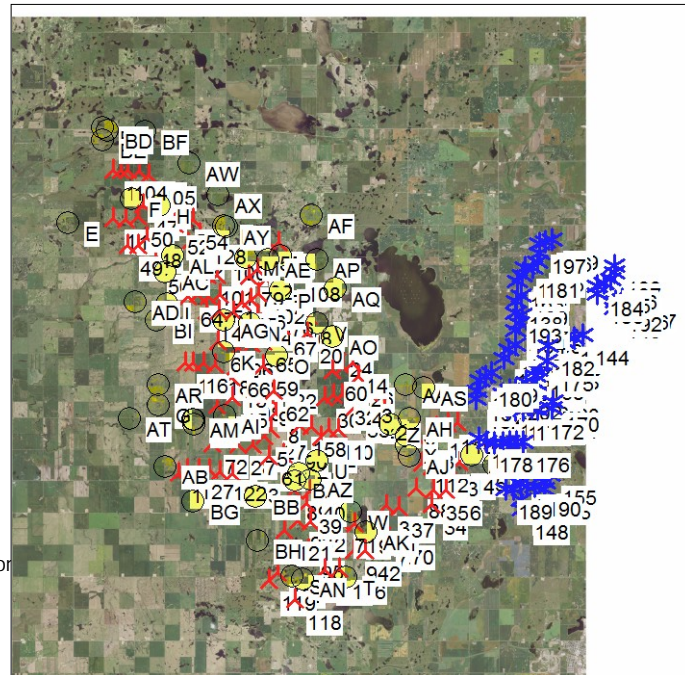
A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:
 Height contours used: Height Contours: 150921_TWE_LindahlWest_10ftHCLSfrom
 Obstacles used in calculation
 Eye height: 1.5 m
 Grid resolution: 10.0 m

All coordinates are in
 UTM WGS84 Zone: 13

WTGs

	X(East)	Y(North)	Z	Row data/Description
	[m]			
1	637,619	5,373,512	727.5	T-43
2	642,085	5,374,363	728.5	T-41
3	641,252	5,375,220	737.7	T-63
4	640,729	5,375,038	740.7	T-62
5	635,764	5,372,945	724.6	T-45
6	636,817	5,372,047	728.5	T-35
7	635,193	5,372,473	710.2	T-47
8	636,346	5,374,109	734.6	T-56
9	635,830	5,374,972	728.5	T-55
10	639,692	5,373,363	740.7	T-39
11	639,157	5,373,344	739.4	T-38
12	638,790	5,372,951	734.6	T-37
13	633,988	5,375,810	737.6	T-70
14	640,372	5,376,713	738.1	T-77
15	634,074	5,374,798	721.2	T-53
16	631,934	5,376,511	729.8	T-67
17	631,510	5,376,507	731.5	T-66
18	633,108	5,376,447	723.9	T-69
19	632,563	5,379,145	737.6	T-93
20	637,951	5,378,169	715.2	T-80
21	641,389	5,374,486	743.7	T-58
22	636,640	5,375,835	734.6	T-73
23	643,972	5,372,967	712.3	T-28
24	639,495	5,377,499	738.7	T-78
25	639,840	5,376,489	737.6	T-76
26	640,649	5,376,031	731.5	T-79
27	636,095	5,373,292	733.9	T-46

To be continued on next page...



Scale 1:400,000
 ▲ New WTG * Existing WTG
 ● Shadow receptor

	WTG type						
	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]
1	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
2	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
3	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
4	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
5	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
6	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
7	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
8	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
9	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
10	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
11	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
12	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
13	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
14	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
15	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
16	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
17	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
18	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
19	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
20	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
21	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
22	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
23	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
24	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
25	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
26	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
27	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0

SHADOW - Main Result

Calculation: V136 105m HH Shadow Flicker

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]	
					Valid	Manufact.					
			[m]								
28	634,438	5,372,432	701.0	T-57	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
29	634,798	5,376,526	725.4	T-71	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
30	638,928	5,374,941	737.6	T-59	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
31	639,384	5,375,074	737.6	T-60	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
32	639,838	5,375,100	737.6	T-61	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
33	640,492	5,374,466	743.6	T-40	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
34	644,695	5,369,685	736.0	T-15	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
35	644,792	5,370,371	743.7	T-16	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
36	645,456	5,370,405	735.1	T-17	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
37	642,975	5,369,494	737.6	T-12	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
38	642,303	5,369,536	734.9	T-13	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
39	638,102	5,369,527	710.5	T-26	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
40	638,282	5,370,192	712.5	T-25	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
41	642,122	5,368,780	734.6	T-10	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
42	641,239	5,367,252	719.1	T-8	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
43	633,243	5,379,162	737.6	T-94	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
44	634,001	5,379,136	737.6	T-95	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
45	634,443	5,379,605	731.5	T-96	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
46	634,918	5,379,749	728.5	T-121	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
47	629,136	5,384,387	713.2	T-142	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
48	629,347	5,382,713	710.2	T-131	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
49	628,366	5,382,343	707.1	T-129	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
50	628,893	5,383,804	717.2	T-141	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
51	633,253	5,379,950	729.4	T-123	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
52	630,815	5,383,459	711.9	T-144	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
53	631,275	5,383,767	710.7	T-145	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
54	631,767	5,383,732	713.2	T-146	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
55	635,699	5,382,724	710.2	T-122	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
56	629,834	5,381,441	713.0	T-117	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
57	628,926	5,382,328	703.0	T-130	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
58	638,268	5,373,457	731.5	T-44	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
59	635,628	5,376,434	728.5	T-72	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
60	639,307	5,376,310	731.5	T-75	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
61	636,056	5,371,908	719.3	T-34	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
62	636,215	5,375,218	731.5	T-74	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
63	633,243	5,377,581	731.5	T-81	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
64	631,582	5,379,814	726.8	T-98	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
65	635,586	5,377,640	725.5	T-85	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
66	634,183	5,376,389	733.5	T-86	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
67	636,542	5,378,452	715.1	T-87	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
68	633,261	5,374,418	716.3	T-51	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
69	640,641	5,368,602	728.5	T-23	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
70	643,024	5,368,138	728.5	T-11	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
71	639,998	5,368,634	725.4	T-22	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
72	633,064	5,372,478	698.0	T-5	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
73	642,243	5,368,015	730.6	T-9	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
74	635,270	5,379,029	725.4	T-90	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
75	635,883	5,379,448	720.6	T-91	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
76	636,364	5,379,455	716.0	T-92	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
77	633,072	5,380,925	729.9	T-106	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
78	632,659	5,379,855	737.2	T-100	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
79	634,758	5,380,905	718.9	T-107	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
80	632,089	5,379,958	731.5	T-99	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
81	629,494	5,384,648	709.6	T-143	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
82	635,222	5,381,271	716.3	T-108	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
83	635,678	5,380,785	716.0	T-109	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
84	636,220	5,380,785	716.3	T-110	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
85	636,276	5,382,673	710.2	T-124	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
86	637,208	5,379,005	710.9	T-88	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0

To be continued on next page...

SHADOW - Main Result

Calculation: V136 105m HH Shadow Flicker

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]	
					Valid	Manufact.					Type-generator
			[m]								
87	637,941	5,379,046	713.2	T-89	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
88	643,859	5,370,443	732.3	T-14	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
89	637,408	5,370,185	701.0	T-24	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
90	637,234	5,372,817	719.9	T-42	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
91	632,509	5,376,501	722.8	T-68	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
92	638,306	5,368,644	716.3	T-21	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
93	637,648	5,368,666	713.2	T-20	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
94	640,643	5,367,238	719.3	T-19	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
95	638,242	5,367,207	710.2	T-18	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
96	634,318	5,377,326	731.6	T-83	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
97	634,979	5,377,549	725.3	T-84	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
98	634,798	5,375,163	713.2	T-54	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
99	631,532	5,382,484	707.7	T-118	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
100	633,206	5,382,201	722.4	T-120	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
101	632,585	5,380,949	731.5	T-105	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
102	635,298	5,380,049	728.5	T-97	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
103	627,504	5,386,079	711.3	T-147	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
104	627,911	5,386,105	710.2	T-148	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
105	629,368	5,385,888	704.0	T-149	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
106	628,867	5,386,049	710.2	T-150	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
107	628,269	5,386,086	711.9	T-151	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
108	637,149	5,381,224	704.1	T-152	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
109	644,833	5,373,605	713.9	T-153	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
110	645,462	5,373,811	728.5	T-154	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
111	645,966	5,373,838	730.1	T-155	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
112	644,144	5,371,765	710.2	T-156	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
113	644,660	5,371,616	715.4	T-157	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
114	645,479	5,371,724	719.3	T-158	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
115	646,127	5,371,875	717.1	T-159	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
116	639,890	5,366,309	710.2	T-160	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
117	639,135	5,366,239	709.0	T-161	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
118	637,617	5,364,719	707.6	T-162	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
119	636,191	5,365,609	711.4	T-163	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
120	636,640	5,366,042	710.2	T-164	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
121	636,954	5,368,164	711.3	T-165	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
122	633,495	5,371,087	689.0	T-166	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
123	634,130	5,371,006	696.6	T-167	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
124	632,359	5,371,139	688.8	T-168	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
125	632,926	5,371,158	686.0	T-169	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
126	631,283	5,370,947	682.8	T-170	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
127	631,732	5,371,159	684.7	T-171	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
128	632,154	5,382,999	713.2	T-172	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
129	628,195	5,383,647	711.6	T-173	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
130	627,535	5,383,666	710.2	T-174	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	105.0	0.0
131	646,913	5,375,455	745.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
132	646,888	5,375,080	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
133	648,328	5,377,151	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
134	648,570	5,377,592	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
135	648,872	5,377,853	752.9	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
136	648,872	5,378,572	753.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
137	649,189	5,379,368	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
138	648,868	5,380,034	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
139	649,124	5,380,328	729.4	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
140	651,007	5,377,868	748.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
141	651,525	5,378,000	750.5	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
142	651,616	5,378,348	758.5	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
143	651,987	5,378,290	755.6	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
144	652,436	5,378,405	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
145	654,047	5,379,834	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9

To be continued on next page...

SHADOW - Main Result

Calculation: V136 105m HH Shadow Flicker

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Table with 14 columns: X(East), Y(North), Z, Row data/Description, WTG type Valid, Manufact., Type-generator, Power, rated [kW], Rotor diameter [m], Hub height [m], RPM [RPM]. Rows 146-204 show VESTAS V100 2000 turbine specifications with consistent values for power (2,000 kW), rotor diameter (100.0 m), and hub height (80.0 m).

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SHADOW - Main Result

Calculation: V136 105m HH Shadow Flicker

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	X(East)	Y(North)	Z	Row data/Description	WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]	
					Valid	Manufact.					Type-generator
205	649,928	5,378,956	741.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
206	650,591	5,374,779	748.5	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
207	650,301	5,376,922	735.1	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
208	650,917	5,377,197	740.0	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9

Shadow receptor-Input

No.	Name	X(East)	Y(North)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
		[m]	[m]	[m]	[m]	[m]	[m]	[°]	[°]	
A 1	- Non-Participating	644,116	5,375,554	701.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
B 39	- Participating	643,400	5,373,971	711.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
C 2	- Non-Participating	647,930	5,371,801	718.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"
D 40	- Participating	643,453	5,372,099	716.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
E 41	- Participating	625,162	5,383,364	711.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
F 42	- Participating	628,500	5,384,644	704.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"
G 43	- Participating	630,148	5,374,326	691.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
H 44	- Participating	629,997	5,384,325	711.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
I 3	- Non-Participating	630,488	5,379,437	722.7	1.0	11.0	1.0	0.0	90.0	"Green house mode"
J 4	- Non-Participating	632,031	5,373,676	696.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
K 45	- Participating	633,554	5,377,057	735.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
L 46	- Participating	633,395	5,383,413	715.7	1.0	11.0	1.0	0.0	90.0	"Green house mode"
M 47	- Participating	634,615	5,381,825	716.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
N 48	- Participating	634,891	5,378,584	728.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
O 5	- Non-Participating	636,328	5,376,974	731.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
P 49	- Participating	636,455	5,380,259	709.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
Q 50	- Participating	636,416	5,382,006	707.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
R 51	- Participating	637,621	5,371,070	716.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
S 6	- Non-Participating	637,411	5,365,868	713.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
T 52	- Participating	640,276	5,365,862	710.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
U 7	- Non-Participating	638,615	5,371,717	720.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
V 8	- Non-Participating	638,435	5,378,666	709.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
W 9	- Non-Participating	640,413	5,369,191	728.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
X 10	- Non-Participating	643,279	5,372,615	722.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
Y 11	- Non-Participating	643,282	5,373,088	726.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
Z 53	- Participating	642,413	5,373,644	734.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AA 54	- Participating	643,167	5,375,685	714.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AB 12	- Non-Participating	630,584	5,371,240	682.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AC 13	- Non-Participating	630,347	5,380,996	717.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AD 14	- Non-Participating	628,838	5,379,465	705.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AE 55	- Participating	635,760	5,381,775	711.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AF 15	- Non-Participating	637,972	5,384,054	715.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AG 57	- Participating	633,480	5,378,691	739.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AH 59	- Participating	643,400	5,373,968	711.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AI 61	- Participating	633,645	5,373,895	713.7	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AJ 62	- Participating	643,453	5,372,097	716.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AK 63	- Participating	641,300	5,368,154	725.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AL 16	- Non-Participating	630,734	5,381,835	710.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AM 17	- Non-Participating	631,989	5,373,670	695.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AN 18	- Non-Participating	637,954	5,365,740	710.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AO 64	- Participating	639,268	5,377,996	720.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AP 19	- Non-Participating	638,331	5,381,857	701.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AQ 20	- Non-Participating	639,333	5,380,415	707.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AR 21	- Non-Participating	630,142	5,375,377	701.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AS 22	- Non-Participating	644,117	5,375,554	701.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AT 23	- Non-Participating	628,666	5,373,611	682.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AU 24	- Non-Participating	632,030	5,373,428	696.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AV 27	- Non-Participating	646,754	5,372,213	713.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"

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SHADOW - Main Result

Calculation: V136 105m HH Shadow Flicker

...continued from previous page

No.	Name	X(East)	Y(North)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
				[m]	[m]	[m]	[m]	[°]	[°]	
AW 29	- Non-Participating	631,486	5,386,533	696.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AX 30	- Non-Participating	633,067	5,384,963	707.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AY 31	- Non-Participating	633,553	5,383,375	714.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AZ 66	- Participating	638,244	5,370,747	710.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BA 67	- Participating	637,448	5,370,698	712.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BB 68	- Participating	635,378	5,369,828	692.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BC 32	- Non-Participating	626,925	5,388,203	701.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BD 33	- Non-Participating	627,137	5,388,066	701.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BE 34	- Non-Participating	626,921	5,387,556	704.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BF 35	- Non-Participating	629,137	5,388,039	693.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BG 36	- Non-Participating	632,118	5,369,480	691.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BH 37	- Non-Participating	635,531	5,367,600	699.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BI 38	- Non-Participating	629,941	5,378,583	713.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"

Calculation Results

Shadow receptor

No.	Name	Shadow, worst case			Shadow, expected values
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
A 1	- Non-Participating	0:00	0	0:00	0:00
B 39	- Participating	17:11	67	0:25	7:28
C 2	- Non-Participating	6:53	46	0:14	2:37
D 40	- Participating	34:49	63	0:53	12:19
E 41	- Participating	0:00	0	0:00	0:00
F 42	- Participating	75:40	161	0:48	26:44
G 43	- Participating	0:00	0	0:00	0:00
H 44	- Participating	75:58	174	0:54	29:39
I 3	- Non-Participating	16:02	50	0:29	6:36
J 4	- Non-Participating	19:57	62	0:25	8:16
K 45	- Participating	125:25	201	1:19	42:38
L 46	- Participating	12:05	55	0:24	4:27
M 47	- Participating	75:01	171	0:48	26:17
N 48	- Participating	32:07	139	0:27	14:03
O 5	- Non-Participating	45:50	143	0:39	14:47
P 49	- Participating	51:48	154	0:49	17:07
Q 50	- Participating	29:00	91	0:30	8:55
R 51	- Participating	12:41	62	0:17	6:20
S 6	- Non-Participating	47:15	108	0:43	20:44
T 52	- Participating	14:36	49	0:28	6:57
U 7	- Non-Participating	3:32	22	0:15	1:33
V 8	- Non-Participating	86:38	159	0:50	24:47
W 9	- Non-Participating	56:06	112	0:50	15:39
X 10	- Non-Participating	86:00	164	0:56	34:25
Y 11	- Non-Participating	36:08	87	0:47	15:12
Z 53	- Participating	2:53	20	0:13	1:01
AA 54	- Participating	2:57	19	0:15	1:02
AB 12	- Non-Participating	42:50	97	0:44	16:32
AC 13	- Non-Participating	7:16	32	0:17	2:17
AD 14	- Non-Participating	0:00	0	0:00	0:00
AE 55	- Participating	71:47	129	0:51	19:19
AF 15	- Non-Participating	0:00	0	0:00	0:00
AG 57	- Participating	42:54	138	0:35	20:24
AH 59	- Participating	17:08	67	0:25	7:29
AI 61	- Participating	0:00	0	0:00	0:00
AJ 62	- Participating	34:43	64	0:53	12:18
AK 63	- Participating	32:49	101	0:37	14:41

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SHADOW - Main Result

Calculation: V136 105m HH Shadow Flicker

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No.	Name	Shadow, worst case			Shadow, expected values	
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]	
AL 16	- Non-Participating	23:26	98	0:34	8:11	
AM 17	- Non-Participating	20:47	66	0:24	8:38	
AN 18	- Non-Participating	25:27	96	0:26	10:57	
AO 64	- Participating	64:22	102	0:59	21:30	
AP 19	- Non-Participating	8:57	34	0:24	2:39	
AQ 20	- Non-Participating	7:47	36	0:16	1:55	
AR 21	- Non-Participating	0:00	0	0:00	0:00	
AS 22	- Non-Participating	0:00	0	0:00	0:00	
AT 23	- Non-Participating	0:00	0	0:00	0:00	
AU 24	- Non-Participating	17:44	50	0:25	5:46	
AV 27	- Non-Participating	60:07	147	1:06	20:02	
AW 29	- Non-Participating	0:00	0	0:00	0:00	
AX 30	- Non-Participating	11:20	48	0:18	2:54	
AY 31	- Non-Participating	8:54	48	0:21	3:21	
AZ 66	- Participating	19:11	55	0:34	5:21	
BA 67	- Participating	22:42	57	0:35	7:46	
BB 68	- Participating	0:00	0	0:00	0:00	
BC 32	- Non-Participating	0:00	0	0:00	0:00	
BD 33	- Non-Participating	0:00	0	0:00	0:00	
BE 34	- Non-Participating	0:00	0	0:00	0:00	
BF 35	- Non-Participating	0:00	0	0:00	0:00	
BG 36	- Non-Participating	0:00	0	0:00	0:00	
BH 37	- Non-Participating	8:43	38	0:22	3:38	
BI 38	- Non-Participating	0:00	0	0:00	0:00	

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
1	T-43	0:00	0:00
2	T-41	11:37	5:25
3	T-63	2:57	1:02
4	T-62	0:00	0:00
5	T-45	0:00	0:00
6	T-35	3:32	1:33
7	T-47	0:00	0:00
8	T-56	0:00	0:00
9	T-55	0:00	0:00
10	T-39	0:00	0:00
11	T-38	0:00	0:00
12	T-37	0:00	0:00
13	T-70	0:00	0:00
14	T-77	0:00	0:00
15	T-53	0:00	0:00
16	T-67	3:17	1:03
17	T-66	0:00	0:00
18	T-69	31:35	9:17
19	T-93	35:45	17:47
20	T-80	79:53	22:03
21	T-58	0:00	0:00
22	T-73	0:00	0:00
23	T-28	91:20	38:13
24	T-78	57:05	18:12
25	T-76	0:00	0:00
26	T-79	0:00	0:00
27	T-46	0:00	0:00
28	T-57	0:00	0:00
29	T-71	11:27	3:48

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Project:
Aurora

Description:

Licensed user:
TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/15/2018 2:06 AM/3.0.654

SHADOW - Main Result

Calculation: V136 105m HH Shadow Flicker

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No.	Name	Worst case [h/year]	Expected [h/year]
30	T-59	0:00	0:00
31	T-60	0:00	0:00
32	T-61	0:00	0:00
33	T-40	0:00	0:00
34	T-15	0:00	0:00
35	T-16	0:00	0:00
36	T-17	0:00	0:00
37	T-12	0:00	0:00
38	T-13	2:49	1:08
39	T-26	0:00	0:00
40	T-25	22:42	7:46
41	T-10	3:39	1:23
42	T-8	0:00	0:00
43	T-94	5:28	2:36
44	T-95	9:10	4:15
45	T-96	0:00	0:00
46	T-121	5:22	1:46
47	T-142	63:40	25:20
48	T-131	2:54	1:26
49	T-129	0:00	0:00
50	T-141	11:05	3:38
51	T-123	0:00	0:00
52	T-144	13:45	4:23
53	T-145	7:37	2:31
54	T-146	18:31	5:44
55	T-122	0:00	0:00
56	T-117	17:48	5:36
57	T-130	2:44	1:12
58	T-44	0:00	0:00
59	T-72	31:54	8:46
60	T-75	0:00	0:00
61	T-34	12:41	6:20
62	T-74	0:00	0:00
63	T-81	3:10	0:52
64	T-98	23:13	8:51
65	T-85	0:00	0:00
66	T-86	32:35	9:41
67	T-87	5:45	2:28
68	T-51	22:05	9:10
69	T-23	0:28	0:13
70	T-11	3:36	1:34
71	T-22	60:21	18:22
72	T-5	17:44	5:46
73	T-9	18:02	7:41
74	T-90	11:58	3:32
75	T-91	10:38	2:48
76	T-92	11:08	4:57
77	T-106	4:41	1:19
78	T-100	0:00	0:00
79	T-107	28:18	8:41
80	T-99	5:29	2:12
81	T-143	30:44	14:08
82	T-108	127:33	37:29
83	T-109	9:26	3:04
84	T-110	3:59	1:22
85	T-124	4:36	1:55
86	T-88	11:28	5:15
87	T-89	16:34	4:35
88	T-14	0:00	0:00
89	T-24	19:11	5:21

To be continued on next page...

SHADOW - Main Result

Calculation: V136 105m HH Shadow Flicker

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
90	T-42	0:00	0:00
91	T-68	10:38	3:21
92	T-21	0:00	0:00
93	T-20	0:00	0:00
94	T-19	0:00	0:00
95	T-18	0:00	0:00
96	T-83	39:56	16:40
97	T-84	20:48	9:01
98	T-54	0:00	0:00
99	T-118	0:00	0:00
100	T-120	7:54	3:34
101	T-105	0:00	0:00
102	T-97	11:48	4:43
103	T-147	0:00	0:00
104	T-148	0:00	0:00
105	T-149	0:00	0:00
106	T-150	0:00	0:00
107	T-151	0:00	0:00
108	T-152	33:11	10:39
109	T-153	19:19	7:46
110	T-154	0:00	0:00
111	T-155	0:00	0:00
112	T-156	47:57	16:27
113	T-157	15:35	5:30
114	T-158	7:47	2:26
115	T-159	41:00	12:52
116	T-160	0:00	0:00
117	T-161	31:31	14:05
118	T-162	0:00	0:00
119	T-163	11:45	4:36
120	T-164	35:12	16:03
121	T-165	8:43	3:38
122	T-166	0:00	0:00
123	T-167	0:00	0:00
124	T-168	3:23	1:29
125	T-169	0:00	0:00
126	T-170	31:46	11:39
127	T-171	11:04	4:51
128	T-172	11:22	3:49
129	T-173	2:23	0:46
130	T-174	19:35	4:56
131	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (1)	0:00	0:00
132	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (2)	0:00	0:00
133	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (3)	0:00	0:00
134	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (4)	0:00	0:00
135	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (5)	0:00	0:00
136	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (6)	0:00	0:00
137	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (7)	0:00	0:00
138	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (8)	0:00	0:00
139	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (9)	0:00	0:00
140	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (10)	0:00	0:00
141	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (11)	0:00	0:00
142	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (12)	0:00	0:00
143	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (13)	0:00	0:00
144	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (14)	0:00	0:00
145	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (15)	0:00	0:00
146	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (16)	0:00	0:00
147	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (17)	0:00	0:00
148	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (18)	0:00	0:00
149	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (19)	0:00	0:00

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SHADOW - Main Result

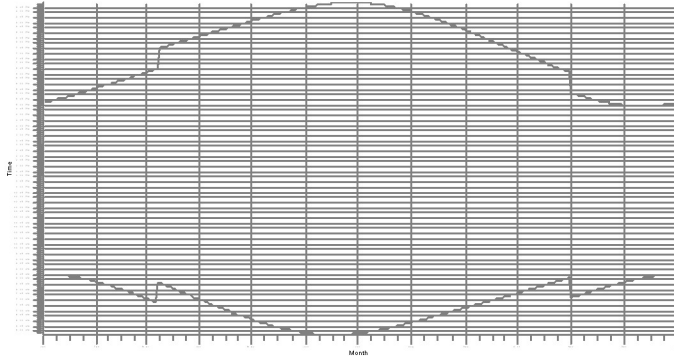
Calculation: V136 105m HH Shadow Flicker

...continued from previous page

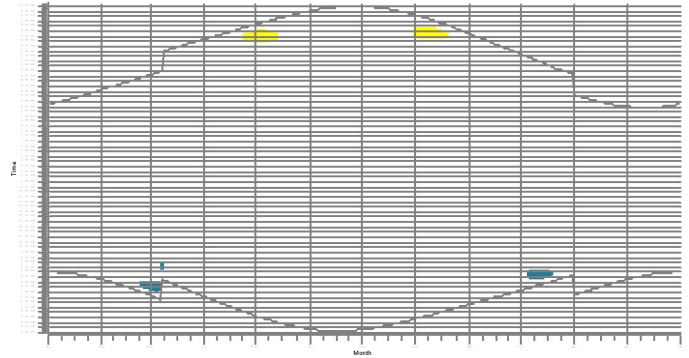
No.	Name	Worst case [h/year]	Expected [h/year]
150	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (20)	0:00	0:00
151	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (21)	4:06	1:25
152	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (22)	0:00	0:00
153	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (23)	0:00	0:00
154	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (24)	0:00	0:00
155	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (25)	0:00	0:00
156	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (26)	0:00	0:00
157	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (27)	0:00	0:00
158	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (28)	0:00	0:00
159	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (29)	0:00	0:00
160	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (30)	0:00	0:00
161	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (31)	0:00	0:00
162	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (32)	0:00	0:00
163	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (33)	0:00	0:00
164	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (34)	0:00	0:00
165	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (35)	0:00	0:00
166	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (36)	0:00	0:00
167	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (37)	0:00	0:00
168	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (38)	0:00	0:00
169	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (39)	0:00	0:00
170	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (40)	0:00	0:00
171	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (41)	0:00	0:00
172	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (42)	0:00	0:00
173	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (43)	0:00	0:00
174	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (44)	0:00	0:00
175	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (45)	0:00	0:00
176	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (46)	0:00	0:00
177	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (47)	12:37	5:15
178	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (48)	0:00	0:00
179	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (49)	0:00	0:00
180	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (50)	0:00	0:00
181	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (51)	0:00	0:00
182	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (52)	0:00	0:00
183	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (53)	0:00	0:00
184	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (54)	0:00	0:00
185	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (55)	0:00	0:00
186	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (56)	0:00	0:00
187	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (57)	0:00	0:00
188	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (58)	0:00	0:00
189	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (59)	0:00	0:00
190	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (60)	0:00	0:00
191	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (61)	0:00	0:00
192	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (62)	0:00	0:00
193	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (63)	0:00	0:00
194	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (64)	0:00	0:00
195	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (65)	0:00	0:00
196	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (66)	0:00	0:00
197	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (67)	0:00	0:00
198	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (68)	0:00	0:00
199	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (69)	0:00	0:00
200	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (70)	0:00	0:00
201	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (71)	1:44	0:43
202	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (72)	0:00	0:00
203	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (73)	0:00	0:00
204	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (74)	0:00	0:00
205	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (75)	0:00	0:00
206	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (76)	0:00	0:00
207	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (77)	0:00	0:00
208	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (78)	0:00	0:00

SHADOW - Calendar, graphical
 Calculation: V136 105m HH Shadow Flicker

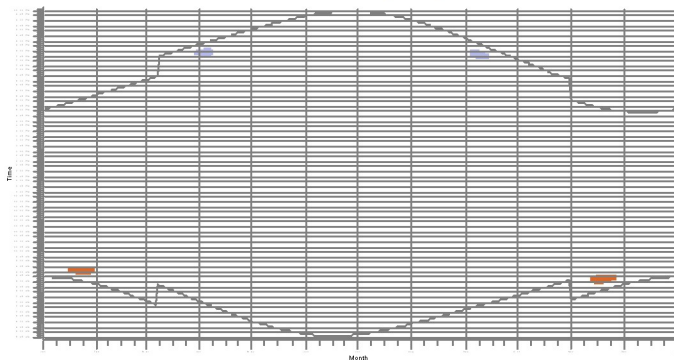
A: 1 - Non-Participating



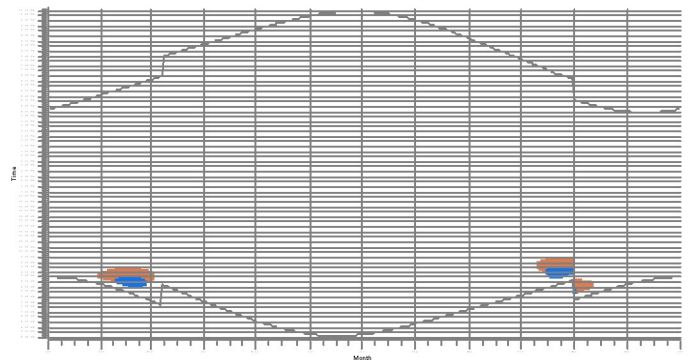
B: 39 - Participating



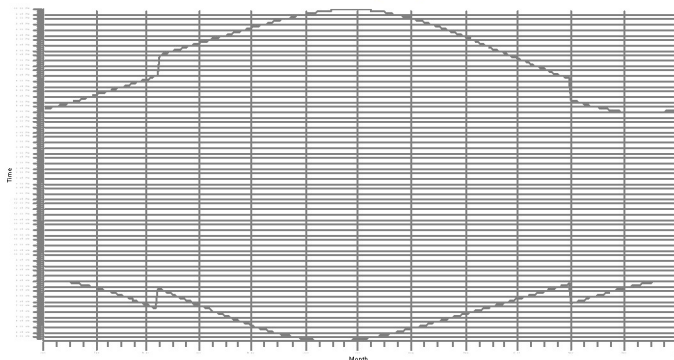
C: 2 - Non-Participating



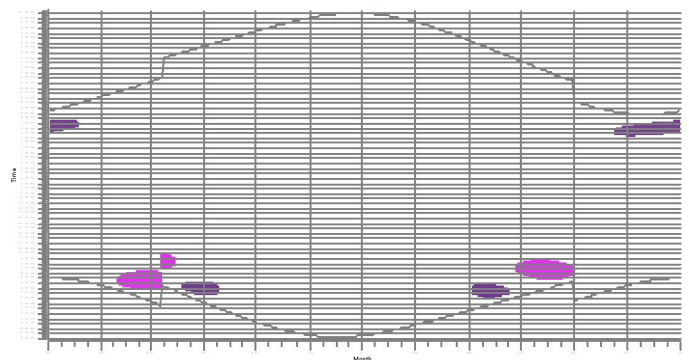
D: 40 - Participating



E: 41 - Participating

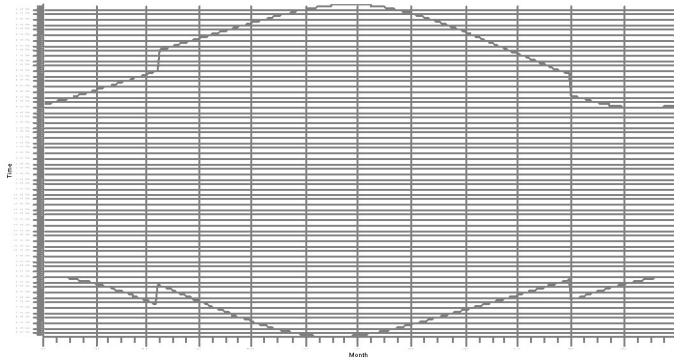


F: 42 - Participating

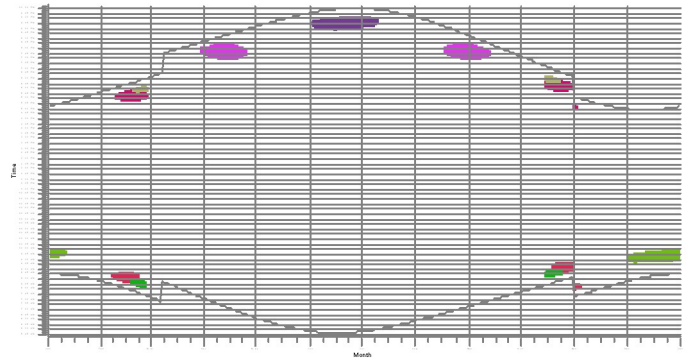


SHADOW - Calendar, graphical
 Calculation: V136 105m HH Shadow Flicker

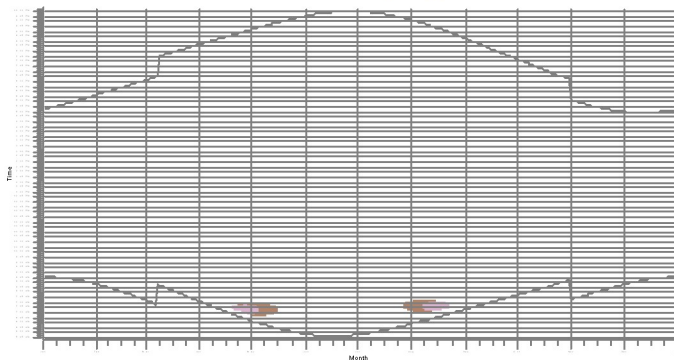
G: 43 - Participating



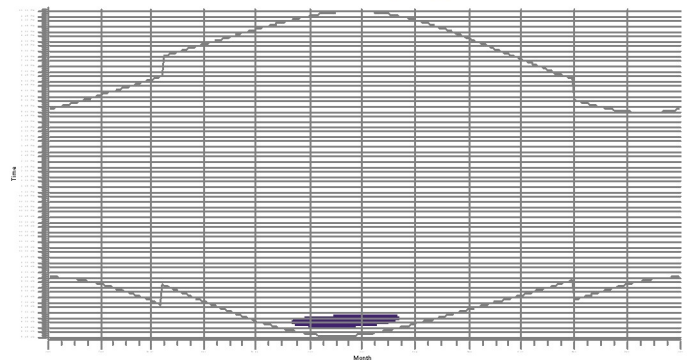
H: 44 - Participating



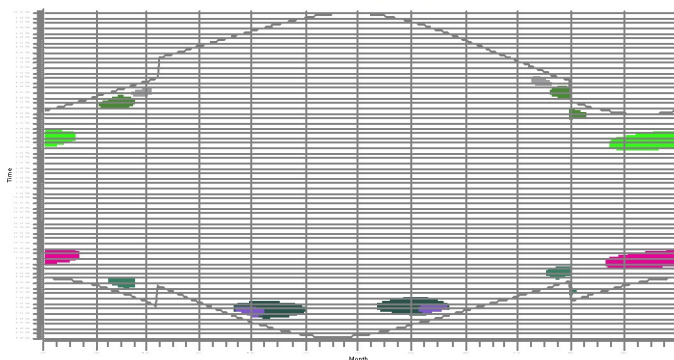
I: 3 - Non-Participating



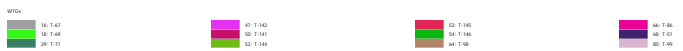
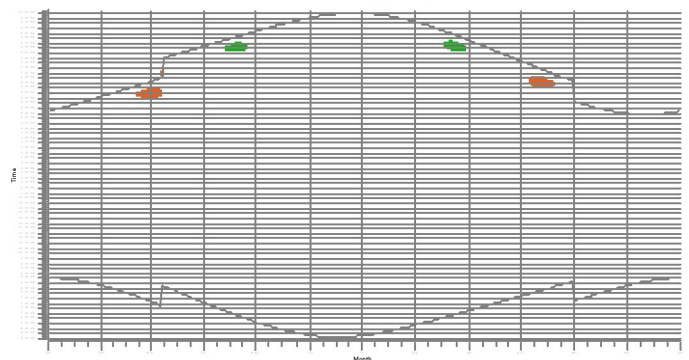
J: 4 - Non-Participating



K: 45 - Participating

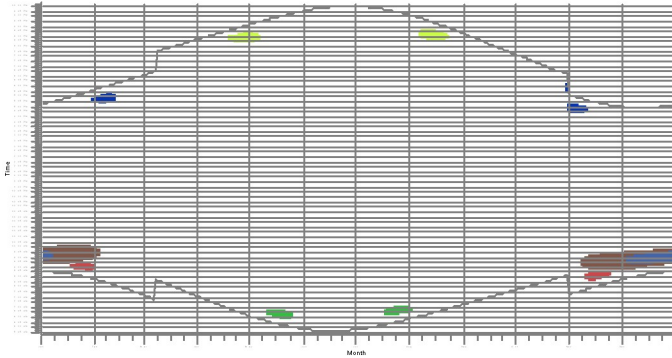


L: 46 - Participating

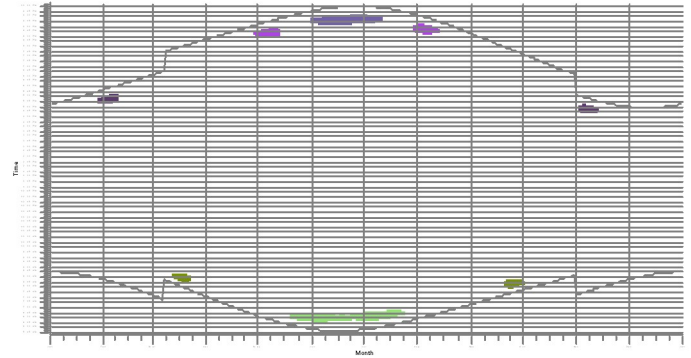


SHADOW - Calendar, graphical
 Calculation: V136 105m HH Shadow Flicker

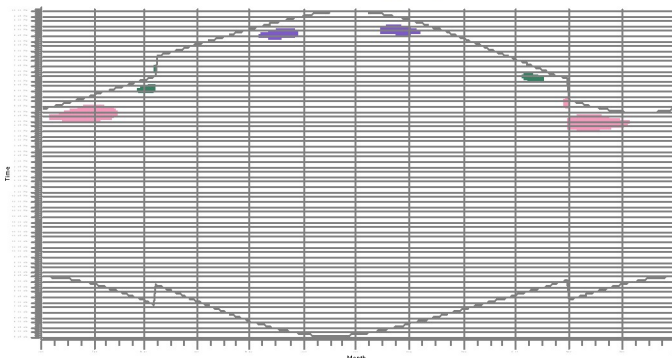
M: 47 - Participating



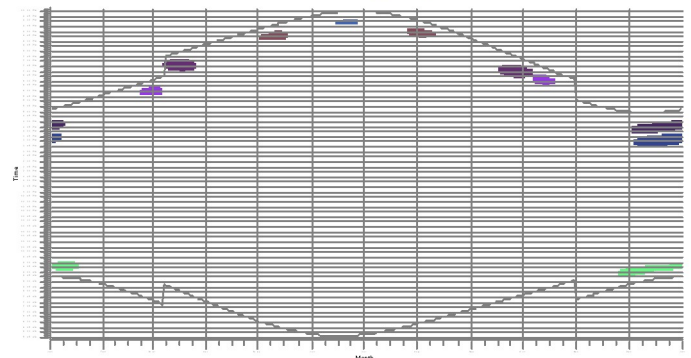
N: 48 - Participating



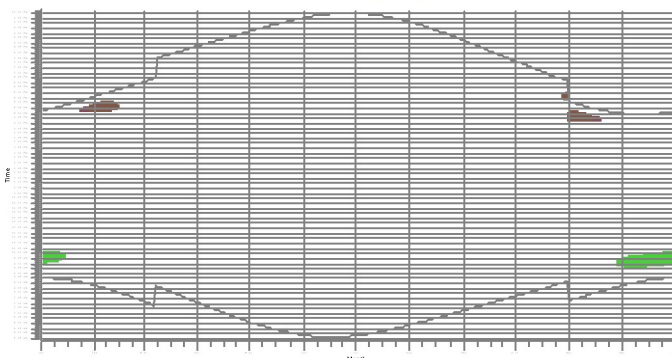
O: 5 - Non-Participating



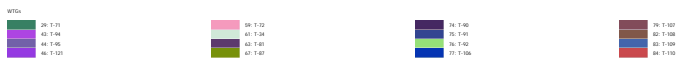
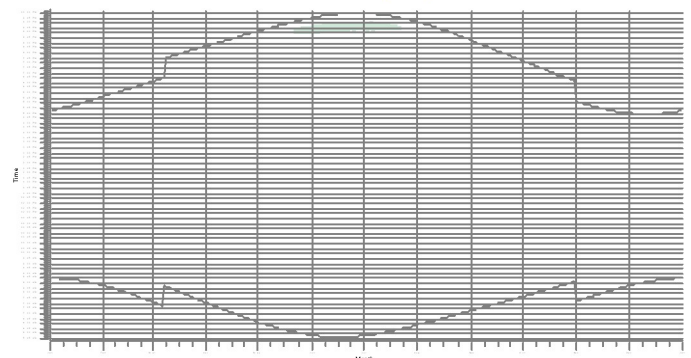
P: 49 - Participating



Q: 50 - Participating

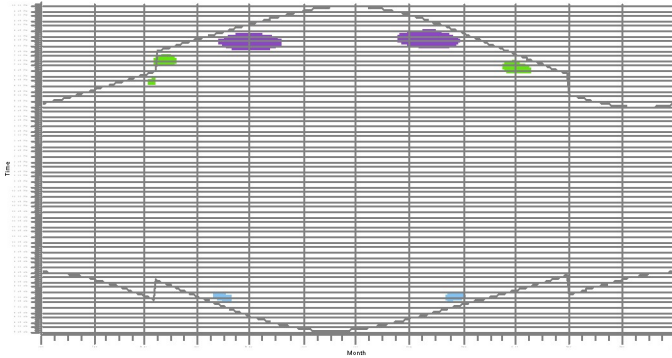


R: 51 - Participating

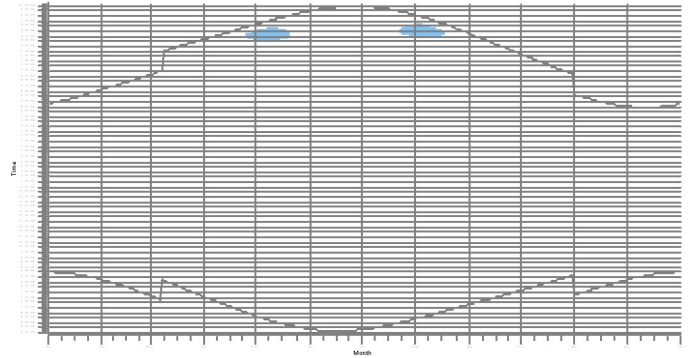


SHADOW - Calendar, graphical
 Calculation: V136 105m HH Shadow Flicker

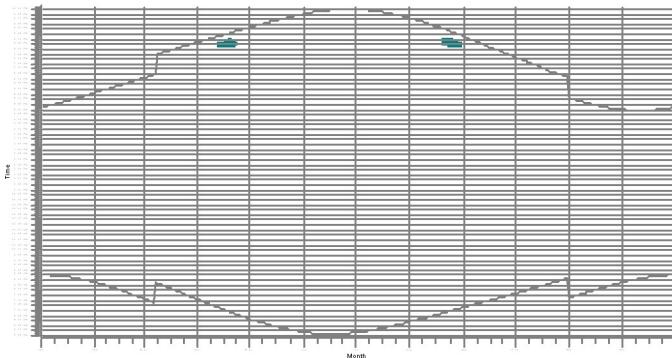
S: 6 - Non-Participating



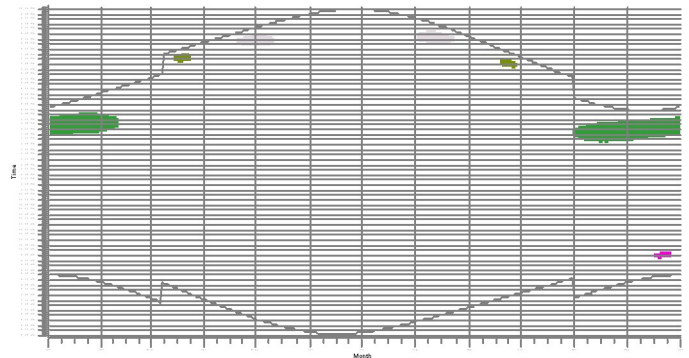
T: 52 - Participating



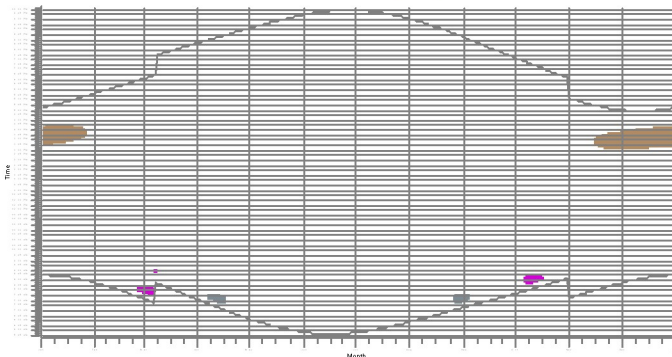
U: 7 - Non-Participating



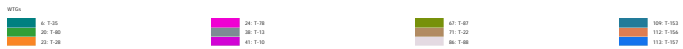
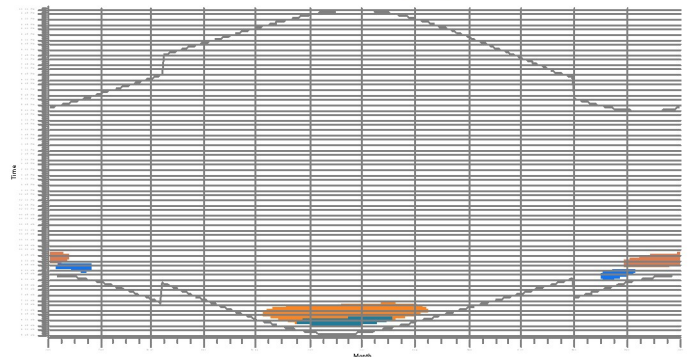
V: 8 - Non-Participating



W: 9 - Non-Participating

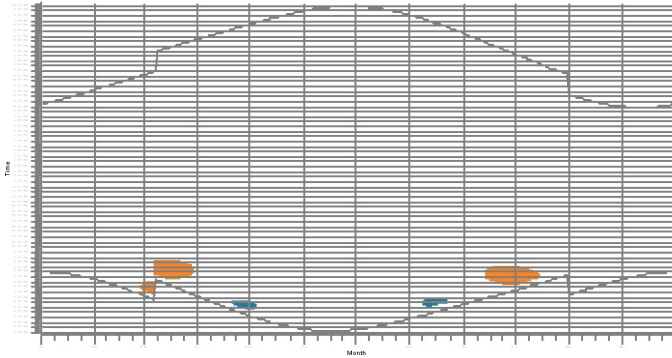


X: 10 - Non-Participating

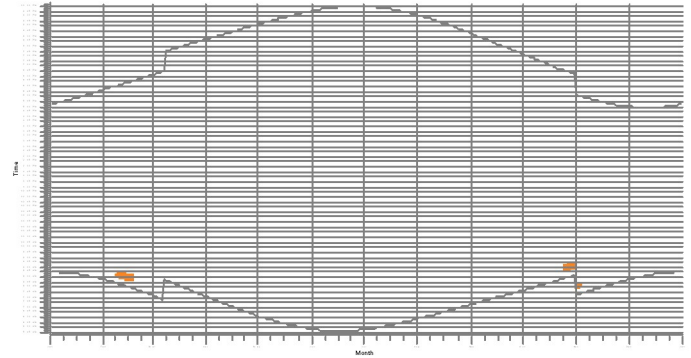


SHADOW - Calendar, graphical
 Calculation: V136 105m HH Shadow Flicker

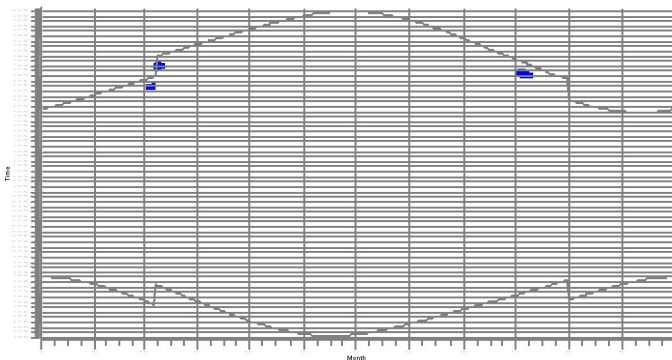
Y: 11 - Non-Participating



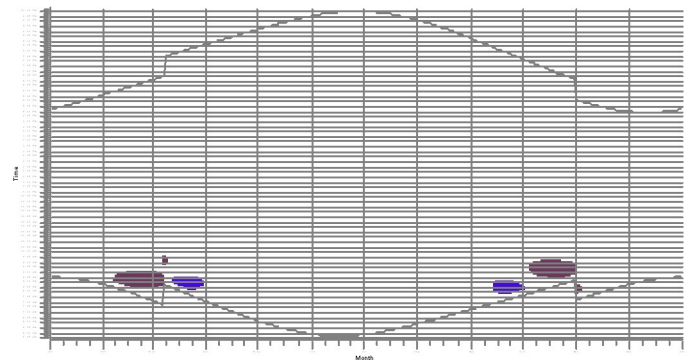
Z: 53 - Participating



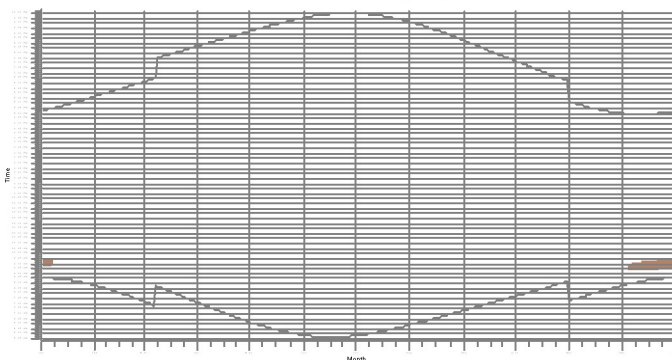
AA: 54 - Participating



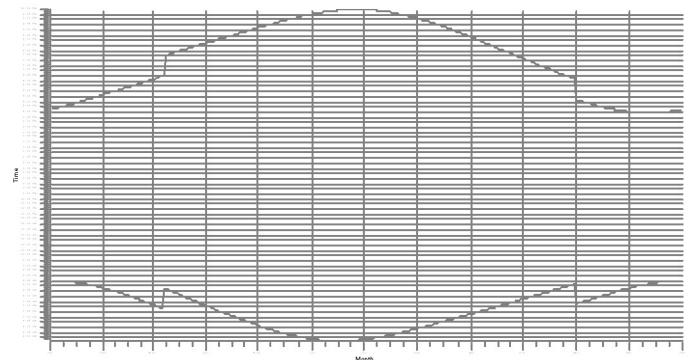
AB: 12 - Non-Participating



AC: 13 - Non-Participating



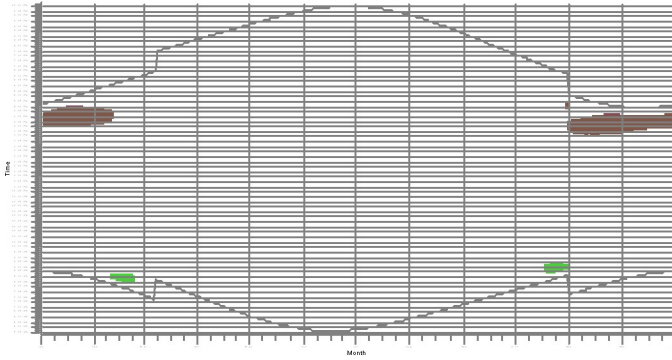
AD: 14 - Non-Participating



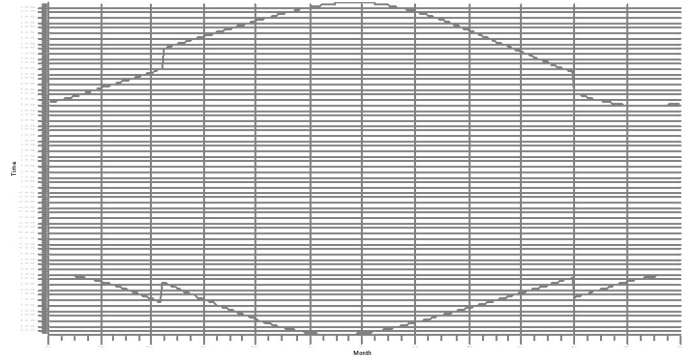
SHADOW - Calendar, graphical

Calculation: V136 105m HH Shadow Flicker

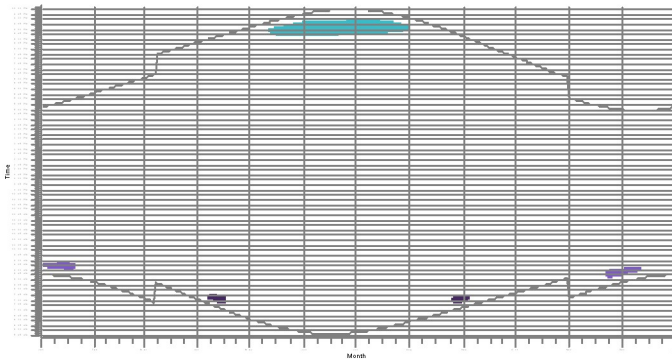
AE: 55 - Participating



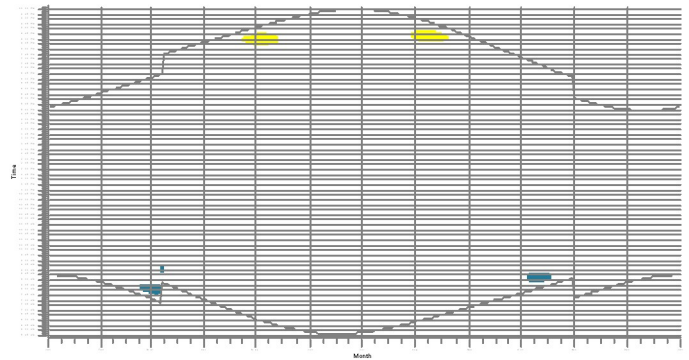
AF: 15 - Non-Participating



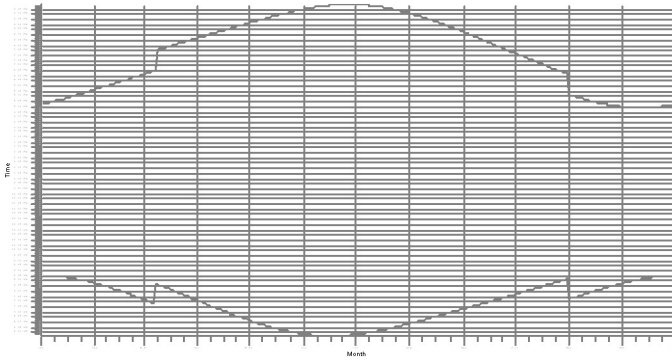
AG: 57 - Participating



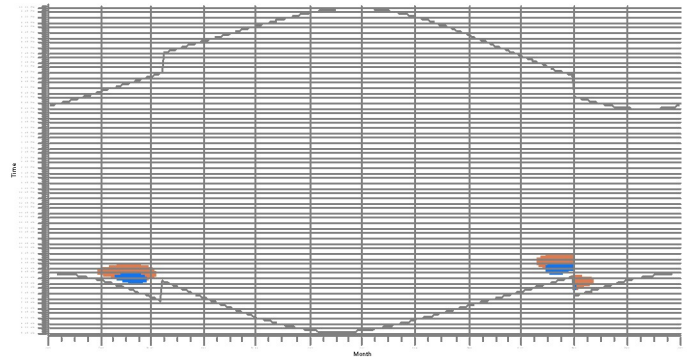
AH: 59 - Participating



AI: 61 - Participating

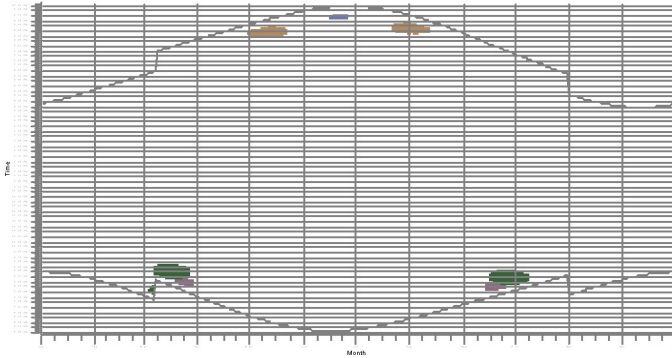


AJ: 62 - Participating

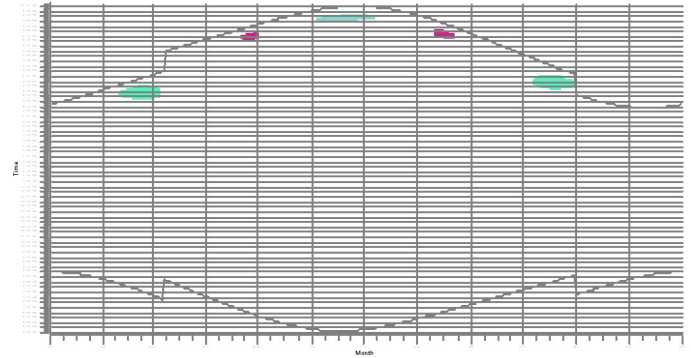


SHADOW - Calendar, graphical
 Calculation: V136 105m HH Shadow Flicker

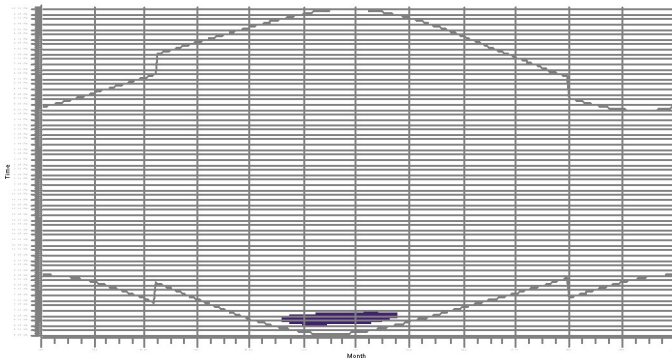
AK: 63 - Participating



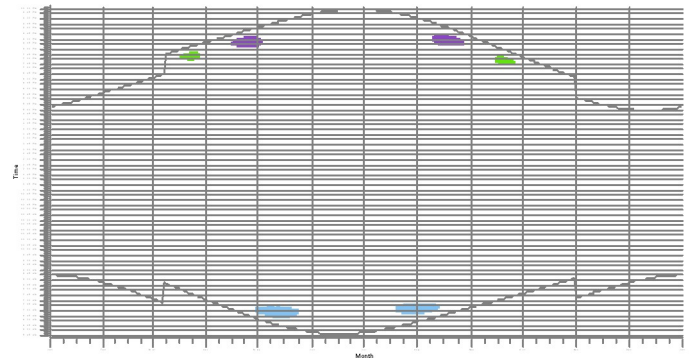
AL: 16 - Non-Participating



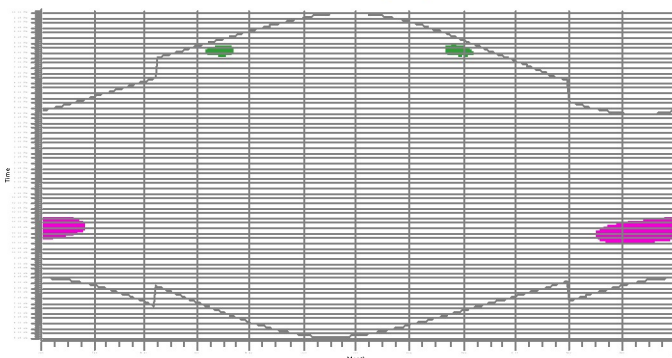
AM: 17 - Non-Participating



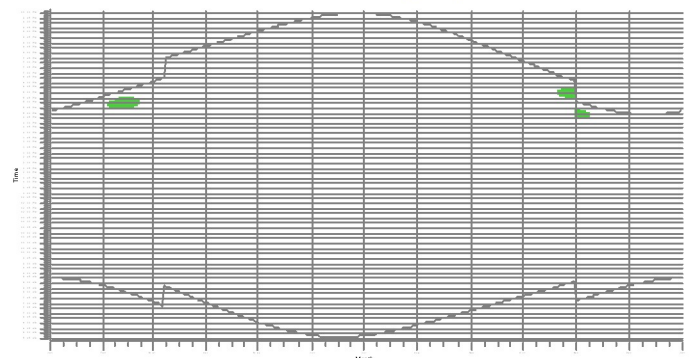
AN: 18 - Non-Participating



AO: 64 - Participating

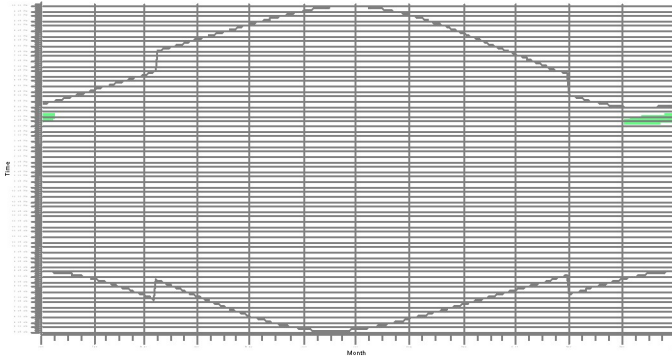


AP: 19 - Non-Participating

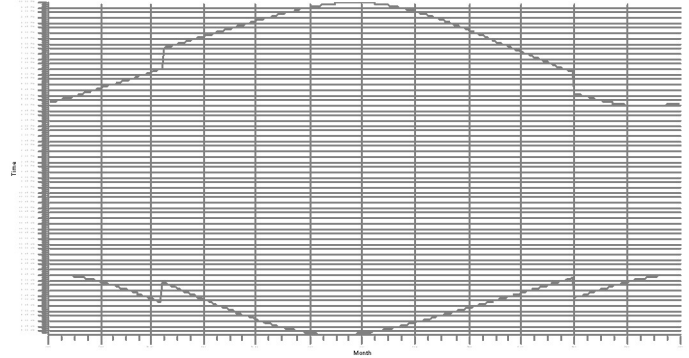


SHADOW - Calendar, graphical
 Calculation: V136 105m HH Shadow Flicker

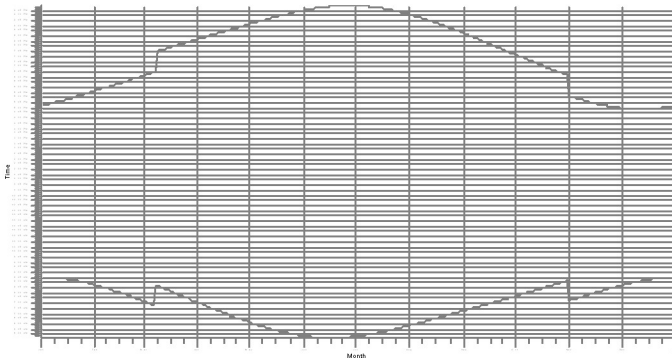
AQ: 20 - Non-Participating



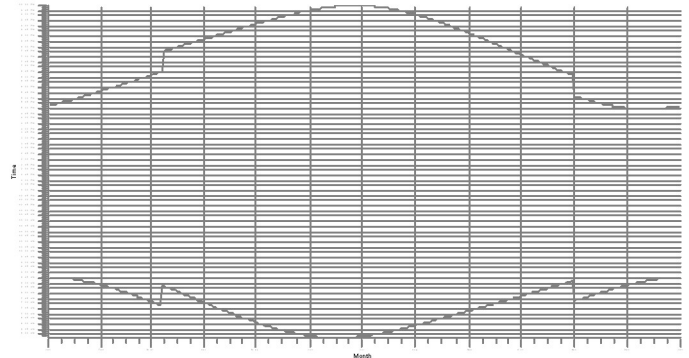
AR: 21 - Non-Participating



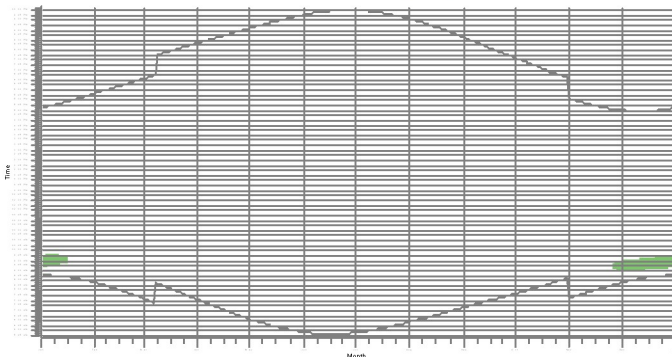
AS: 22 - Non-Participating



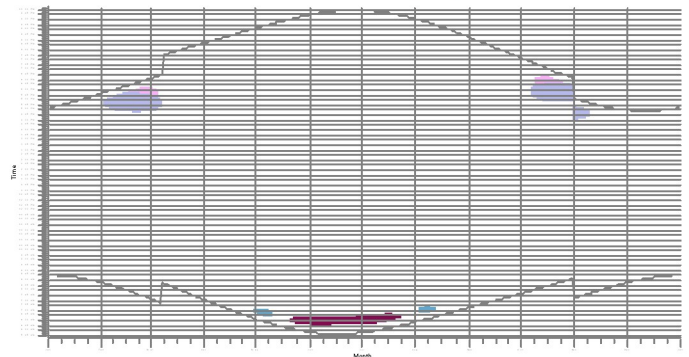
AT: 23 - Non-Participating



AU: 24 - Non-Participating



AV: 27 - Non-Participating

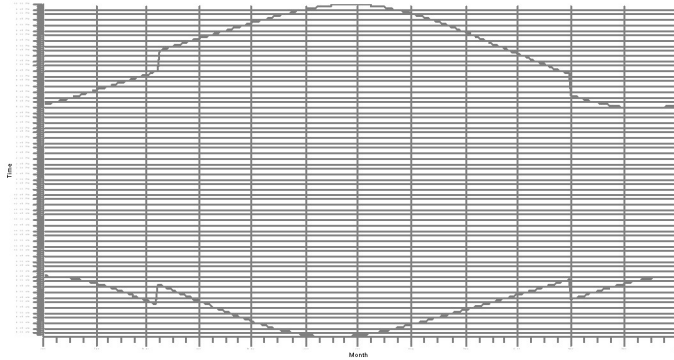


WFO: 0: 1.6 0: 1.6 114: 1.04 114: 1.04

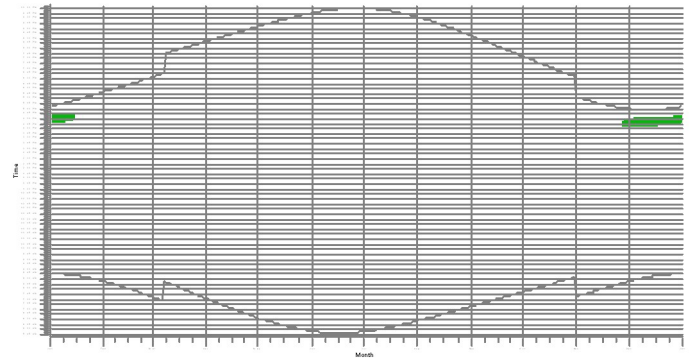
171: 143346 V100 2000 100.0 0: 1.6 114: 1.04 171: 143346 V100 2000 100.0 0: 1.6 114: 1.04 201: 143346 V100 2000 100.0 0: 1.6 114: 1.04 201: 143346 V100 2000 100.0 0: 1.6 114: 1.04

SHADOW - Calendar, graphical
 Calculation: V136 105m HH Shadow Flicker

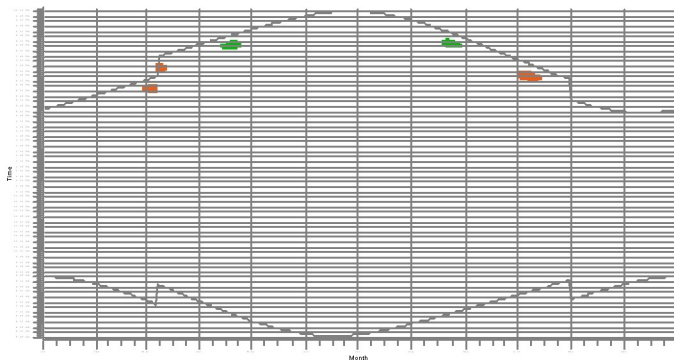
AW: 29 - Non-Participating



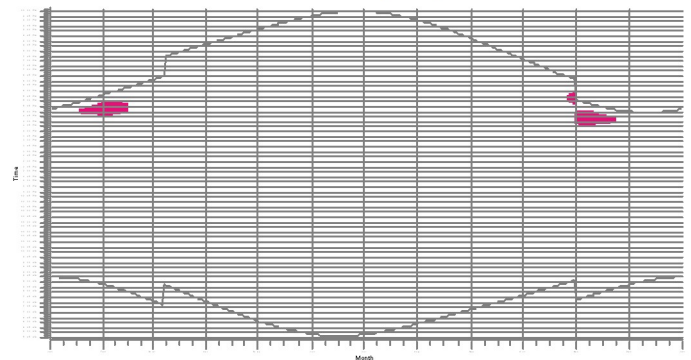
AX: 30 - Non-Participating



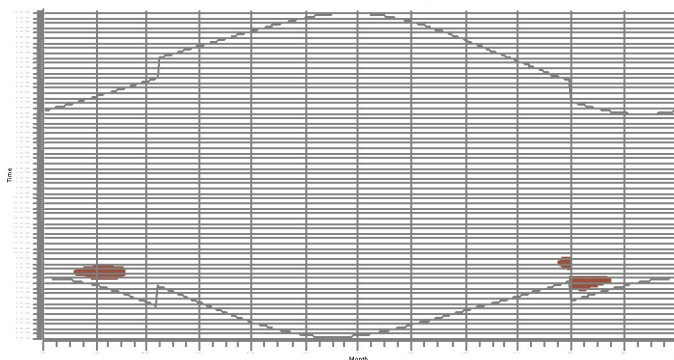
AY: 31 - Non-Participating



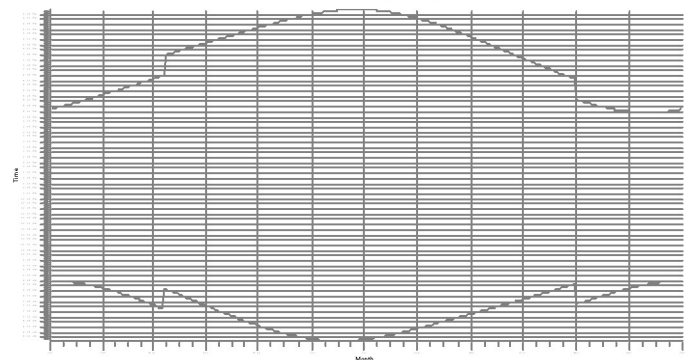
AZ: 66 - Participating



BA: 67 - Participating



BB: 68 - Participating

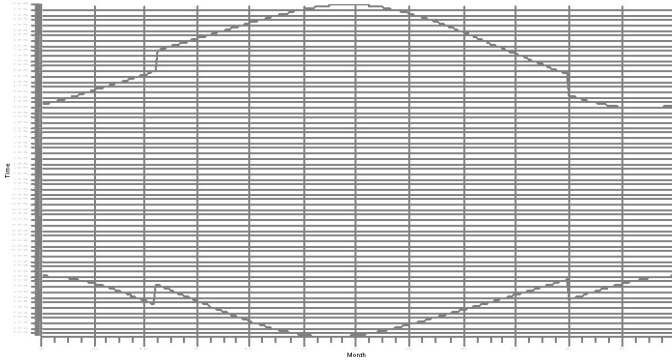


WFO: 40-1-25 WFO: 40-1-16 WFO: 40-1-24 WFO: 108-1-102

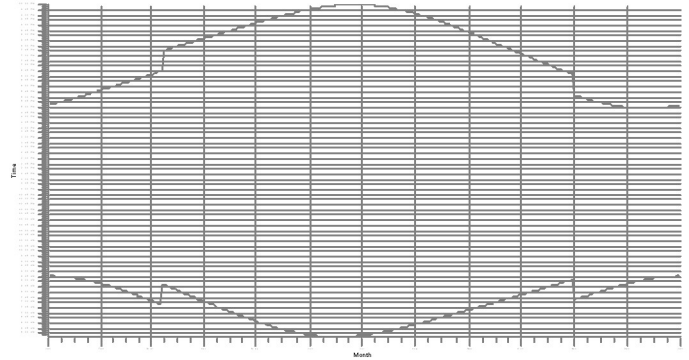
SHADOW - Calendar, graphical

Calculation: V136 105m HH Shadow Flicker

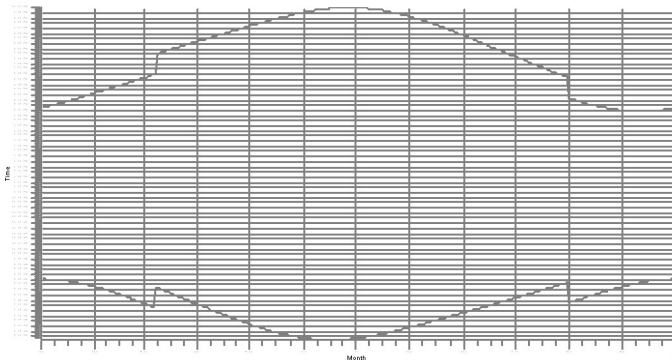
BC: 32 - Non-Participating



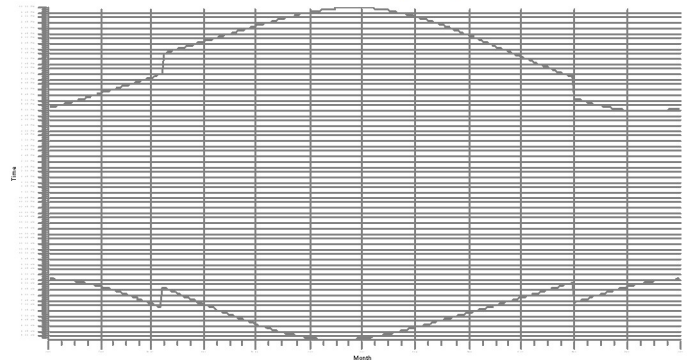
BD: 33 - Non-Participating



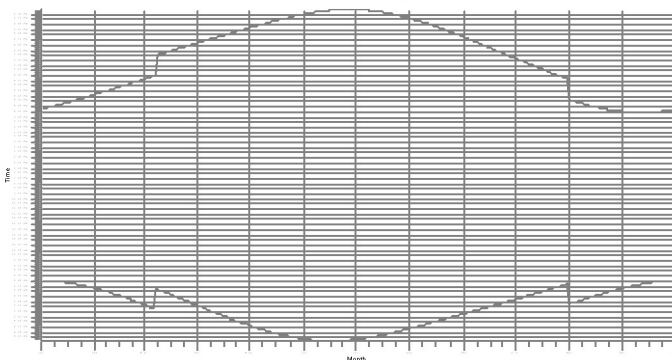
BE: 34 - Non-Participating



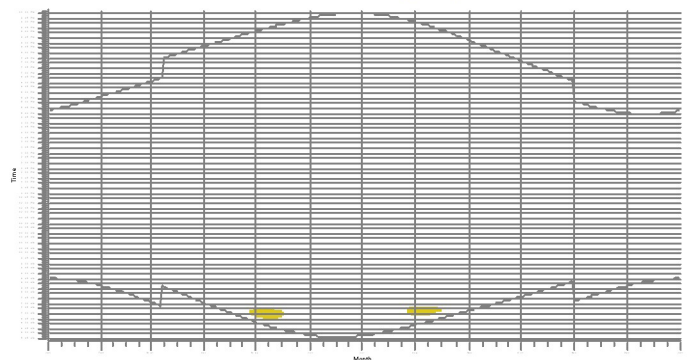
BF: 35 - Non-Participating



BG: 36 - Non-Participating



BH: 37 - Non-Participating



WFO
121.1-144

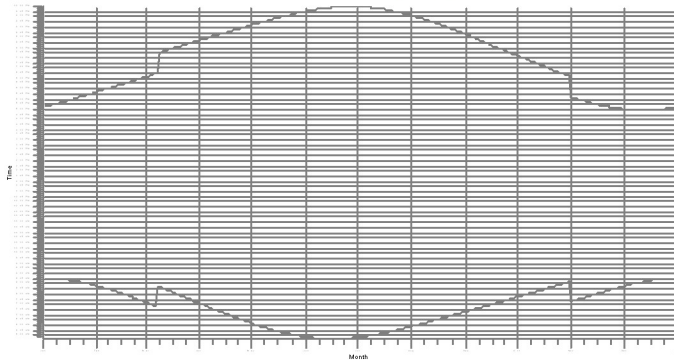
Project: Aurora
Description:

Licensed user:
TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/15/2018 2:06 AM/3.0.654

SHADOW - Calendar, graphical

Calculation: V136 105m HH Shadow Flicker

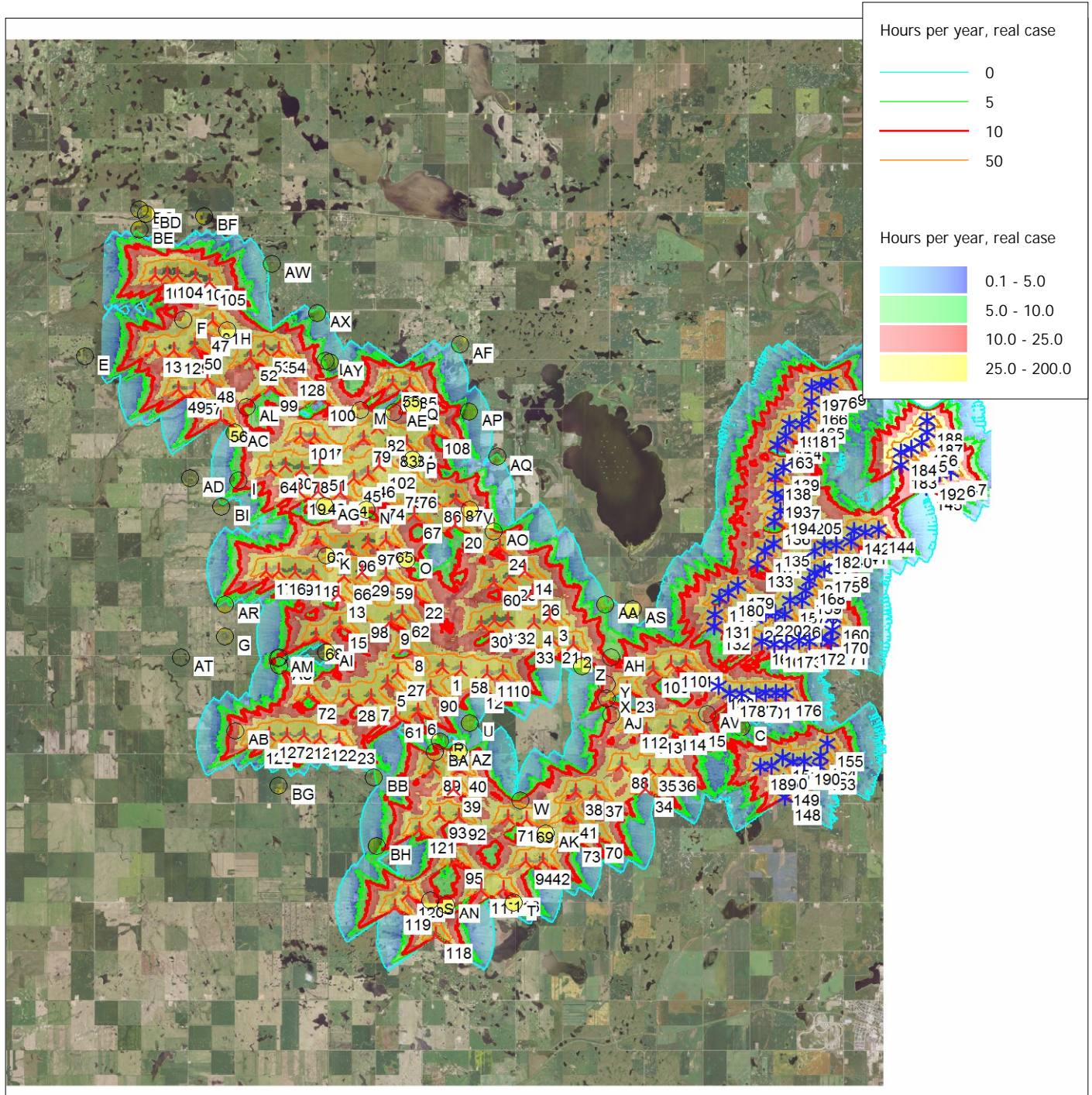
BI: 38 - Non-Participating



wfo

SHADOW - Map

Calculation: V136 105m HH Shadow Flicker



0 2.5 5 7.5 10km

Map: US Naval Research Laboratory , Print scale 1:200,000, Map center UTM WGS84 Zone: 13 East: 640,676 North: 5,375,910

▲ New WTG

★ Existing WTG

● Shadow receptor

Flicker map level: Height Contours: 150921_TWE_LindahIWest_10ftHCLsfrom10mNED.wpo (3)

SHADOW - Main Result

Calculation: SG132-3.465 114m HH Shadow Flicker

Assumptions for shadow calculations

Maximum distance for influence	2,000 m
Minimum sun height over horizon for influence	3 °
Day step for calculation	1 days
Time step for calculation	1 minutes

Sunshine probability S (Average daily sunshine hours) [BISMARCK]

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
4.92	5.13	7.45	8.03	10.20	11.21	11.69	10.35	8.68	5.69	4.02	3.69

Operational hours are calculated from WTGs in calculation and wind distribution:

0162 3/18 SDO

Operational time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
722	459	308	340	523	950	724	582	735	1,009	1,128	1,176	8,655

Idle start wind speed: Cut in wind speed from power curve

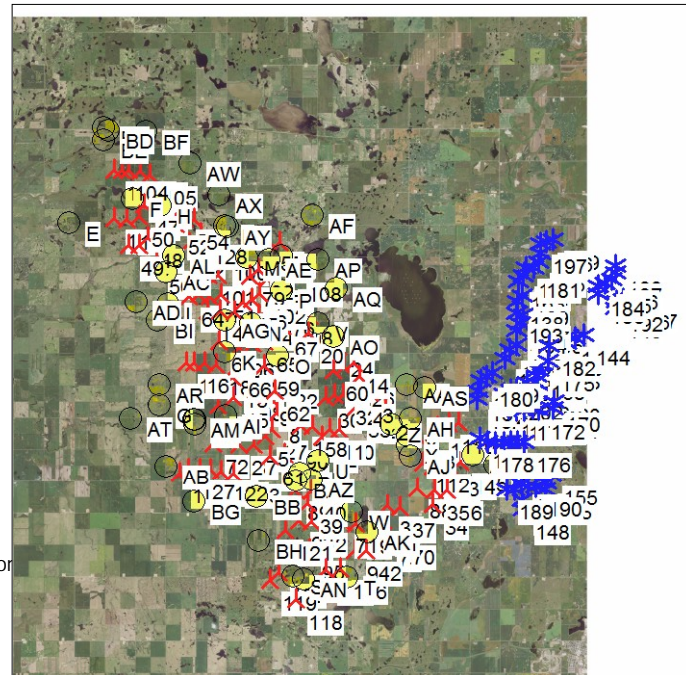
A ZVI (Zones of Visual Influence) calculation is performed before flicker calculation so non visible WTG do not contribute to calculated flicker values. A WTG will be visible if it is visible from any part of the receiver window. The ZVI calculation is based on the following assumptions:

Height contours used: Height Contours: 150921_TWE_LindahlWest_10ftHCLsfrom
 Obstacles used in calculation
 Eye height: 1.5 m
 Grid resolution: 10.0 m

All coordinates are in UTM WGS84 Zone: 13

WTGs

	X(East)	Y(North)	Z	Row data/Description
	[m]			
1	637,619	5,373,512	727.5	T-43
2	642,085	5,374,363	728.5	T-41
3	641,252	5,375,220	737.7	T-63
4	640,729	5,375,038	740.7	T-62
5	635,764	5,372,945	724.6	T-45
6	636,817	5,372,047	728.5	T-35
7	635,193	5,372,473	710.2	T-47
8	636,346	5,374,109	734.6	T-56
9	635,830	5,374,972	728.5	T-55
10	639,692	5,373,363	740.7	T-39
11	639,157	5,373,344	739.4	T-38
12	638,790	5,372,951	734.6	T-37
13	633,988	5,375,810	737.6	T-70
14	640,372	5,376,713	738.1	T-77
15	634,074	5,374,798	721.2	T-53
16	631,934	5,376,511	729.8	T-67
17	631,510	5,376,507	731.5	T-66
18	633,108	5,376,447	723.9	T-69
19	632,563	5,379,145	737.6	T-93
20	637,951	5,378,169	715.2	T-80
21	641,389	5,374,486	743.7	T-58
22	636,640	5,375,835	734.6	T-73
23	643,972	5,372,967	712.3	T-28
24	639,495	5,377,499	738.7	T-78
25	639,840	5,376,489	737.6	T-76
26	640,649	5,376,031	731.5	T-79
27	636,095	5,373,292	733.9	T-46



Scale 1:400,000
 ▲ New WTG * Existing WTG
 ● Shadow receptor

WTG type					Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]
Valid	Manufact.	Type-generator						
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	
Yes	GAMESA	G132-3,465		3,465	132.0	114.0	10.5	

To be continued on next page...

SHADOW - Main Result

Calculation: SG132-3.465 114m HH Shadow Flicker

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type						
					Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]
			[m]								
28	634,438	5,372,432	701.0	T-57	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
29	634,798	5,376,526	725.4	T-71	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
30	638,928	5,374,941	737.6	T-59	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
31	639,384	5,375,074	737.6	T-60	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
32	639,838	5,375,100	737.6	T-61	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
33	640,492	5,374,466	743.6	T-40	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
34	644,695	5,369,685	736.0	T-15	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
35	644,792	5,370,371	743.7	T-16	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
36	645,456	5,370,405	735.1	T-17	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
37	642,975	5,369,494	737.6	T-12	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
38	642,303	5,369,536	734.9	T-13	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
39	638,102	5,369,527	710.5	T-26	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
40	638,282	5,370,192	712.5	T-25	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
41	642,122	5,368,780	734.6	T-10	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
42	641,239	5,367,252	719.1	T-8	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
43	633,243	5,379,162	737.6	T-94	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
44	634,001	5,379,136	737.6	T-95	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
45	634,443	5,379,605	731.5	T-96	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
46	634,918	5,379,749	728.5	T-121	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
47	629,136	5,384,387	713.2	T-142	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
48	629,347	5,382,713	710.2	T-131	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
49	628,366	5,382,343	707.1	T-129	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
50	628,893	5,383,804	717.2	T-141	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
51	633,253	5,379,950	729.4	T-123	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
52	630,815	5,383,459	711.9	T-144	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
53	631,275	5,383,767	710.7	T-145	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
54	631,767	5,383,732	713.2	T-146	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
55	635,699	5,382,724	710.2	T-122	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
56	629,834	5,381,441	713.0	T-117	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
57	628,926	5,382,328	703.0	T-130	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
58	638,268	5,373,457	731.5	T-44	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
59	635,628	5,376,434	728.5	T-72	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
60	639,307	5,376,310	731.5	T-75	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
61	636,056	5,371,908	719.3	T-34	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
62	636,215	5,375,218	731.5	T-74	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
63	633,243	5,377,581	731.5	T-81	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
64	631,582	5,379,814	726.8	T-98	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
65	635,586	5,377,640	725.5	T-85	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
66	634,183	5,376,389	733.5	T-86	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
67	636,542	5,378,452	715.1	T-87	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
68	633,261	5,374,418	716.3	T-51	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
69	640,641	5,368,602	728.5	T-23	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
70	643,024	5,368,138	728.5	T-11	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
71	639,998	5,368,634	725.4	T-22	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
72	633,064	5,372,478	698.0	T-5	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
73	642,243	5,368,015	730.6	T-9	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
74	635,270	5,379,029	725.4	T-90	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
75	635,883	5,379,448	720.6	T-91	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
76	636,364	5,379,455	716.0	T-92	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
77	633,072	5,380,925	729.9	T-106	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
78	632,659	5,379,855	737.2	T-100	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
79	634,758	5,380,905	718.9	T-107	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
80	632,089	5,379,958	731.5	T-99	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
81	629,494	5,384,648	709.6	T-143	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
82	635,222	5,381,271	716.3	T-108	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
83	635,678	5,380,785	716.0	T-109	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
84	636,220	5,380,785	716.3	T-110	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
85	636,276	5,382,673	710.2	T-124	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
86	637,208	5,379,005	710.9	T-88	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5

To be continued on next page...

SHADOW - Main Result

Calculation: SG132-3.465 114m HH Shadow Flicker

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]	
					Valid	Manufact.					Type-generator
			[m]								
87	637,941	5,379,046	713.2	T-89	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
88	643,859	5,370,443	732.3	T-14	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
89	637,408	5,370,185	701.0	T-24	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
90	637,234	5,372,817	719.9	T-42	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
91	632,509	5,376,501	722.8	T-68	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
92	638,306	5,368,644	716.3	T-21	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
93	637,648	5,368,666	713.2	T-20	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
94	640,643	5,367,238	719.3	T-19	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
95	638,242	5,367,207	710.2	T-18	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
96	634,318	5,377,326	731.6	T-83	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
97	634,979	5,377,549	725.3	T-84	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
98	634,798	5,375,163	713.2	T-54	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
99	631,532	5,382,484	707.7	T-118	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
100	633,206	5,382,201	722.4	T-120	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
101	632,585	5,380,949	731.5	T-105	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
102	635,298	5,380,049	728.5	T-97	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
103	627,504	5,386,079	711.3	T-147	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
104	627,911	5,386,105	710.2	T-148	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
105	629,368	5,385,888	704.0	T-149	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
106	628,867	5,386,049	710.2	T-150	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
107	628,269	5,386,086	711.9	T-151	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
108	637,149	5,381,224	704.1	T-152	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
109	644,833	5,373,605	713.9	T-153	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
110	645,462	5,373,811	728.5	T-154	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
111	645,966	5,373,838	730.1	T-155	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
112	644,144	5,371,765	710.2	T-156	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
113	644,660	5,371,616	715.4	T-157	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
114	645,479	5,371,724	719.3	T-158	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
115	646,127	5,371,875	717.1	T-159	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
116	639,890	5,366,309	710.2	T-160	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
117	639,135	5,366,239	709.0	T-161	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
118	637,617	5,364,719	707.6	T-162	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
119	636,191	5,365,609	711.4	T-163	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
120	636,640	5,366,042	710.2	T-164	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
121	636,954	5,368,164	711.3	T-165	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
122	633,495	5,371,087	689.0	T-166	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
123	634,130	5,371,006	696.6	T-167	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
124	632,359	5,371,139	688.8	T-168	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
125	632,926	5,371,158	686.0	T-169	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
126	631,283	5,370,947	682.8	T-170	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
127	631,732	5,371,159	684.7	T-171	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
128	632,154	5,382,999	713.2	T-172	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
129	628,195	5,383,647	711.6	T-173	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
130	627,535	5,383,666	710.2	T-174	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	10.5
131	646,913	5,375,455	745.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
132	646,888	5,375,080	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
133	648,328	5,377,151	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
134	648,570	5,377,592	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
135	648,872	5,377,853	752.9	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
136	648,872	5,378,572	753.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
137	649,189	5,379,368	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
138	648,868	5,380,034	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
139	649,124	5,380,328	729.4	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
140	651,007	5,377,868	748.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
141	651,525	5,378,000	750.5	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
142	651,616	5,378,348	758.5	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
143	651,987	5,378,290	755.6	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
144	652,436	5,378,405	749.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
145	654,047	5,379,834	743.7	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9

To be continued on next page...

SHADOW - Main Result

Calculation: SG132-3.465 114m HH Shadow Flicker

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Table with columns: X(East), Y(North), Z, Row data/Description, WTG type Valid, Manufact., Type-generator, Power, rated [kW], Rotor diameter [m], Hub height [m], RPM [RPM]. Contains 204 rows of turbine data.

To be continued on next page...

SHADOW - Main Result

Calculation: SG132-3.465 114m HH Shadow Flicker

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	X(East)	Y(North)	Z	Row data/Description	WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]	
					Valid	Manufact.					Type-generator
205	649,928	5,378,956	741.8	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
206	650,591	5,374,779	748.5	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
207	650,301	5,376,922	735.1	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9
208	650,917	5,377,197	740.0	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 13...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	14.9

Shadow receptor-Input

No.	Name	X(East)	Y(North)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
		[m]	[m]	[m]	[m]	[m]	[m]	[°]	[°]	
A 1	- Non-Participating	644,116	5,375,554	701.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
B 39	- Participating	643,400	5,373,971	711.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
C 2	- Non-Participating	647,930	5,371,801	718.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"
D 40	- Participating	643,453	5,372,099	716.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
E 41	- Participating	625,162	5,383,364	711.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
F 42	- Participating	628,500	5,384,644	704.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"
G 43	- Participating	630,148	5,374,326	691.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
H 44	- Participating	629,997	5,384,325	711.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
I 3	- Non-Participating	630,488	5,379,437	722.7	1.0	11.0	1.0	0.0	90.0	"Green house mode"
J 4	- Non-Participating	632,031	5,373,676	696.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
K 45	- Participating	633,554	5,377,057	735.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
L 46	- Participating	633,395	5,383,413	715.7	1.0	11.0	1.0	0.0	90.0	"Green house mode"
M 47	- Participating	634,615	5,381,825	716.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
N 48	- Participating	634,891	5,378,584	728.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
O 5	- Non-Participating	636,328	5,376,974	731.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
P 49	- Participating	636,455	5,380,259	709.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
Q 50	- Participating	636,416	5,382,006	707.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
R 51	- Participating	637,621	5,371,070	716.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
S 6	- Non-Participating	637,411	5,365,868	713.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
T 52	- Participating	640,276	5,365,862	710.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
U 7	- Non-Participating	638,615	5,371,717	720.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
V 8	- Non-Participating	638,435	5,378,666	709.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
W 9	- Non-Participating	640,413	5,369,191	728.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
X 10	- Non-Participating	643,279	5,372,615	722.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
Y 11	- Non-Participating	643,282	5,373,088	726.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
Z 53	- Participating	642,413	5,373,644	734.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AA 54	- Participating	643,167	5,375,685	714.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AB 12	- Non-Participating	630,584	5,371,240	682.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AC 13	- Non-Participating	630,347	5,380,996	717.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AD 14	- Non-Participating	628,838	5,379,465	705.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AE 55	- Participating	635,760	5,381,775	711.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AF 15	- Non-Participating	637,972	5,384,054	715.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AG 57	- Participating	633,480	5,378,691	739.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AH 59	- Participating	643,400	5,373,968	711.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AI 61	- Participating	633,645	5,373,895	713.7	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AJ 62	- Participating	643,453	5,372,097	716.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AK 63	- Participating	641,300	5,368,154	725.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AL 16	- Non-Participating	630,734	5,381,835	710.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AM 17	- Non-Participating	631,989	5,373,670	695.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AN 18	- Non-Participating	637,954	5,365,740	710.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AO 64	- Participating	639,268	5,377,996	720.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AP 19	- Non-Participating	638,331	5,381,857	701.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AQ 20	- Non-Participating	639,333	5,380,415	707.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AR 21	- Non-Participating	630,142	5,375,377	701.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AS 22	- Non-Participating	644,117	5,375,554	701.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AT 23	- Non-Participating	628,666	5,373,611	682.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AU 24	- Non-Participating	632,030	5,373,428	696.5	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AV 27	- Non-Participating	646,754	5,372,213	713.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...

SHADOW - Main Result

Calculation: SG132-3.465 114m HH Shadow Flicker

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No.	Name	X(East)	Y(North)	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
				[m]	[m]	[m]	[m]	[°]	[°]	
AW 29	- Non-Participating	631,486	5,386,533	696.9	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AX 30	- Non-Participating	633,067	5,384,963	707.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AY 31	- Non-Participating	633,553	5,383,375	714.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
AZ 66	- Participating	638,244	5,370,747	710.8	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BA 67	- Participating	637,448	5,370,698	712.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BB 68	- Participating	635,378	5,369,828	692.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BC 32	- Non-Participating	626,925	5,388,203	701.4	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BD 33	- Non-Participating	627,137	5,388,066	701.0	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BE 34	- Non-Participating	626,921	5,387,556	704.1	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BF 35	- Non-Participating	629,137	5,388,039	693.3	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BG 36	- Non-Participating	632,118	5,369,480	691.6	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BH 37	- Non-Participating	635,531	5,367,600	699.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"
BI 38	- Non-Participating	629,941	5,378,583	713.2	1.0	11.0	1.0	0.0	90.0	"Green house mode"

Calculation Results

Shadow receptor

No.	Name	Shadow, worst case			Shadow, expected values
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
A 1	- Non-Participating	0:00	0	0:00	0:00
B 39	- Participating	17:46	67	0:24	7:45
C 2	- Non-Participating	7:15	48	0:14	2:46
D 40	- Participating	35:25	61	0:53	12:36
E 41	- Participating	0:00	0	0:00	0:00
F 42	- Participating	73:56	160	0:47	26:09
G 43	- Participating	0:00	0	0:00	0:00
H 44	- Participating	70:29	158	0:57	26:26
I 3	- Non-Participating	16:43	51	0:29	6:54
J 4	- Non-Participating	19:30	60	0:25	8:05
K 45	- Participating	132:56	209	1:20	45:09
L 46	- Participating	12:46	55	0:24	4:43
M 47	- Participating	76:04	174	0:49	26:44
N 48	- Participating	32:54	139	0:27	14:14
O 5	- Non-Participating	46:28	141	0:38	15:09
P 49	- Participating	56:15	145	0:52	18:22
Q 50	- Participating	31:23	94	0:30	9:43
R 51	- Participating	13:20	62	0:18	6:40
S 6	- Non-Participating	48:30	111	0:42	21:20
T 52	- Participating	15:16	49	0:28	7:17
U 7	- Non-Participating	3:50	22	0:16	1:41
V 8	- Non-Participating	86:31	164	0:48	25:00
W 9	- Non-Participating	62:59	117	1:06	17:43
X 10	- Non-Participating	88:30	162	0:57	35:21
Y 11	- Non-Participating	36:45	85	0:46	15:31
Z 53	- Participating	3:18	22	0:15	1:10
AA 54	- Participating	3:07	20	0:15	1:05
AB 12	- Non-Participating	42:38	92	0:42	16:35
AC 13	- Non-Participating	8:15	35	0:18	2:36
AD 14	- Non-Participating	0:00	0	0:00	0:00
AE 55	- Participating	72:17	130	0:50	19:32
AF 15	- Non-Participating	0:00	0	0:00	0:00
AG 57	- Participating	43:11	135	0:34	20:27
AH 59	- Participating	17:50	68	0:24	7:48
AI 61	- Participating	0:00	0	0:00	0:00
AJ 62	- Participating	35:14	61	0:53	12:33
AK 63	- Participating	33:16	91	0:38	14:55

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SHADOW - Main Result

Calculation: SG132-3.465 114m HH Shadow Flicker

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No.	Name	Shadow, worst case			Shadow, expected values
		Shadow hours per year [h/year]	Shadow days per year [days/year]	Max shadow hours per day [h/day]	Shadow hours per year [h/year]
AL 16	- Non-Participating	23:42	97	0:33	8:19
AM 17	- Non-Participating	20:33	64	0:24	8:33
AN 18	- Non-Participating	26:41	97	0:26	11:29
AO 64	- Participating	69:12	106	0:59	23:09
AP 19	- Non-Participating	9:18	35	0:25	2:45
AQ 20	- Non-Participating	8:35	38	0:16	2:07
AR 21	- Non-Participating	0:00	0	0:00	0:00
AS 22	- Non-Participating	0:00	0	0:00	0:00
AT 23	- Non-Participating	0:00	0	0:00	0:00
AU 24	- Non-Participating	18:30	54	0:25	6:02
AV 27	- Non-Participating	58:48	144	1:07	19:45
AW 29	- Non-Participating	0:00	0	0:00	0:00
AX 30	- Non-Participating	12:08	50	0:18	3:07
AY 31	- Non-Participating	9:38	49	0:21	3:38
AZ 66	- Participating	19:36	54	0:33	5:28
BA 67	- Participating	26:00	71	0:34	8:39
BB 68	- Participating	0:00	0	0:00	0:00
BC 32	- Non-Participating	0:00	0	0:00	0:00
BD 33	- Non-Participating	0:00	0	0:00	0:00
BE 34	- Non-Participating	0:00	0	0:00	0:00
BF 35	- Non-Participating	0:00	0	0:00	0:00
BG 36	- Non-Participating	0:00	0	0:00	0:00
BH 37	- Non-Participating	9:09	37	0:22	3:49
BI 38	- Non-Participating	0:00	0	0:00	0:00

Total amount of flickering on the shadow receptors caused by each WTG

No.	Name	Worst case [h/year]	Expected [h/year]
1	T-43	0:00	0:00
2	T-41	11:58	5:35
3	T-63	3:07	1:05
4	T-62	0:00	0:00
5	T-45	0:00	0:00
6	T-35	3:50	1:41
7	T-47	0:00	0:00
8	T-56	0:00	0:00
9	T-55	0:00	0:00
10	T-39	0:00	0:00
11	T-38	0:00	0:00
12	T-37	0:00	0:00
13	T-70	0:00	0:00
14	T-77	0:00	0:00
15	T-53	0:00	0:00
16	T-67	3:40	1:11
17	T-66	0:00	0:00
18	T-69	34:46	10:14
19	T-93	35:13	17:31
20	T-80	77:48	21:41
21	T-58	0:00	0:00
22	T-73	0:00	0:00
23	T-28	90:48	38:02
24	T-78	63:12	20:06
25	T-76	0:00	0:00
26	T-79	0:00	0:00
27	T-46	0:00	0:00
28	T-57	0:00	0:00
29	T-71	12:11	4:03

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Project:
Aurora

Description:

Licensed user:
TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/15/2018 5:45 AM/3.0.654

SHADOW - Main Result

Calculation: SG132-3.465 114m HH Shadow Flicker

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
30	T-59	0:00	0:00
31	T-60	0:00	0:00
32	T-61	0:00	0:00
33	T-40	0:00	0:00
34	T-15	0:00	0:00
35	T-16	0:00	0:00
36	T-17	0:00	0:00
37	T-12	0:00	0:00
38	T-13	3:08	1:16
39	T-26	0:00	0:00
40	T-25	22:40	7:46
41	T-10	3:54	1:29
42	T-8	0:00	0:00
43	T-94	5:50	2:47
44	T-95	7:36	3:29
45	T-96	0:00	0:00
46	T-121	5:36	1:51
47	T-142	61:06	24:32
48	T-131	2:45	1:21
49	T-129	0:00	0:00
50	T-141	11:26	3:45
51	T-123	0:00	0:00
52	T-144	15:30	4:58
53	T-145	7:57	2:38
54	T-146	19:52	6:09
55	T-122	0:00	0:00
56	T-117	17:51	5:38
57	T-130	3:06	1:22
58	T-44	0:00	0:00
59	T-72	31:24	8:38
60	T-75	0:00	0:00
61	T-34	13:20	6:40
62	T-74	0:00	0:00
63	T-81	3:30	0:57
64	T-98	24:46	9:26
65	T-85	0:00	0:00
66	T-86	34:06	10:08
67	T-87	6:13	2:41
68	T-51	21:53	9:05
69	T-23	4:01	1:01
70	T-11	3:51	1:41
71	T-22	63:20	19:30
72	T-5	18:30	6:02
73	T-9	18:01	7:43
74	T-90	13:11	3:55
75	T-91	13:29	3:36
76	T-92	12:30	5:29
77	T-106	4:58	1:25
78	T-100	0:00	0:00
79	T-107	29:10	9:02
80	T-99	5:46	2:19
81	T-143	22:22	9:54
82	T-108	125:00	36:49
83	T-109	10:14	3:15
84	T-110	4:15	1:27
85	T-124	5:06	2:08
86	T-88	11:58	5:29
87	T-89	17:58	4:57
88	T-14	0:00	0:00
89	T-24	22:56	6:22

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SHADOW - Main Result

Calculation: SG132-3.465 114m HH Shadow Flicker

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
90	T-42	0:00	0:00
91	T-68	11:05	3:30
92	T-21	0:00	0:00
93	T-20	0:00	0:00
94	T-19	0:00	0:00
95	T-18	0:00	0:00
96	T-83	41:28	17:22
97	T-84	22:36	9:48
98	T-54	0:00	0:00
99	T-118	0:00	0:00
100	T-120	8:16	3:44
101	T-105	0:00	0:00
102	T-97	11:48	4:44
103	T-147	0:00	0:00
104	T-148	0:00	0:00
105	T-149	0:00	0:00
106	T-150	0:00	0:00
107	T-151	0:00	0:00
108	T-152	35:53	11:33
109	T-153	20:27	8:14
110	T-154	0:00	0:00
111	T-155	0:00	0:00
112	T-156	49:14	16:57
113	T-157	16:28	5:49
114	T-158	8:06	2:32
115	T-159	39:30	12:33
116	T-160	0:00	0:00
117	T-161	33:07	14:48
118	T-162	0:00	0:00
119	T-163	12:15	4:48
120	T-164	35:54	16:26
121	T-165	9:09	3:49
122	T-166	0:00	0:00
123	T-167	0:00	0:00
124	T-168	3:41	1:37
125	T-169	0:00	0:00
126	T-170	31:09	11:30
127	T-171	11:27	5:01
128	T-172	12:03	4:03
129	T-173	2:40	0:51
130	T-174	20:17	5:08
131	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (1)	0:00	0:00
132	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (2)	0:00	0:00
133	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (3)	0:00	0:00
134	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (4)	0:00	0:00
135	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (5)	0:00	0:00
136	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (6)	0:00	0:00
137	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (7)	0:00	0:00
138	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (8)	0:00	0:00
139	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (9)	0:00	0:00
140	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (10)	0:00	0:00
141	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (11)	0:00	0:00
142	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (12)	0:00	0:00
143	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (13)	0:00	0:00
144	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (14)	0:00	0:00
145	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (15)	0:00	0:00
146	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (16)	0:00	0:00
147	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (17)	0:00	0:00
148	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (18)	0:00	0:00
149	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (19)	0:00	0:00

To be continued on next page...

SHADOW - Main Result

Calculation: SG132-3.465 114m HH Shadow Flicker

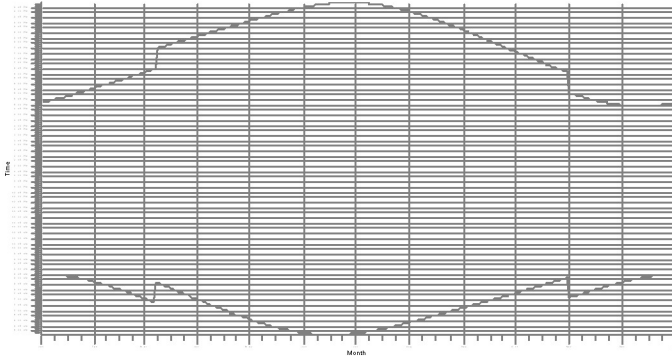
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No.	Name	Worst case [h/year]	Expected [h/year]
150	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (20)	0:00	0:00
151	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (21)	4:06	1:25
152	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (22)	0:00	0:00
153	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (23)	0:00	0:00
154	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (24)	0:00	0:00
155	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (25)	0:00	0:00
156	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (26)	0:00	0:00
157	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (27)	0:00	0:00
158	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (28)	0:00	0:00
159	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (29)	0:00	0:00
160	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (30)	0:00	0:00
161	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (31)	0:00	0:00
162	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (32)	0:00	0:00
163	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (33)	0:00	0:00
164	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (34)	0:00	0:00
165	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (35)	0:00	0:00
166	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (36)	0:00	0:00
167	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (37)	0:00	0:00
168	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (38)	0:00	0:00
169	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (39)	0:00	0:00
170	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (40)	0:00	0:00
171	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (41)	0:00	0:00
172	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (42)	0:00	0:00
173	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (43)	0:00	0:00
174	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (44)	0:00	0:00
175	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (45)	0:00	0:00
176	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (46)	0:00	0:00
177	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (47)	12:37	5:15
178	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (48)	0:00	0:00
179	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (49)	0:00	0:00
180	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (50)	0:00	0:00
181	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (51)	0:00	0:00
182	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (52)	0:00	0:00
183	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (53)	0:00	0:00
184	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (54)	0:00	0:00
185	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (55)	0:00	0:00
186	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (56)	0:00	0:00
187	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (57)	0:00	0:00
188	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (58)	0:00	0:00
189	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (59)	0:00	0:00
190	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (60)	0:00	0:00
191	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (61)	0:00	0:00
192	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (62)	0:00	0:00
193	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (63)	0:00	0:00
194	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (64)	0:00	0:00
195	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (65)	0:00	0:00
196	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (66)	0:00	0:00
197	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (67)	0:00	0:00
198	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (68)	0:00	0:00
199	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (69)	0:00	0:00
200	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (70)	0:00	0:00
201	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (71)	1:44	0:43
202	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (72)	0:00	0:00
203	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (73)	0:00	0:00
204	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (74)	0:00	0:00
205	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (75)	0:00	0:00
206	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (76)	0:00	0:00
207	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (77)	0:00	0:00
208	VESTAS V100 2000 100.0 !O! hub: 80.0 m (TOT: 130.0 m) (78)	0:00	0:00

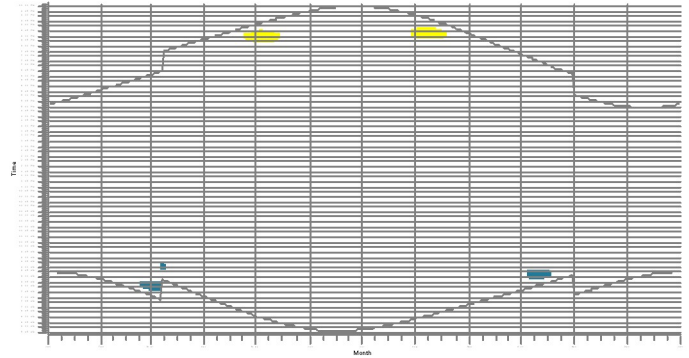
SHADOW - Calendar, graphical

Calculation: SG132-3.465 114m HH Shadow Flicker

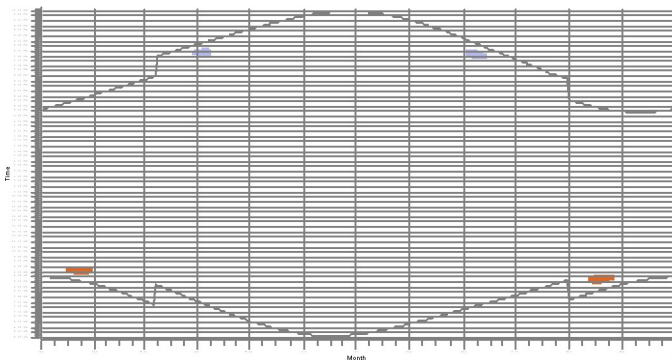
A: 1 - Non-Participating



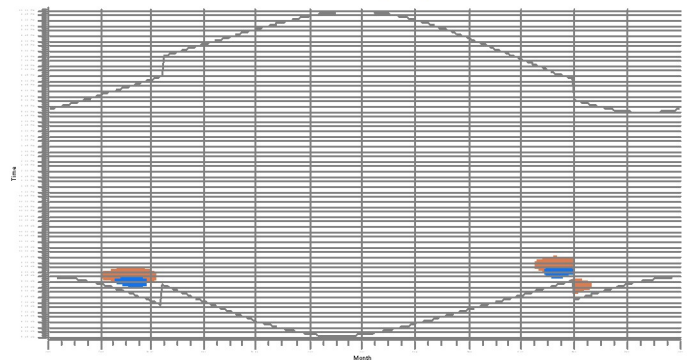
B: 39 - Participating



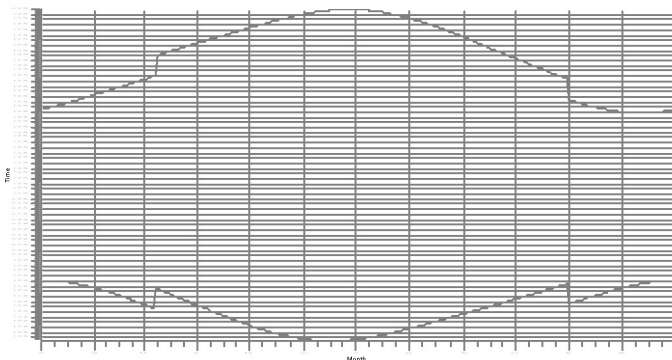
C: 2 - Non-Participating



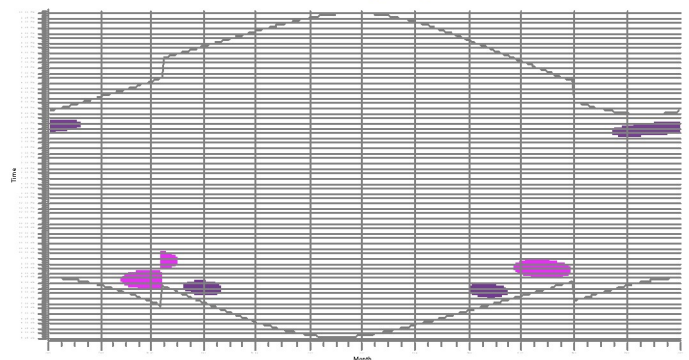
D: 40 - Participating



E: 41 - Participating



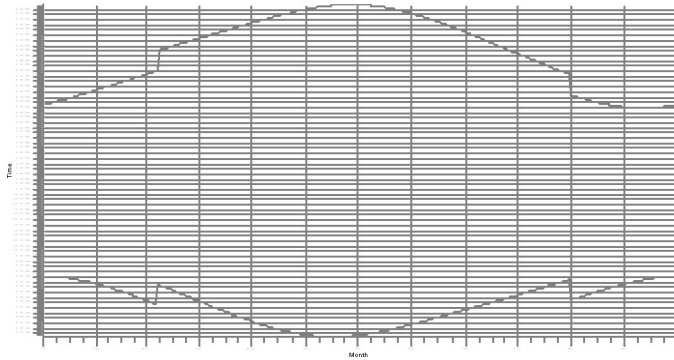
F: 42 - Participating



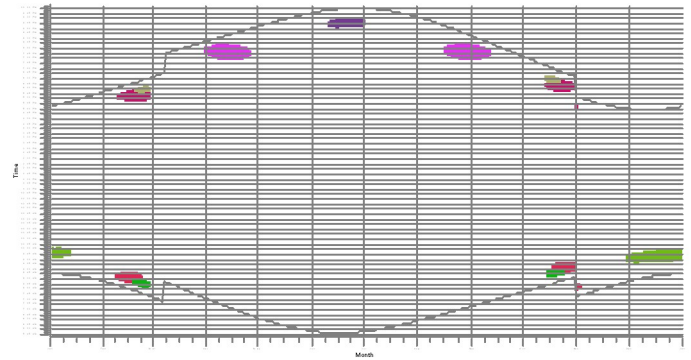
SHADOW - Calendar, graphical

Calculation: SG132-3.465 114m HH Shadow Flicker

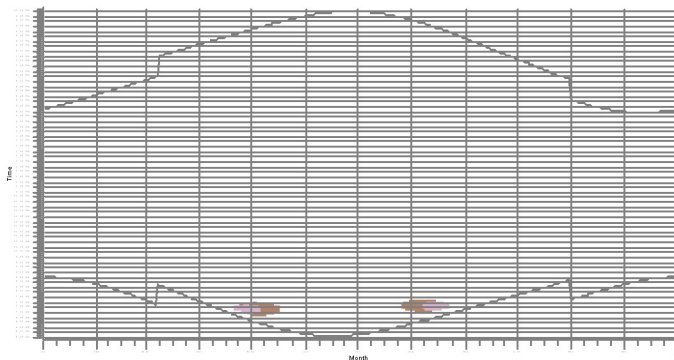
G: 43 - Participating



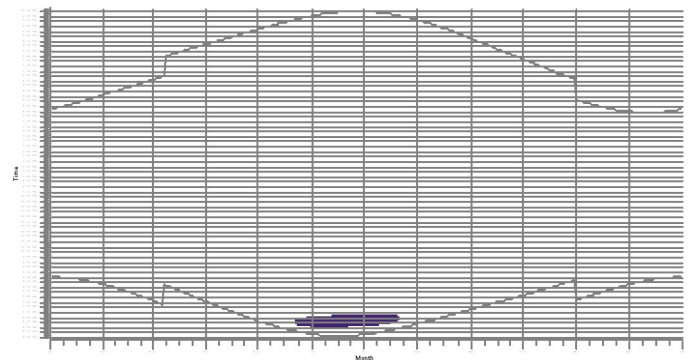
H: 44 - Participating



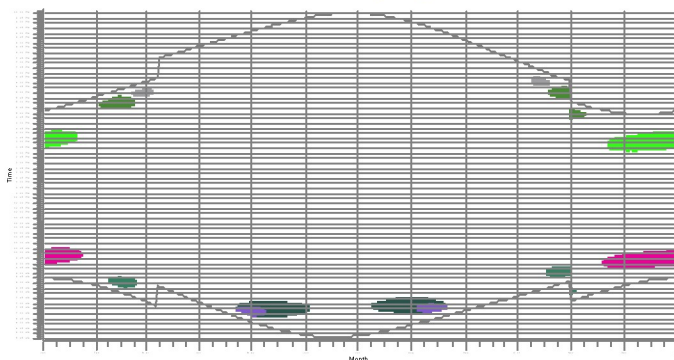
I: 3 - Non-Participating



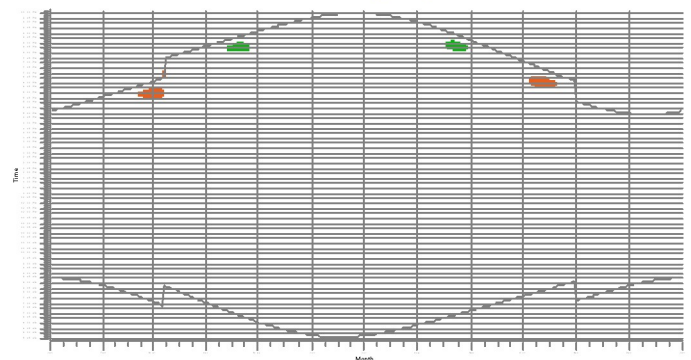
J: 4 - Non-Participating



K: 45 - Participating



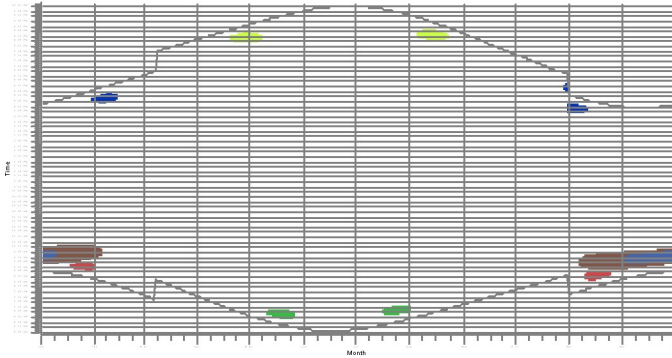
L: 46 - Participating



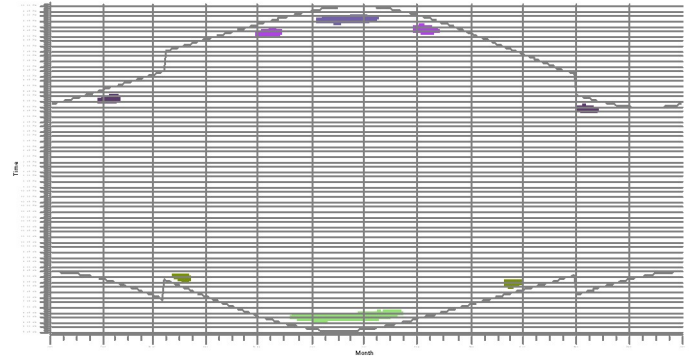
SHADOW - Calendar, graphical

Calculation: SG132-3.465 114m HH Shadow Flicker

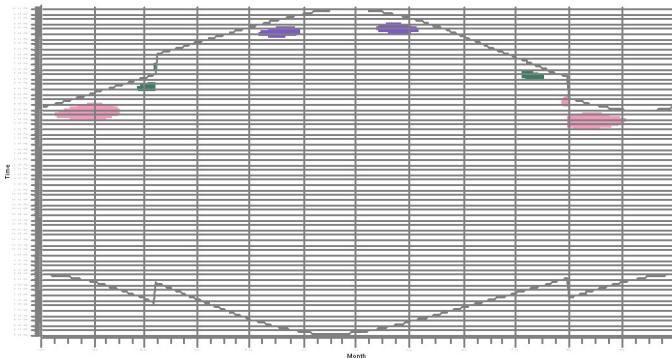
M: 47 - Participating



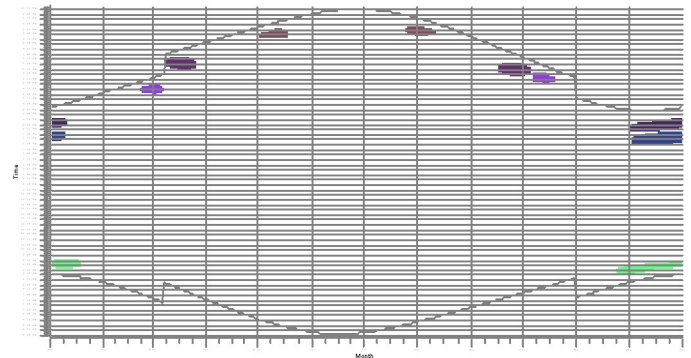
N: 48 - Participating



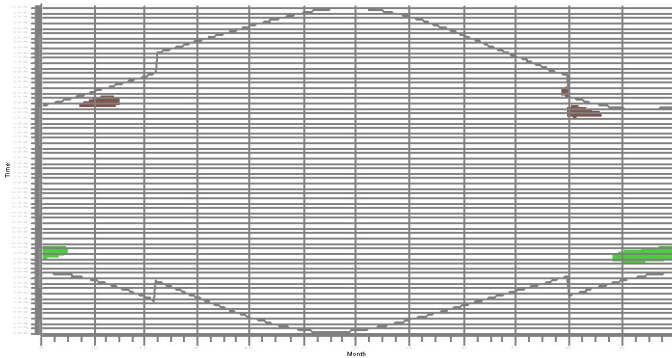
O: 5 - Non-Participating



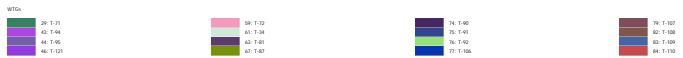
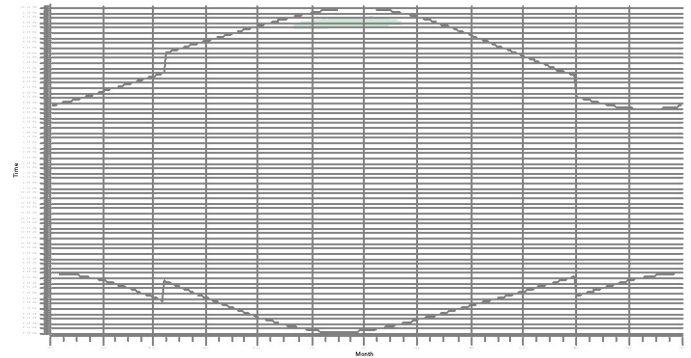
P: 49 - Participating



Q: 50 - Participating



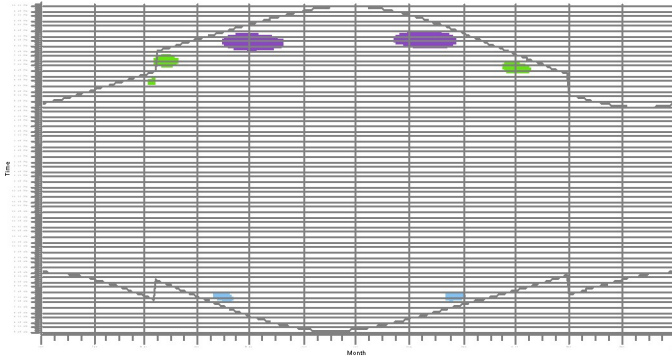
R: 51 - Participating



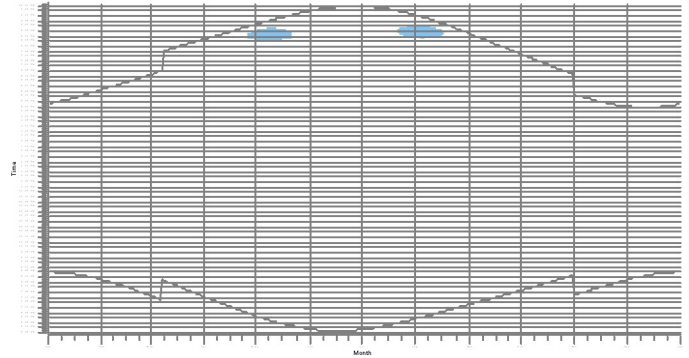
SHADOW - Calendar, graphical

Calculation: SG132-3.465 114m HH Shadow Flicker

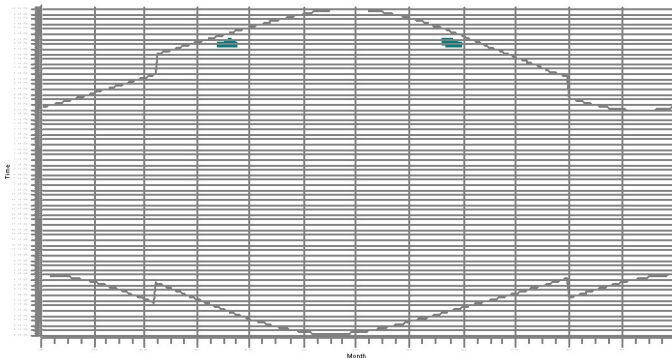
S: 6 - Non-Participating



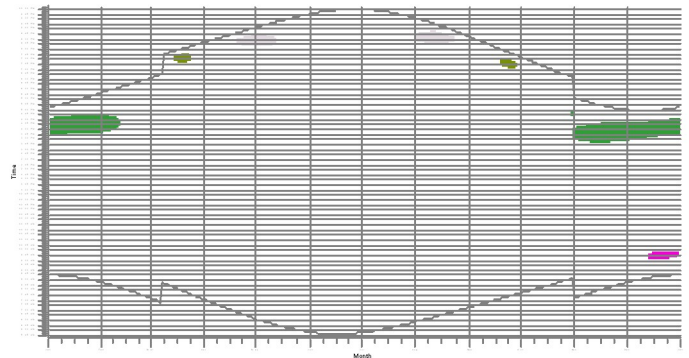
T: 52 - Participating



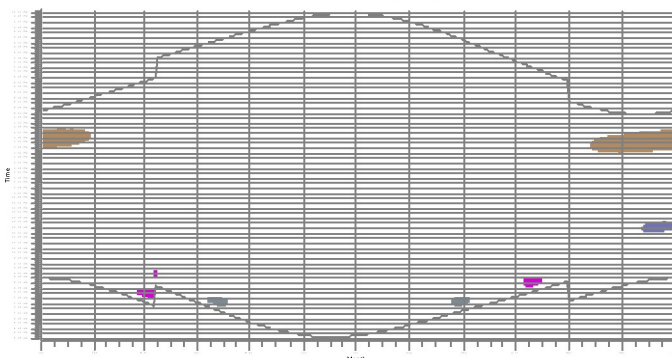
U: 7 - Non-Participating



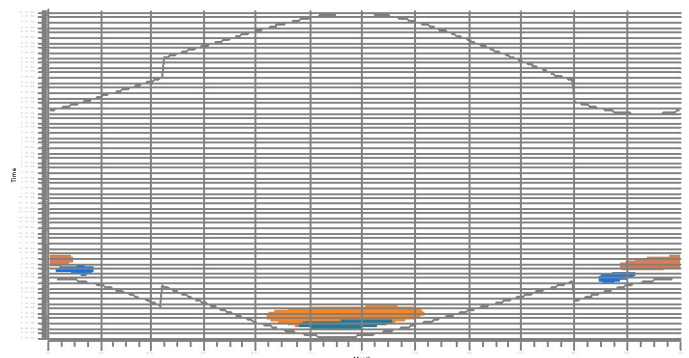
V: 8 - Non-Participating



W: 9 - Non-Participating

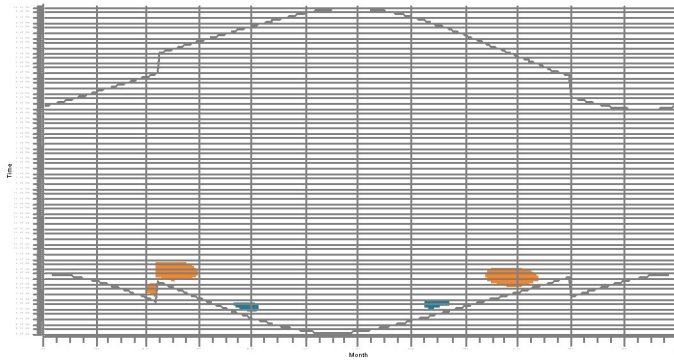


X: 10 - Non-Participating

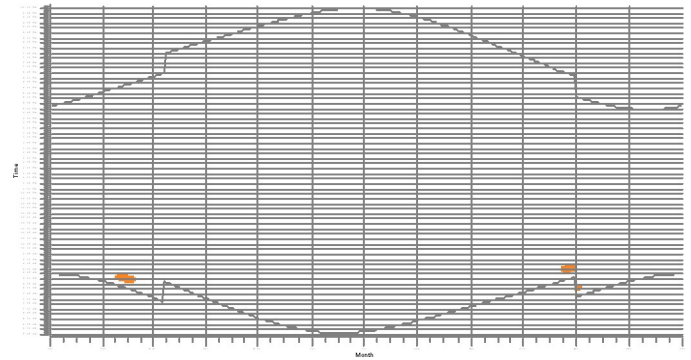


SHADOW - Calendar, graphical
 Calculation: SG132-3.465 114m HH Shadow Flicker

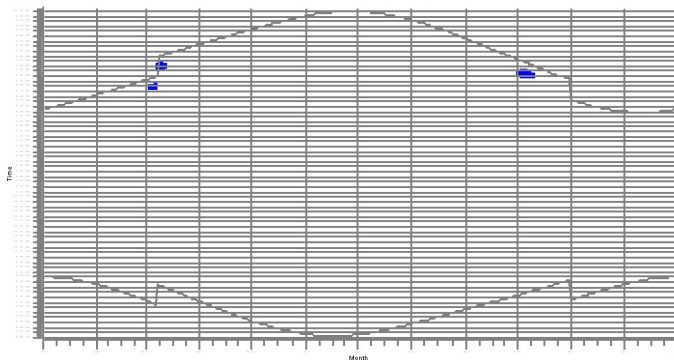
Y: 11 - Non-Participating



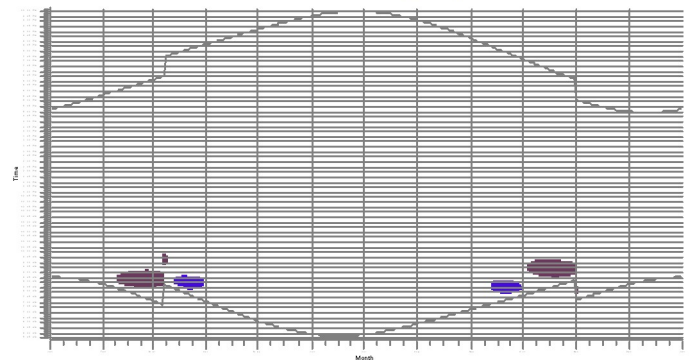
Z: 53 - Participating



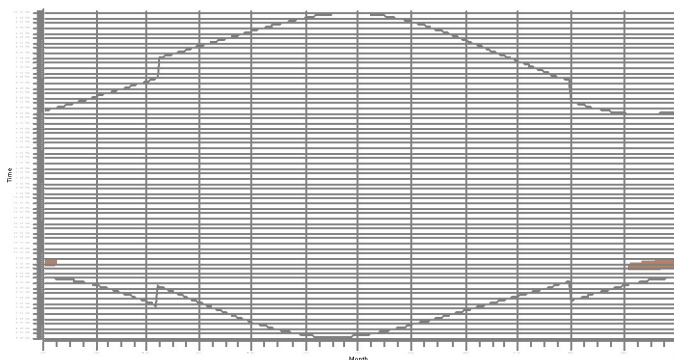
AA: 54 - Participating



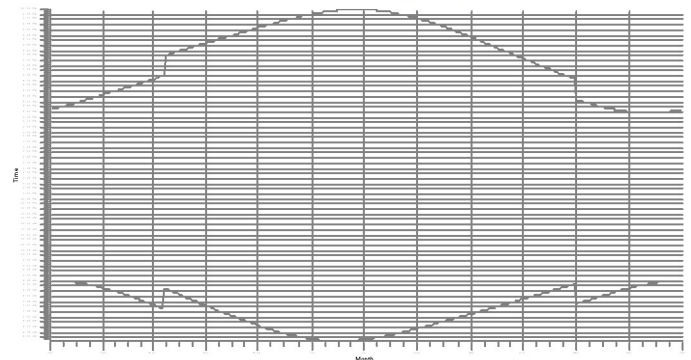
AB: 12 - Non-Participating



AC: 13 - Non-Participating



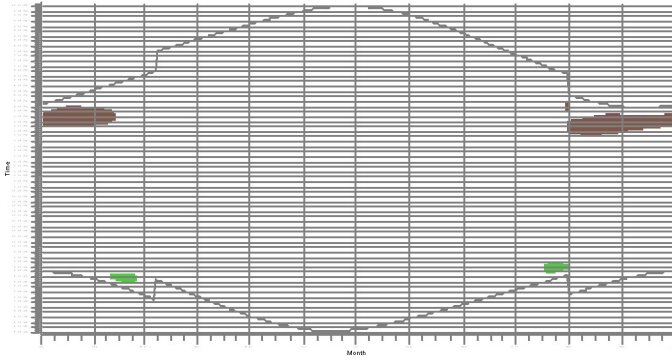
AD: 14 - Non-Participating



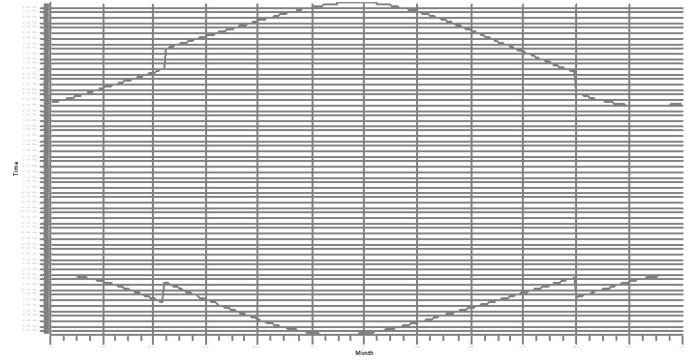
SHADOW - Calendar, graphical

Calculation: SG132-3.465 114m HH Shadow Flicker

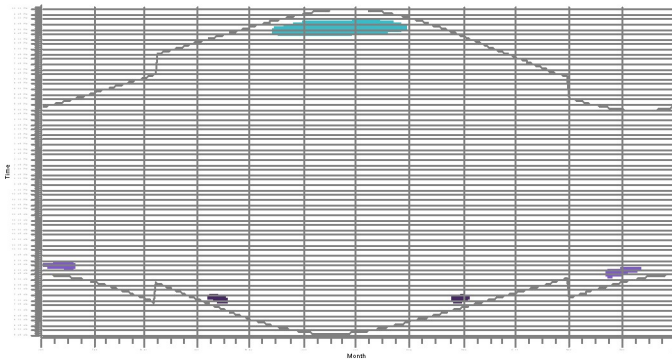
AE: 55 - Participating



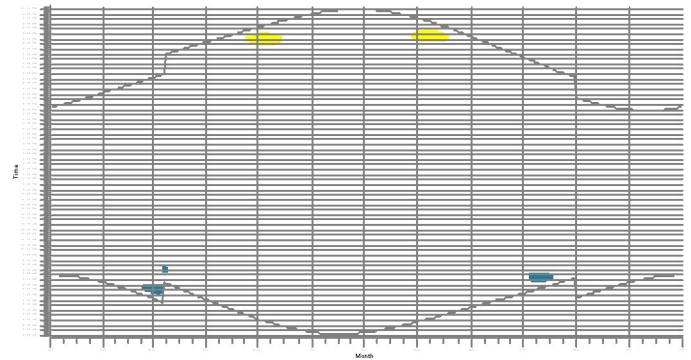
AF: 15 - Non-Participating



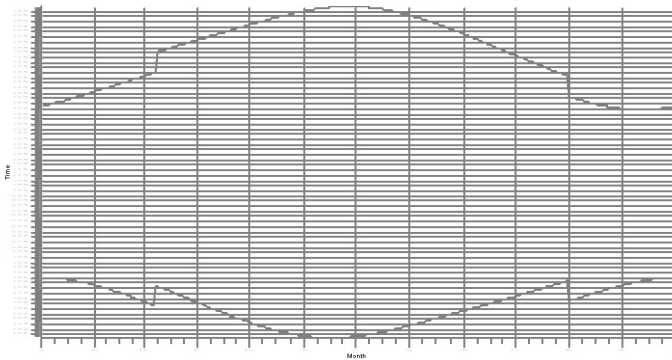
AG: 57 - Participating



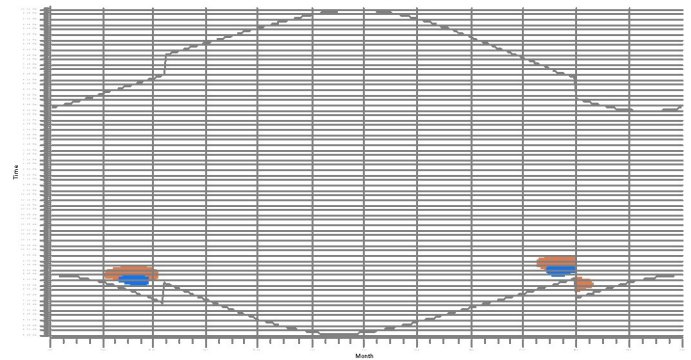
AH: 59 - Participating



AI: 61 - Participating



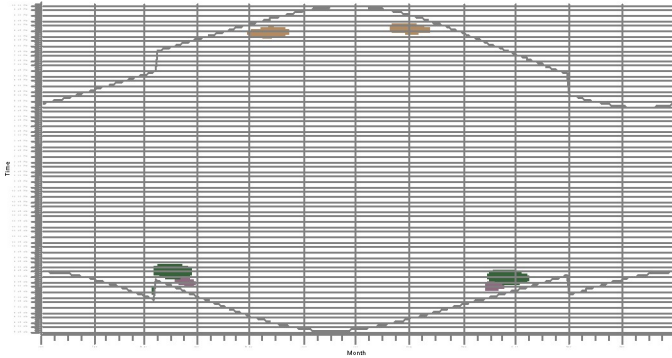
AJ: 62 - Participating



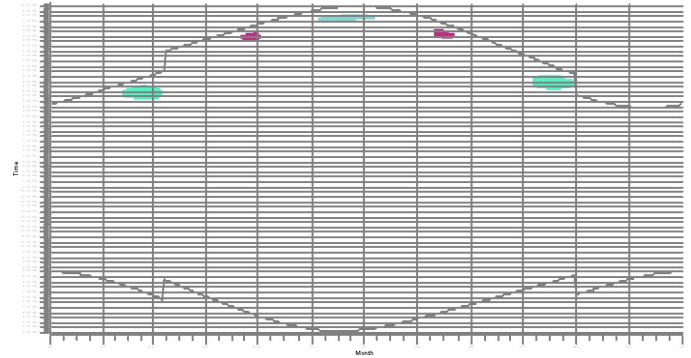
SHADOW - Calendar, graphical

Calculation: SG132-3.465 114m HH Shadow Flicker

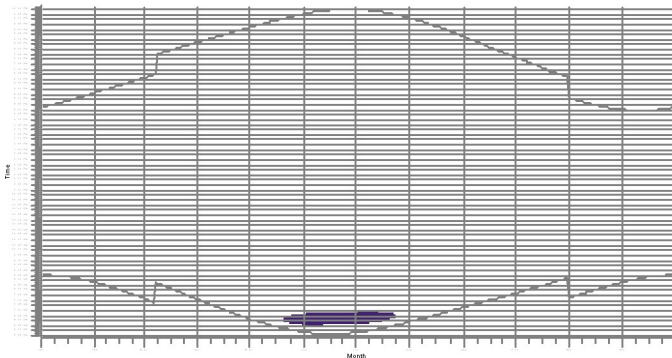
AK: 63 - Participating



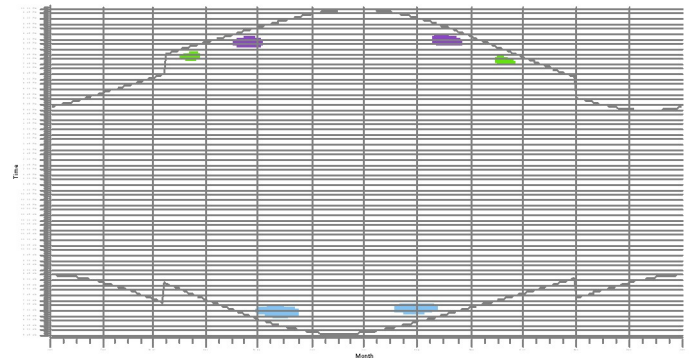
AL: 16 - Non-Participating



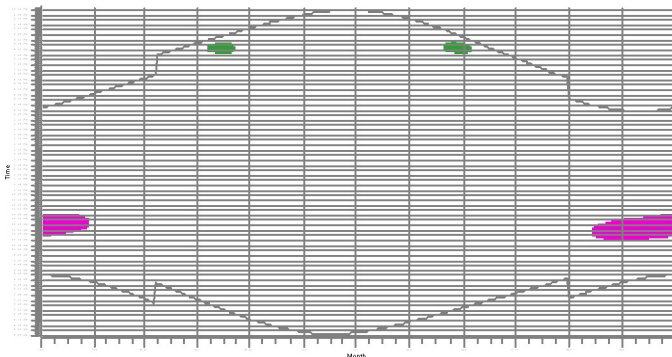
AM: 17 - Non-Participating



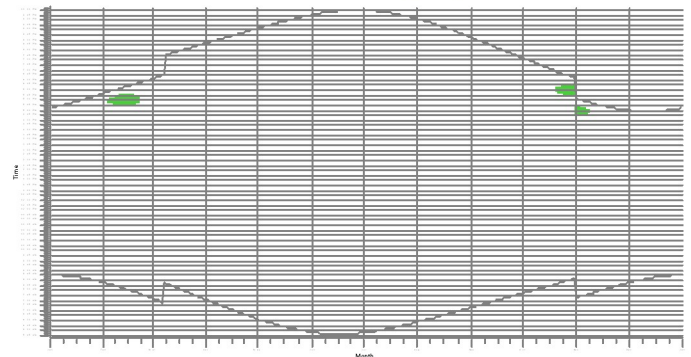
AN: 18 - Non-Participating



AO: 64 - Participating



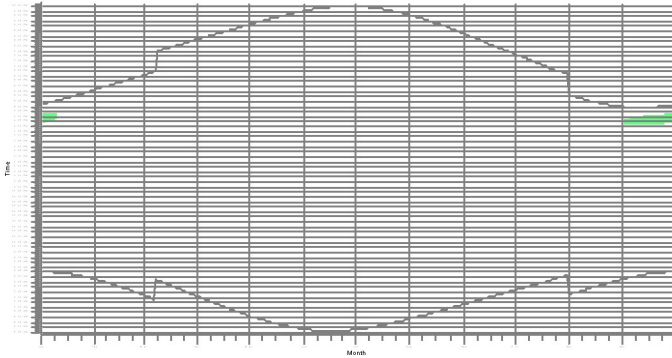
AP: 19 - Non-Participating



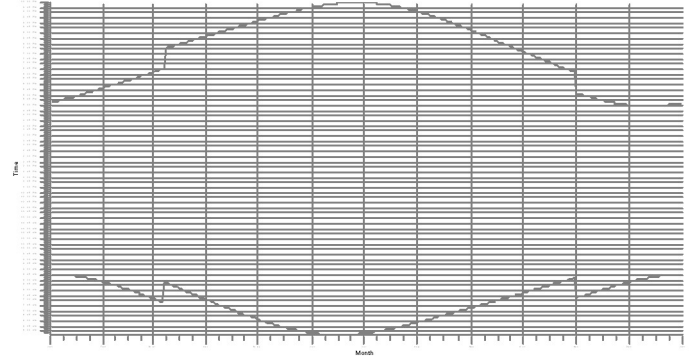
SHADOW - Calendar, graphical

Calculation: SG132-3.465 114m HH Shadow Flicker

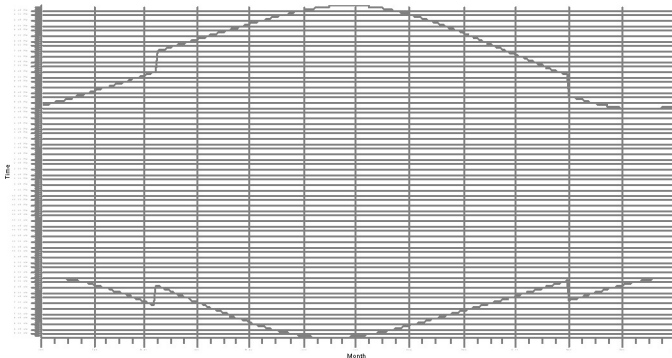
AQ: 20 - Non-Participating



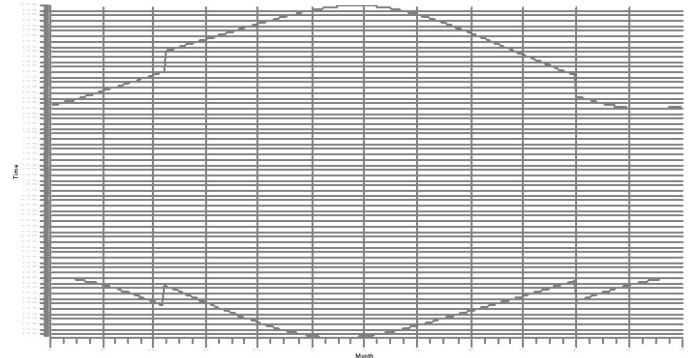
AR: 21 - Non-Participating



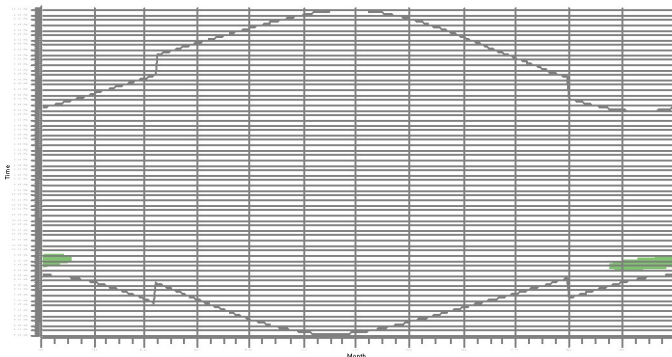
AS: 22 - Non-Participating



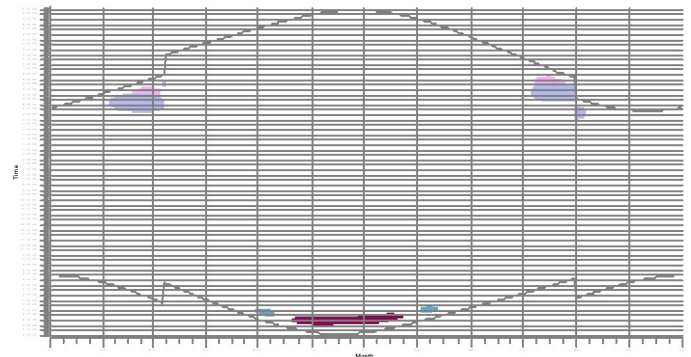
AT: 23 - Non-Participating



AU: 24 - Non-Participating



AV: 27 - Non-Participating



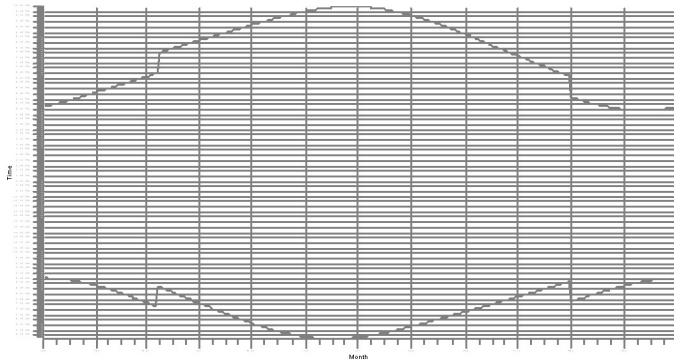
WFO: 0: 1.6 0: 1.6 114: 1.04 114: 1.04

171: 452345 1100 2000 100.0 00 100.0 00 2001: 120.0 00 00 171 201: 452345 1100 2000 100.0 00 100.0 00 2001: 120.0 00 00 171

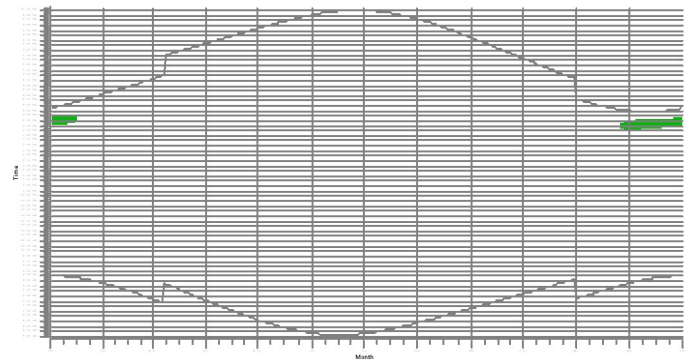
SHADOW - Calendar, graphical

Calculation: SG132-3.465 114m HH Shadow Flicker

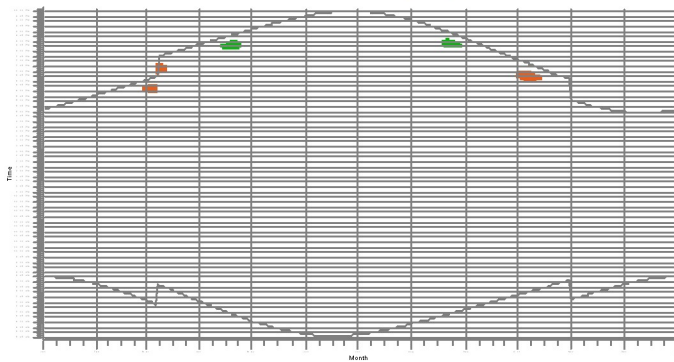
AW: 29 - Non-Participating



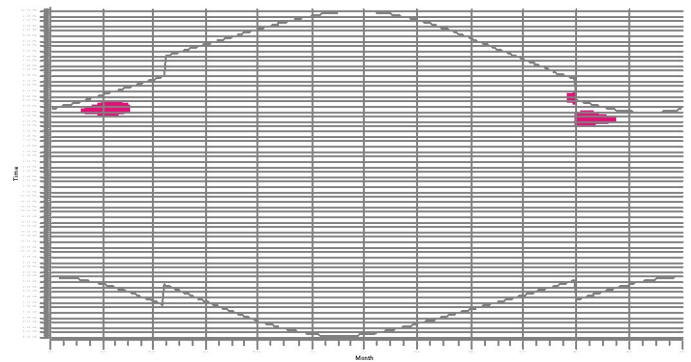
AX: 30 - Non-Participating



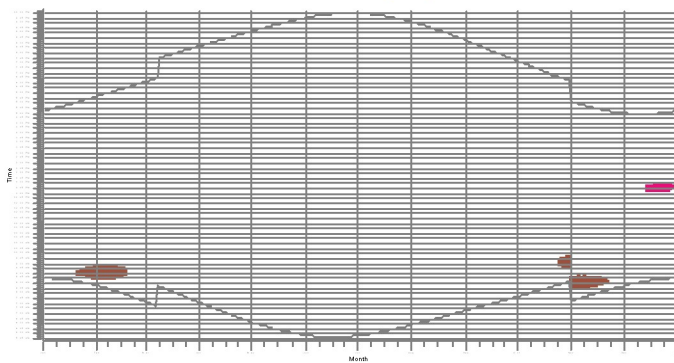
AY: 31 - Non-Participating



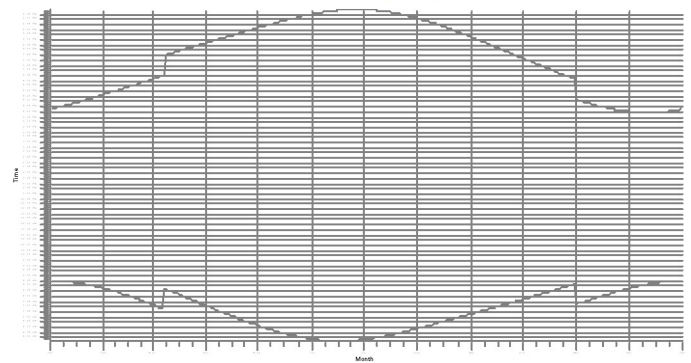
AZ: 66 - Participating



BA: 67 - Participating



BB: 68 - Participating

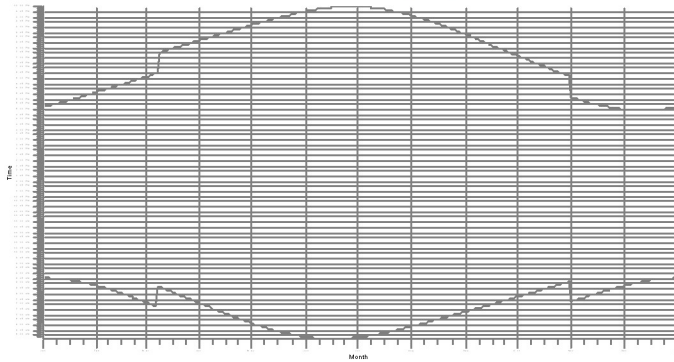


WFO: 40-1-25 40-1-14 40-1-24 100-1-102

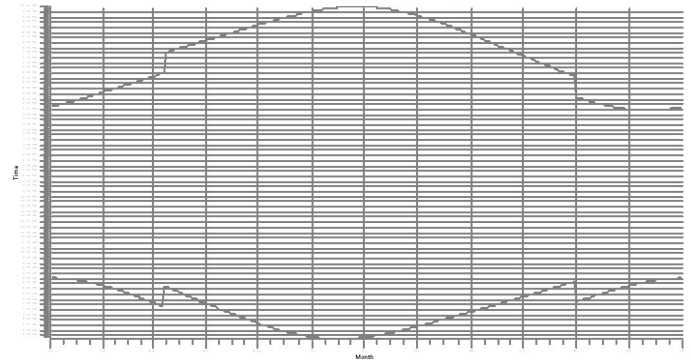
SHADOW - Calendar, graphical

Calculation: SG132-3.465 114m HH Shadow Flicker

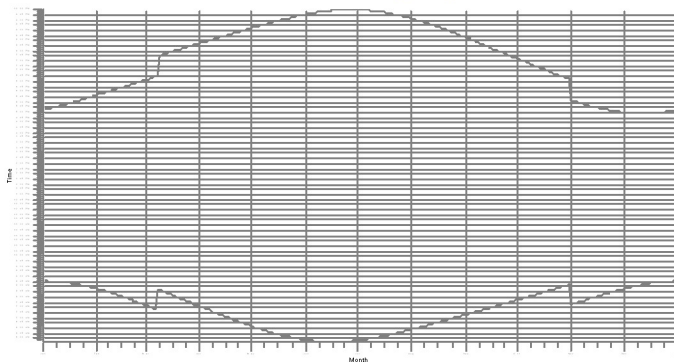
BC: 32 - Non-Participating



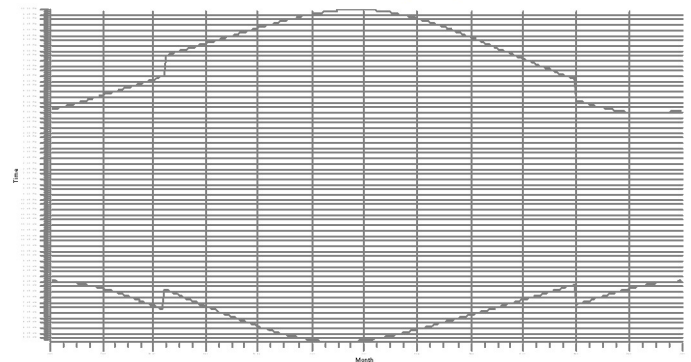
BD: 33 - Non-Participating



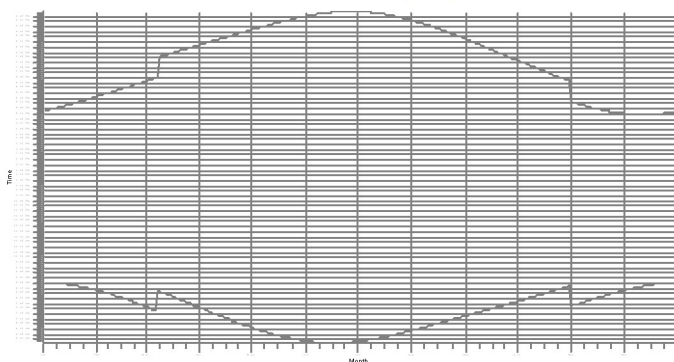
BE: 34 - Non-Participating



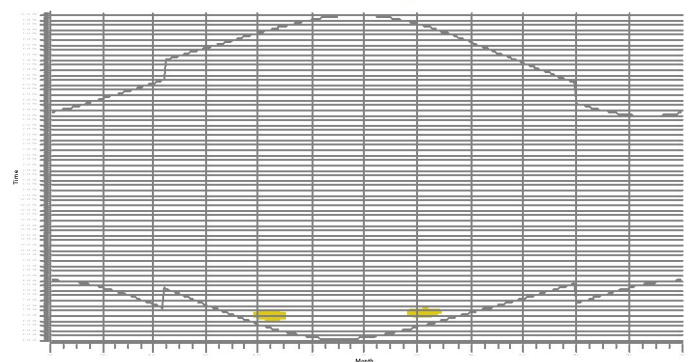
BF: 35 - Non-Participating



BG: 36 - Non-Participating



BH: 37 - Non-Participating



WFO: 121.1-144

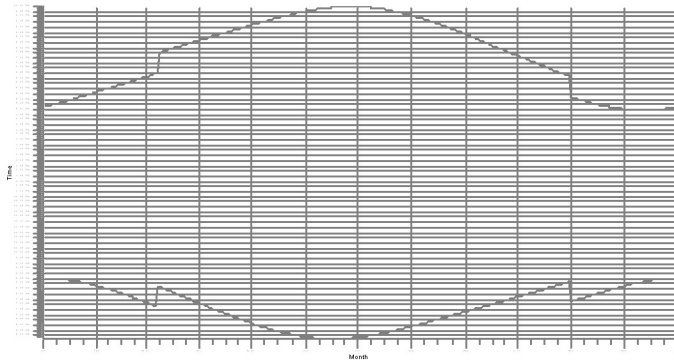
Project: Aurora
Description:

Licensed user:
TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/15/2018 5:45 AM/3.0.654

SHADOW - Calendar, graphical

Calculation: SG132-3.465 114m HH Shadow Flicker

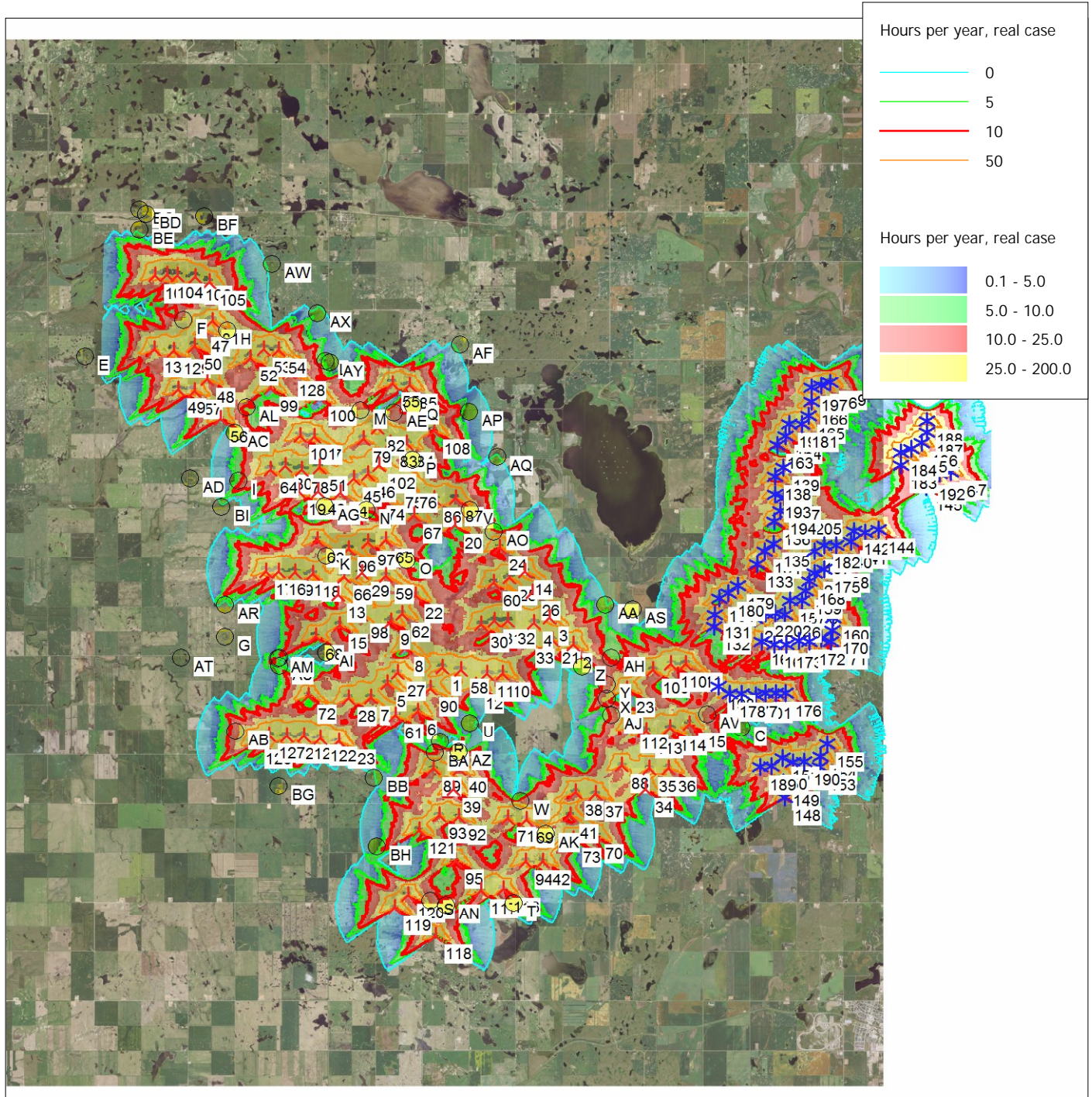
BI: 38 - Non-Participating



wf6

SHADOW - Map

Calculation: SG132-3.465 114m HH Shadow Flicker



0 2.5 5 7.5 10km

Map: US Naval Research Laboratory , Print scale 1:200,000, Map center UTM WGS84 Zone: 13 East: 640,676 North: 5,375,910

▲ New WTG

★ Existing WTG

● Shadow receptor

Flicker map level: Height Contours: 150921_TWE_LindahIWest_10ftHCLsfrom10mNED.wpo (3)

Sound Maps

Aurora Wind Project - Anticipated Maximum Sound Levels

G132 3.465 114m HH



Legend

- Aurora
- Aurora Wind Project Turbine (A031)
- Lindahl Wind Project Turbine

Sound Receptor (Non-Participating)

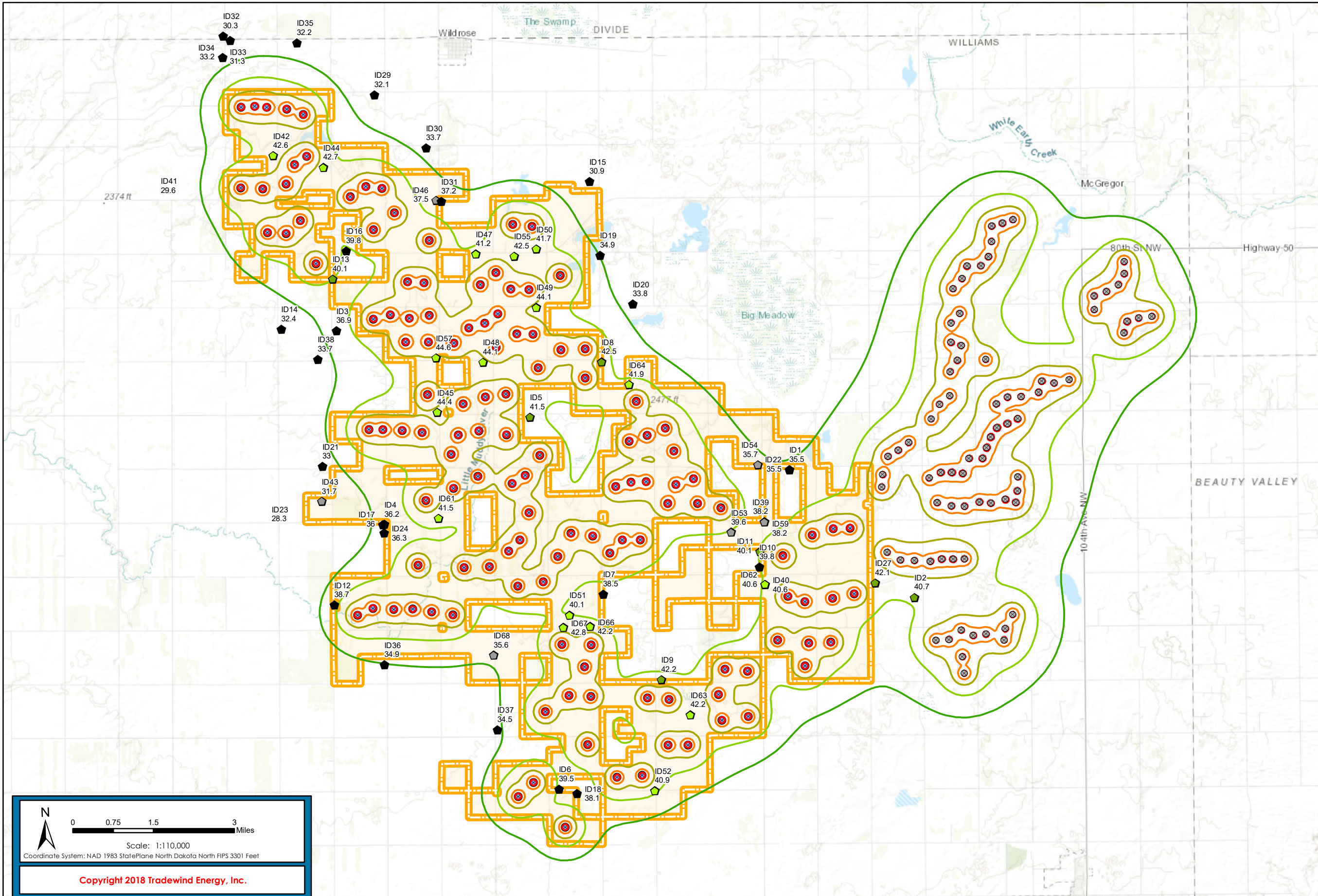
- Sound Level (dBA)
- Below 39.99
 - 40.00 - 45.00
 - 45.01+

Sound Receptor (Participating)

- Sound Level (dBA)
- Below 39.99
 - 40.00 - 45.00
 - 45.01+

Sound Isolines

- Sound Level (dBA)
- 35
 - 40
 - 45
 - 50
 - 55



Scale: 1:110,000
 Coordinate System: NAD 1983 StatePlane North Dakota North FIPS 3301 Feet
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The following companies and organizations provided data that contributed to the production of this map.

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- Environmental Systems Research Institute (ESRI)
- U.S. Department of Agriculture (USDA)
- U.S. Federal Aviation Administration (FAA)
- WhiteStar Corporation
- CoreLogic
- Ventyx Inc.

Aurora Wind Project - Anticipated Maximum Sound Levels

V136 4.0/4.2 82m HH



Legend

- Aurora
- Aurora Wind Project Turbine (A031)
- Lindahl Wind Project Turbine

Sound Receptor (Non-Participating)

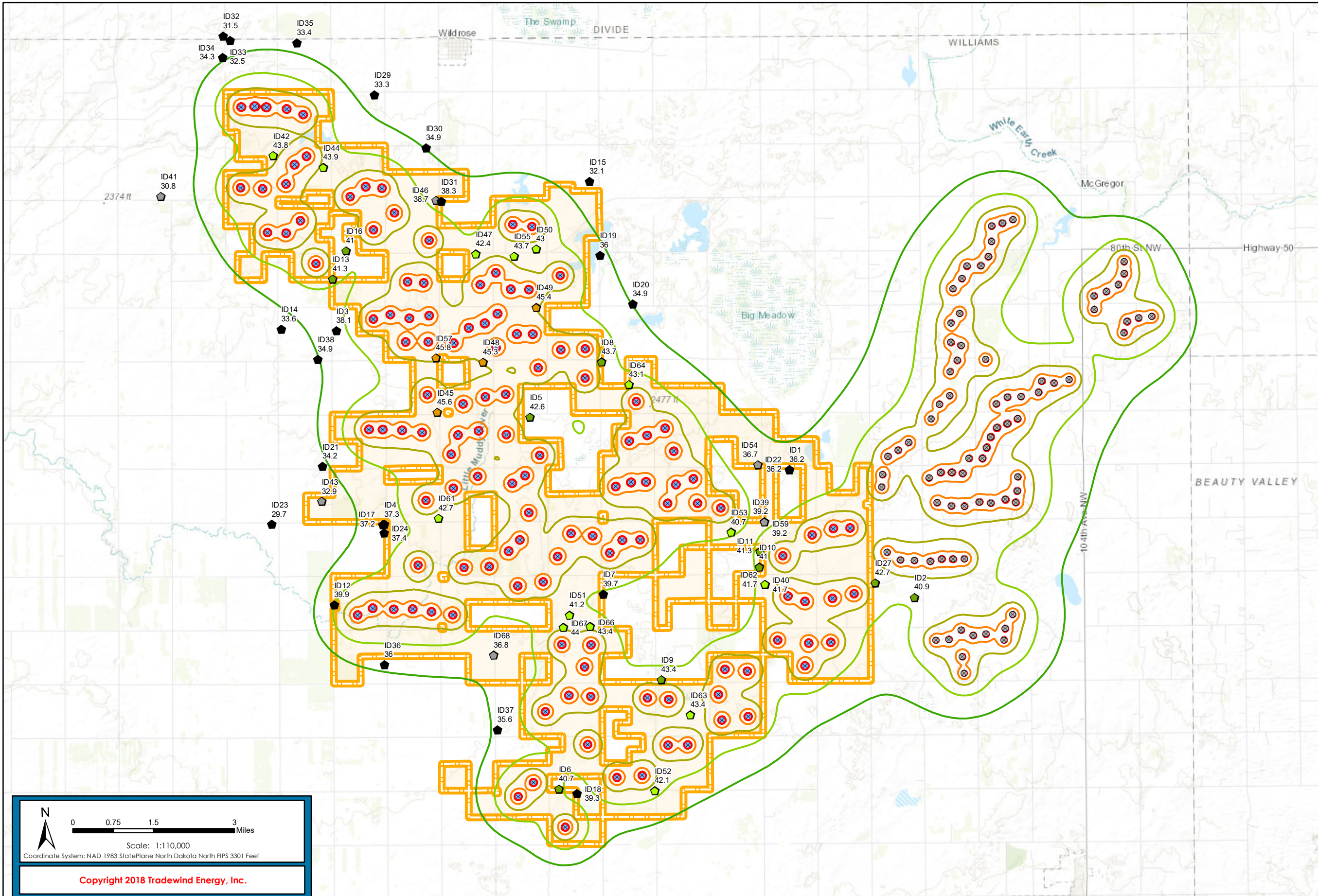
- Sound Level (dBA)
- Below 39.99
 - 40.00 - 45.00
 - 45.01+

Sound Receptor (Participating)

- Sound Level (dBA)
- Below 39.99
 - 40.00 - 45.00
 - 45.01+

Sound Isolines

- Sound Level (dBA)
- 35
 - 40
 - 45
 - 50
 - 55



Scale: 1:110,000
 Coordinate System: NAD 1983 StatePlane North Dakota North FIPS 3301 Feet
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- U.S. Federal Aviation Administration (FAA)
- WhiteStar Corporation
- CoreLogic
- Ventyx Inc.

Aurora Wind Project - Anticipated Maximum Sound Levels

V136 3.45/3.6 82m HH



Legend

- Aurora
- Aurora Wind Project Turbine (A031)
- Lindahl Wind Project Turbine

Sound Receptor (Non-Participating)

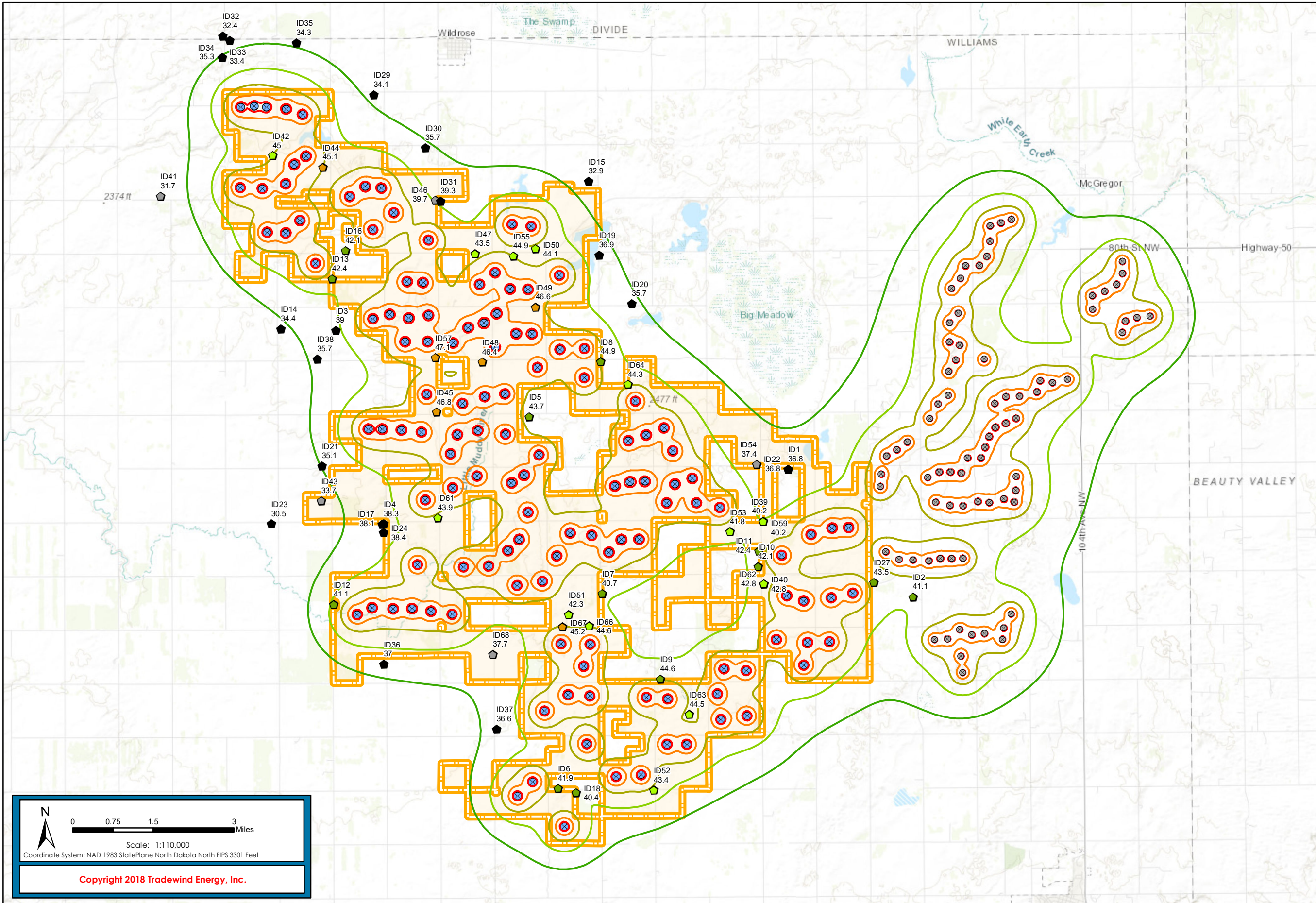
- Sound Level (dBA)
- Below 39.99
 - 40.00 - 45.00
 - 45.01+

Sound Receptor (Participating)

- Sound Level (dBA)
- Below 39.99
 - 40.00 - 45.00
 - 45.01+

Sound Isolines

- Sound Level (dBA)
- 35
 - 40
 - 45
 - 50
 - 55



N

0 0.75 1.5 3 Miles

Scale: 1:110,000

Coordinate System: NAD 1983 StatePlane North Dakota North FIPS 3301 Feet

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- U.S. Department of Agriculture (USDA)
- U.S. Federal Aviation Administration (FAA)
- WhiteStar Corporation
- CoreLogic
- Ventix Inc.

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Aurora Wind Project - Anticipated Maximum Sound Levels

AW125 3.15 87.5m HH



Legend

- Aurora
- Aurora Wind Project Turbine (A031)
- Lindahl Wind Project Turbine

Sound Receptor (Non-Participating)

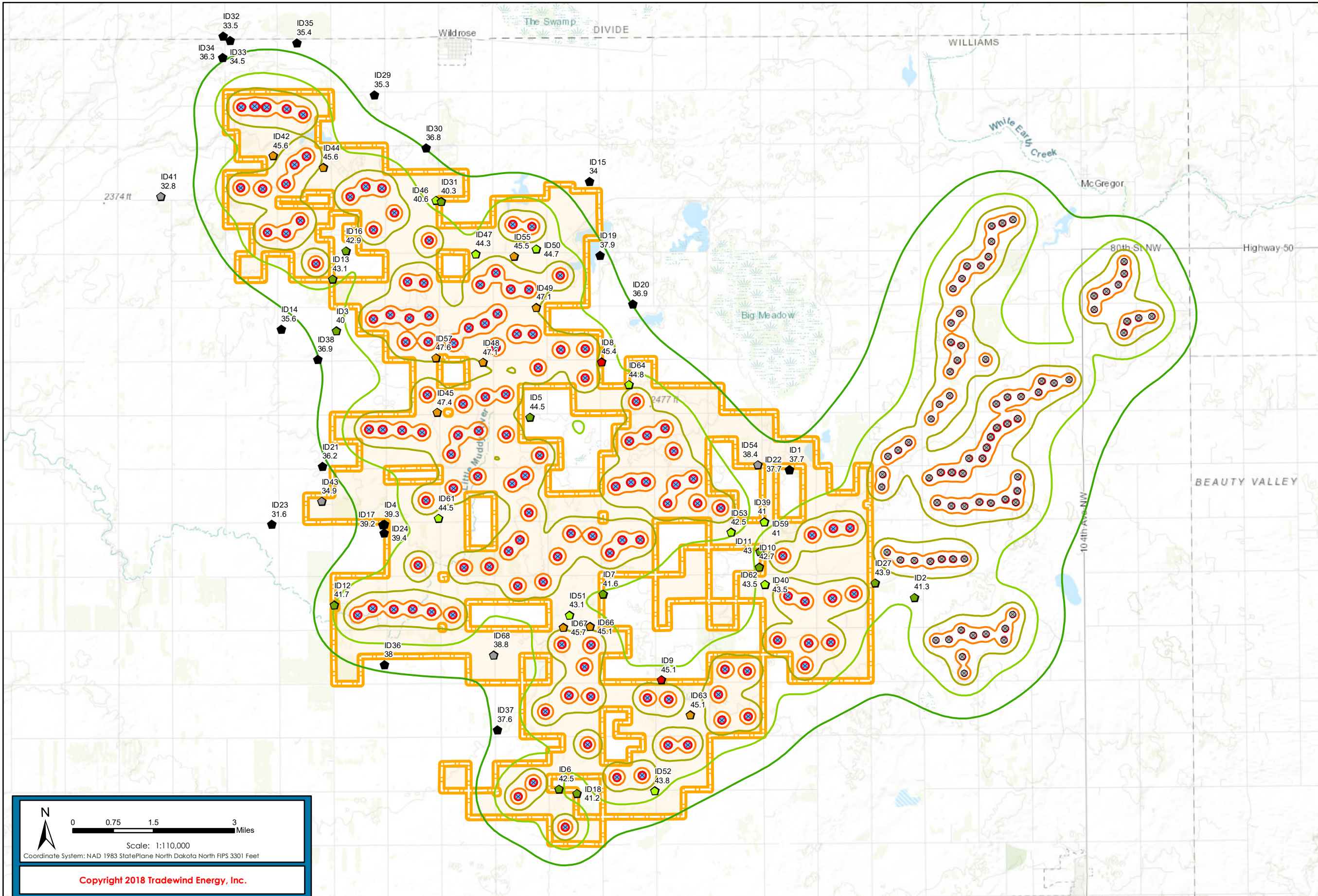
- Sound Level (dBA)
- Below 39.99
 - 40.00 - 45.00
 - 45.01+

Sound Receptor (Participating)

- Sound Level (dBA)
- Below 39.99
 - 40.00 - 45.00
 - 45.01+

Sound Isolines

- Sound Level (dBA)
- 35
 - 40
 - 45
 - 50
 - 55



N

0 0.75 1.5 3 Miles

Scale: 1:110,000

Coordinate System: NAD 1983 StatePlane North Dakota North FIPS 3301 Feet

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- U.S. Department of Agriculture (USDA)
- U.S. Federal Aviation Administration (FAA)
- WhiteStar Corporation
- CoreLogic
- Ventyx Inc.

Aurora Wind Project - Anticipated Maximum Sound Levels GE 2.5 127 89m HH



Legend

- Aurora
- Aurora Wind Project Turbine (A031)
- Lindahl Wind Project Turbine

Sound Receptor (Non-Participating)

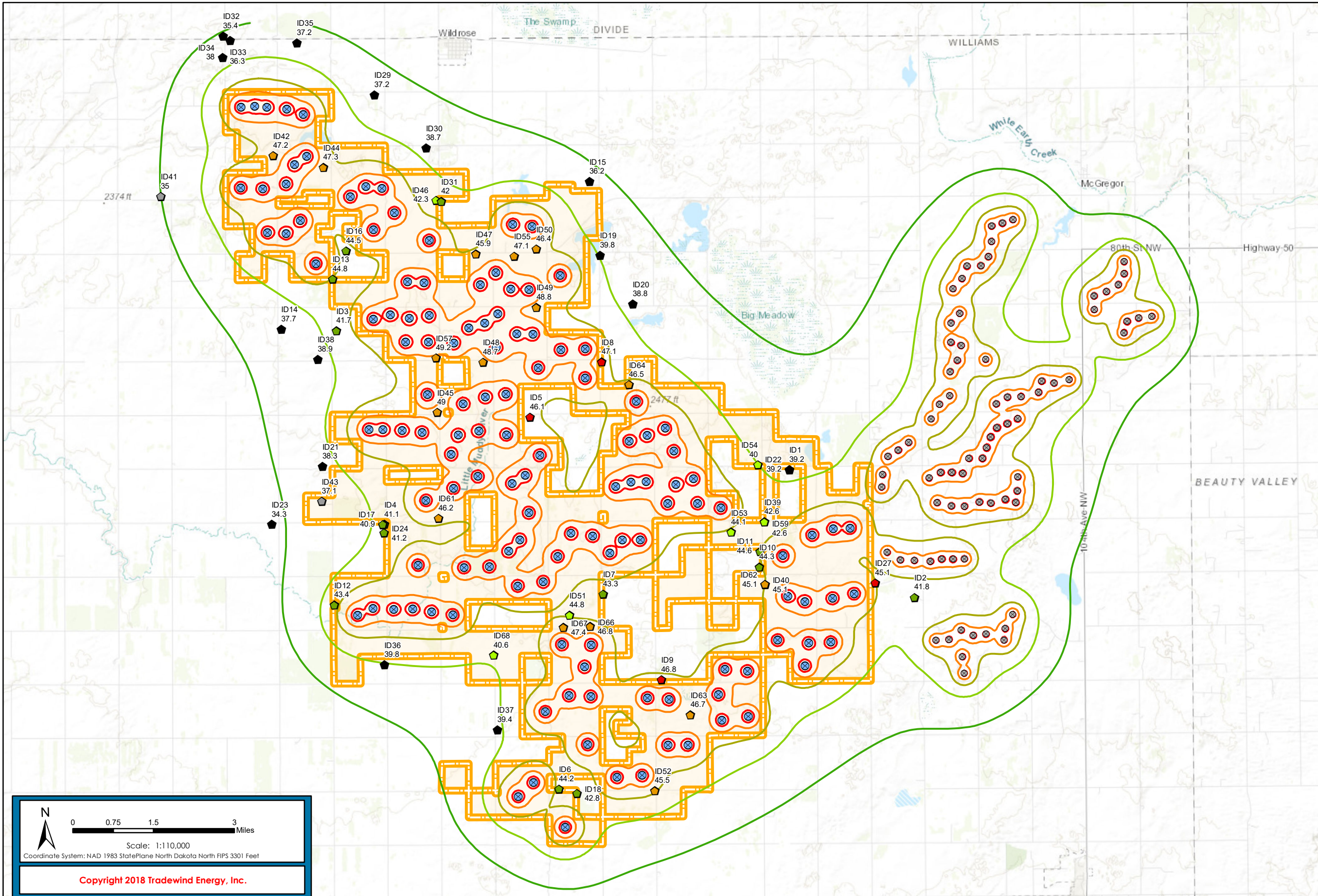
- Sound Level (dBA)
- Below 39.99
 - 40.00 - 45.00
 - 45.01+

Sound Receptor (Participating)

- Sound Level (dBA)
- Below 39.99
 - 40.00 - 45.00
 - 45.01+

Sound Isolines

- Sound Level (dBA)
- 35
 - 40
 - 45
 - 50
 - 55



Scale: 1:110,000
 Coordinate System: NAD 1983 StatePlane North Dakota North FIPS 3301 Feet
 Copyright 2018 Tradewind Energy, Inc.

The following companies and organizations provided data that contributed to the production of this map.

- U.S. Geological Survey (USGS)
- Environmental Systems Research Institute (ESRI)
- U.S. Department of Agriculture (USDA)
- U.S. Federal Aviation Administration (FAA)
- WhiteStar Corporation
- CoreLogic
- Ventix Inc.

windPRO Sound Reports

DECIBEL - Main Result

Calculation: SG132-3.465

Noise calculation model:
 ISO 9613-2 General

Wind speed:
 95% rated power

Ground attenuation:
 General, fixed, Ground factor: 0.5

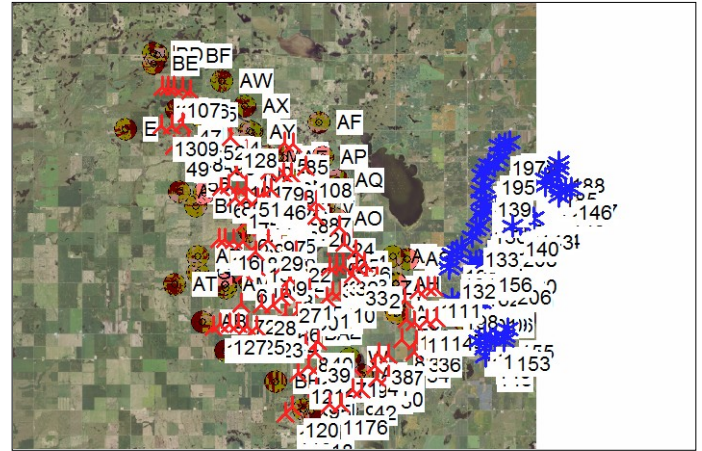
Meteorological coefficient, CO:
 0.0 dB

Type of demand in calculation:
 1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:
 All noise values are mean values (Lwa) (Normal)

Pure tones:
 Pure and Impulse tone penalty are added to WTG source noise
 Height above ground level, when no value in NSA object:
 1.5 m Don't allow override of model height with height from NSA object

Deviation from "official" noise demands. Negative is more restrictive,
 positive is less restrictive.:
 0.0 dB(A)



Scale 1:500,000

- ▲ New WTG
- ✳ Existing WTG
- Noise sensitive area

WTGs

X(East)	Y(North)	Z	Row data/Description	WTG type			Noise data				Wind speed [m/s]	Lwa,ref [dB(A)]	Pure tones	
				Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Creator				Name
1	637,619	5,373,512	727.5 T-43	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
2	642,085	5,374,363	728.5 T-41	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
3	641,252	5,375,220	737.7 T-63	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
4	640,729	5,375,038	740.7 T-62	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
5	635,764	5,372,945	724.6 T-45	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
6	636,817	5,372,047	728.5 T-35	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
7	635,193	5,372,473	710.2 T-47	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
8	636,346	5,374,109	734.6 T-56	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
9	635,830	5,374,972	728.5 T-55	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
10	639,692	5,373,363	740.7 T-39	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
11	639,157	5,373,344	739.4 T-38	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
12	638,790	5,372,951	734.6 T-37	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
13	633,988	5,375,810	737.6 T-70	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
14	640,372	5,376,713	738.1 T-77	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
15	634,074	5,374,798	721.2 T-53	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
16	631,934	5,376,511	728.5 T-67	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
17	631,510	5,376,507	731.5 T-66	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
18	633,108	5,376,447	737.6 T-69	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
19	632,563	5,379,145	737.6 T-93	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
20	637,951	5,378,169	715.2 T-80	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
21	641,389	5,374,486	743.7 T-38	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
22	636,640	5,375,835	734.6 T-73	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
23	643,972	5,372,967	712.3 T-28	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
24	639,495	5,377,499	738.7 T-78	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
25	639,840	5,376,489	737.6 T-76	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
26	640,649	5,376,031	731.5 T-79	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
27	636,095	5,373,292	733.9 T-46	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
28	634,438	5,372,432	701.0 T-57	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
29	634,798	5,376,526	725.4 T-71	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
30	638,928	5,374,941	737.6 T-59	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
31	639,384	5,375,074	737.6 T-60	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
32	639,838	5,375,100	737.6 T-61	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
33	640,492	5,374,466	743.6 T-40	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
34	644,695	5,369,685	736.0 T-15	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
35	644,792	5,370,371	743.7 T-16	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
36	645,456	5,370,405	735.1 T-17	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
37	642,975	5,369,494	737.6 T-12	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
38	642,303	5,369,536	734.9 T-13	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
39	638,102	5,369,527	710.5 T-26	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
40	638,282	5,370,192	712.5 T-25	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
41	642,122	5,368,780	734.6 T-10	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
42	641,239	5,367,252	719.1 T-8	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
43	633,243	5,379,162	737.6 T-94	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
44	634,001	5,379,136	737.6 T-95	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
45	634,443	5,379,605	731.5 T-96	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
46	634,918	5,379,749	728.5 T-121	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No
47	629,136	5,384,387	713.2 T-142	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%)	108.0	No

To be continued on next page...

Project: Aurora
 Description:

Licensed user:
 TradeWind Energy, Inc
 16105 W. 113th Street, Suite 105
 US-LENEXA, KS 66219
 +1 913 424 5308
 Kevin Walter / kwalter@tradewindenergy.com
 Calculated:
 9/15/2018 12:54 AM/3.0.654

DECIBEL - Main Result

Calculation: SG132-3.465

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type			Noise data			Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones		
					Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]				Creator	Name
48	629,347	5,382,713	710.2	T-131	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
49	628,366	5,382,343	707.1	T-129	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
50	628,893	5,383,804	717.2	T-141	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
51	633,253	5,379,950	729.4	T-123	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
52	630,815	5,383,459	711.9	T-144	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
53	631,275	5,383,767	710.7	T-145	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
54	631,767	5,383,732	713.2	T-146	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
55	635,699	5,382,724	710.2	T-122	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
56	629,834	5,381,441	713.0	T-117	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
57	628,526	5,382,328	703.0	T-130	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
58	638,268	5,373,457	731.5	T-44	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
59	635,628	5,376,434	728.5	T-72	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
60	639,307	5,376,310	731.5	T-75	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
61	636,056	5,371,908	719.3	T-34	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
62	636,215	5,375,218	713.5	T-74	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
63	633,243	5,377,581	731.5	T-81	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
64	631,582	5,379,814	726.8	T-98	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
65	635,586	5,377,640	728.5	T-85	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
66	634,183	5,376,389	733.5	T-86	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
67	636,542	5,378,452	715.1	T-87	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
68	633,261	5,374,418	716.3	T-51	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
69	640,641	5,368,602	728.5	T-23	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
70	643,024	5,368,138	728.5	T-11	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
71	639,998	5,368,634	725.4	T-22	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
72	633,064	5,372,478	698.0	T-5	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
73	642,243	5,368,015	730.6	T-9	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
74	635,270	5,379,029	725.4	T-90	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
75	635,883	5,379,448	720.6	T-91	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
76	636,364	5,379,455	716.0	T-92	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
77	633,072	5,380,925	729.9	T-106	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
78	632,659	5,379,855	737.2	T-100	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
79	634,758	5,380,905	718.9	T-107	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
80	632,089	5,379,958	731.5	T-99	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
81	629,494	5,384,648	709.6	T-143	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
82	635,222	5,381,271	716.3	T-108	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
83	635,678	5,380,785	716.0	T-109	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
84	636,220	5,380,785	716.3	T-110	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
85	636,276	5,382,673	710.2	T-124	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
86	637,208	5,379,005	710.9	T-88	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
87	637,941	5,379,046	713.2	T-89	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
88	643,859	5,370,443	732.3	T-14	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
89	637,408	5,370,185	701.0	T-24	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
90	637,234	5,372,817	719.9	T-42	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
91	632,509	5,376,501	722.8	T-68	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
92	638,306	5,368,644	716.3	T-21	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
93	637,648	5,368,666	713.2	T-20	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
94	640,643	5,367,238	719.3	T-19	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
95	638,242	5,367,207	710.2	T-18	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
96	634,318	5,377,326	731.6	T-83	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
97	634,979	5,377,549	725.3	T-84	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
98	634,798	5,375,163	713.2	T-54	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
99	631,532	5,382,484	707.7	T-118	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
100	633,206	5,382,201	722.4	T-120	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
101	632,585	5,380,949	731.5	T-105	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
102	635,298	5,380,049	728.5	T-97	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
103	627,504	5,386,079	711.3	T-147	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
104	627,911	5,386,105	710.2	T-148	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
105	629,368	5,385,888	704.0	T-149	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
106	628,867	5,386,049	710.2	T-150	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
107	628,269	5,386,086	711.9	T-151	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
108	637,149	5,381,224	704.1	T-152	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
109	644,833	5,373,605	713.9	T-153	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
110	645,462	5,373,811	728.5	T-154	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
111	645,966	5,373,838	730.1	T-155	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
112	644,144	5,371,765	710.2	T-156	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
113	644,660	5,371,616	715.4	T-157	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
114	645,479	5,371,724	719.3	T-158	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
115	646,127	5,371,875	717.1	T-159	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
116	639,890	5,366,309	710.2	T-160	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2)	(13 m/s) (95%)	108.0	No
117	639,135	5,366,239	709.0	T-161	Yes	GAMESA	G132-3,465	3,							

Project: Aurora Description:

Aurora

Licensed user:

TradeWind Energy, Inc
 16105 W. 113th Street, Suite 105
 US-LENEXA, KS 66219
 +1 913 424 5308
 Kevin Walter / kwalter@tradewindenergy.com
 Calculated:
 9/15/2018 12:54 AM/3.0.654

DECIBEL - Main Result

Calculation: SG132-3.465

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type			Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Noise data		Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones
					Valid	Manufac.	Type-generator				Creator	Name			
124	632,359	5,371,139	688.8	T-168	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%) 108.0	No	
125	632,926	5,371,158	686.0	T-169	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%) 108.0	No	
126	631,283	5,370,947	682.8	T-170	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%) 108.0	No	
127	631,732	5,371,159	684.7	T-171	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%) 108.0	No	
128	632,154	5,382,999	713.2	T-172	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%) 108.0	No	
129	628,195	5,383,647	711.6	T-173	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%) 108.0	No	
130	627,535	5,383,666	710.2	T-174	Yes	GAMESA	G132-3,465	3,465	132.0	114.0	USER	Loudest Octave + 2dB (106.1+2) (13 m/s)	(95%) 108.0	No	
131	646,913	5,375,455	745.7	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
132	646,888	5,375,080	743.7	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
133	648,328	5,377,151	749.8	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
134	648,570	5,377,592	749.8	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
135	648,872	5,377,853	752.9	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
136	648,872	5,378,572	753.8	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
137	649,189	5,379,368	749.8	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
138	648,868	5,380,034	743.7	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
139	649,124	5,380,328	729.4	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
140	651,007	5,377,868	748.7	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
141	651,525	5,378,000	750.5	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
142	651,616	5,378,348	758.5	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
143	651,987	5,378,290	755.6	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
144	652,436	5,378,405	749.8	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
145	654,047	5,379,834	743.7	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
146	654,478	5,380,290	740.6	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
147	654,876	5,380,346	731.4	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
148	649,468	5,369,552	735.9	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
149	649,403	5,370,046	745.1	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
150	648,989	5,370,563	740.7	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
151	649,348	5,370,846	749.8	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
152	649,714	5,370,690	746.8	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
153	650,635	5,370,574	746.1	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
154	650,667	5,370,918	744.2	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
155	650,882	5,371,340	743.7	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
156	649,309	5,375,532	733.1	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
157	649,484	5,375,990	732.8	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
158	649,889	5,375,994	741.6	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
159	650,008	5,376,322	740.0	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
160	650,956	5,375,465	750.7	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
161	648,982	5,374,557	737.6	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
162	648,553	5,374,643	733.0	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
163	648,903	5,381,054	722.4	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
164	649,170	5,381,363	721.8	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
165	649,950	5,382,038	713.3	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
166	650,030	5,382,496	712.9	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
167	650,267	5,377,632	746.8	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
168	650,119	5,376,640	740.5	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
169	650,663	5,383,159	707.1	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
170	650,947	5,375,049	753.6	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
171	650,911	5,374,694	758.6	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
172	650,163	5,374,664	746.8	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
173	649,378	5,374,555	741.2	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
174	649,818	5,374,694	743.7	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
175	650,613	5,377,049	737.7	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
176	649,406	5,372,982	725.6	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
177	647,909	5,372,903	716.3	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
178	647,487	5,372,910	715.5	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
179	647,672	5,376,428	744.3	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
180	647,365	5,376,192	740.8	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
181	649,728	5,381,758	721.2	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
182	650,599	5,377,842	746.4	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
183	653,143	5,380,511	713.2	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
184	653,130	5,380,927	710.2	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
185	653,497	5,381,062	704.6	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
186	653,850	5,381,276	700.8	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
187	654,022	5,381,604	696.2	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
188	654,011	5,381,966	694.9	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
189	648,594	5,370,523	731.5	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
190	650,092	5,370,737	743.7	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
191	647,056	5,376,002	741.1	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
192	654,134	5,380,179	733.9	VESTAS V100 2000 100.0 !...	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%) 107.0	No	
193	648,870</														

DECIBEL - Main Result

Calculation: SG132-3.465

...continued from previous page

X(East)	Y(North)	Z	Row data/Description	WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Noise data		Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones
				Valid	Manufact.				Type-generator	Creator			
200	648,724	5,372,961	720.0 VESTAS V100 2000 100.0 !... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
201	648,383	5,372,886	719.3 VESTAS V100 2000 100.0 !... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
202	648,975	5,375,560	735.2 VESTAS V100 2000 100.0 !... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
203	648,641	5,375,554	726.1 VESTAS V100 2000 100.0 !... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
204	648,297	5,375,376	728.5 VESTAS V100 2000 100.0 !... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
205	649,928	5,378,956	741.8 VESTAS V100 2000 100.0 !... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
206	650,591	5,374,779	748.5 VESTAS V100 2000 100.0 !... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
207	650,301	5,376,922	735.1 VESTAS V100 2000 100.0 !... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
208	650,917	5,377,197	740.0 VESTAS V100 2000 100.0 !... Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No

Calculation Results

Sound Level

No.	Name	X(East)	Y(North)	Z [m]	Imission height [m]	Demands Noise [dB(A)]	Sound Level From WTGs [dB(A)]	Distance to noise demand [m]	Demands fulfilled ? Noise
B 39 - Participating	643,400	5,373,971	711.5	1.5	50.0	38.1	982	Yes	
C 2 - Non-Participating	647,930	5,371,801	718.0	1.5	50.0	40.7	890	Yes	
D 40 - Participating	643,453	5,372,099	716.3	1.5	50.0	40.5	587	Yes	
E 41 - Participating	625,162	5,383,364	711.9	1.5	50.0	29.4	2,216	Yes	
F 42 - Participating	628,500	5,384,644	704.1	1.5	50.0	42.5	492	Yes	
G 43 - Participating	630,148	5,374,327	691.9	1.5	50.0	31.4	2,390	Yes	
H 44 - Participating	629,997	5,384,325	711.4	1.5	50.0	42.6	408	Yes	
I 3 - Non-Participating	630,488	5,379,437	722.7	1.5	50.0	36.8	978	Yes	
J 4 - Non-Participating	632,031	5,373,676	696.3	1.5	50.0	36.0	1,265	Yes	
K 45 - Participating	633,554	5,377,057	735.4	1.5	50.0	44.3	427	Yes	
L 46 - Participating	633,395	5,383,413	715.7	1.5	50.0	37.4	1,052	Yes	
M 47 - Participating	634,615	5,381,825	716.9	1.5	50.0	41.2	634	Yes	
N 48 - Participating	634,891	5,378,584	728.5	1.5	50.0	44.0	392	Yes	
O 5 - Non-Participating	636,328	5,376,974	731.5	1.5	50.0	41.4	699	Yes	
P 49 - Participating	636,455	5,380,259	709.9	1.5	50.0	44.1	387	Yes	
Q 50 - Participating	636,416	5,382,006	707.4	1.5	50.0	41.7	504	Yes	
R 51 - Participating	637,621	5,371,070	716.6	1.5	50.0	40.0	732	Yes	
S 6 - Non-Participating	637,411	5,365,868	713.2	1.5	50.0	39.5	613	Yes	
T 52 - Participating	640,276	5,365,862	710.2	1.5	50.0	40.8	415	Yes	
U 7 - Non-Participating	638,615	5,371,717	720.3	1.5	50.0	38.4	1,060	Yes	
V 8 - Non-Participating	638,435	5,378,666	709.4	1.5	50.0	42.4	444	Yes	
W 9 - Non-Participating	640,413	5,369,191	728.5	1.5	50.0	42.1	449	Yes	
X 10 - Non-Participating	643,279	5,372,615	722.4	1.5	50.0	39.8	598	Yes	
Y 11 - Non-Participating	643,282	5,373,088	726.9	1.5	50.0	40.1	522	Yes	
Z 53 - Participating	642,413	5,373,644	734.1	1.5	50.0	39.5	610	Yes	
AA 54 - Participating	643,167	5,375,685	714.9	1.5	50.0	35.6	1,533	Yes	
AB 12 - Non-Participating	630,584	5,371,240	682.8	1.5	50.0	38.6	580	Yes	
AC 13 - Non-Participating	630,347	5,380,996	717.6	1.5	50.0	40.0	507	Yes	
AD 14 - Non-Participating	628,838	5,379,465	705.2	1.5	50.0	32.1	2,041	Yes	
AE 55 - Participating	635,760	5,381,775	711.0	1.5	50.0	42.5	551	Yes	
AF 15 - Non-Participating	637,972	5,384,054	715.8	1.5	50.0	30.7	2,011	Yes	
AG 57 - Participating	633,480	5,378,691	739.8	1.5	50.0	44.6	334	Yes	
AH 59 - Participating	643,400	5,373,968	711.4	1.5	50.0	38.1	979	Yes	
AI 61 - Participating	633,645	5,373,895	713.7	1.5	50.0	41.4	473	Yes	
AJ 62 - Participating	643,453	5,372,097	716.3	1.5	50.0	40.5	586	Yes	
AK 63 - Participating	641,300	5,368,154	725.4	1.5	50.0	42.1	618	Yes	
AL 16 - Non-Participating	630,734	5,381,835	710.2	1.5	50.0	39.7	809	Yes	
AM 17 - Non-Participating	631,989	5,373,670	695.8	1.5	50.0	35.9	1,304	Yes	
AN 18 - Non-Participating	637,954	5,365,740	710.2	1.5	50.0	38.1	904	Yes	
AO 64 - Participating	639,268	5,377,996	720.6	1.5	50.0	41.7	375	Yes	
AP 19 - Non-Participating	638,331	5,381,857	701.5	1.5	50.0	34.7	1,167	Yes	
AQ 20 - Non-Participating	639,333	5,380,415	707.1	1.5	50.0	33.6	1,776	Yes	
AR 21 - Non-Participating	630,142	5,375,377	701.9	1.5	50.0	32.9	1,594	Yes	

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DECIBEL - Main Result

Calculation: SG132-3.465

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Noise sensitive area

No.	Name	X(East)	Y(North)	Z [m]	Emission height [m]	Demands			Distance to noise demand [m]	Demands fulfilled ? Noise
						Noise [dB(A)]	From WTGs [dB(A)]	Sound Level		
AS 22 - Non-Participating	644,117	5,375,554	701.3	1.5	50.0	35.4	1,895	Yes		
AT 23 - Non-Participating	628,666	5,373,611	682.8	1.5	50.0	28.1	3,554	Yes		
AU 24 - Non-Participating	632,030	5,373,428	696.5	1.5	50.0	36.1	1,231	Yes		
AV 27 - Non-Participating	646,754	5,372,213	713.2	1.5	50.0	42.0	532	Yes		
AW 29 - Non-Participating	631,486	5,386,533	696.9	1.5	50.0	31.9	2,032	Yes		
AX 30 - Non-Participating	633,067	5,384,963	707.0	1.5	50.0	33.5	1,606	Yes		
AY 31 - Non-Participating	633,553	5,383,375	714.8	1.5	50.0	37.1	1,049	Yes		
AZ 66 - Participating	638,244	5,370,747	710.8	1.5	50.0	42.1	378	Yes		
BA 67 - Participating	637,448	5,370,698	712.2	1.5	50.0	42.7	337	Yes		
BB 68 - Participating	635,378	5,369,828	692.6	1.5	50.0	35.5	1,539	Yes		
BC 32 - Non-Participating	626,925	5,388,203	701.4	1.5	50.0	30.2	2,009	Yes		
BD 33 - Non-Participating	627,137	5,388,066	701.0	1.5	50.0	31.2	1,826	Yes		
BE 34 - Non-Participating	626,921	5,387,556	704.1	1.5	50.0	33.1	1,397	Yes		
BF 35 - Non-Participating	629,137	5,388,039	693.3	1.5	50.0	32.1	1,816	Yes		
BG 36 - Non-Participating	632,118	5,369,480	691.6	1.5	50.0	34.8	1,486	Yes		
BH 37 - Non-Participating	635,531	5,367,600	699.2	1.5	50.0	34.3	1,357	Yes		
BI 38 - Non-Participating	629,941	5,378,583	713.2	1.5	50.0	33.5	1,872	Yes		

Distances (m)

WTG	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	6810	5799	10452	6003	15882	14390	7516	13229	9271	5591	5393	10764	8839	5759	3695	6847	8579	2442	7647	8099	2053	5218
2	2355	1372	6382	2645	19168	17037	11937	15664	12659	10077	8946	12547	10558	8341	6322	8153	9516	5546	9696	8691	4363	5643
3	2883	2484	7503	3819	18034	15857	11140	14477	11561	9350	7914	11352	9363	7196	5227	6957	8333	5514	10110	9409	4385	4451
4	3426	2876	7896	4008	17654	15551	10605	14192	11146	8804	7453	11132	9134	6830	4808	6747	8195	5040	9752	9188	3937	4293
5	8751	7705	12221	7736	14865	13771	5783	12758	8366	3804	4668	10733	8954	5707	4069	7347	9085	2639	7266	8398	3105	6315
6	8098	6859	11117	6637	16245	15095	7047	14045	9729	5055	5978	11870	10022	6815	4951	8220	9967	1266	6207	7087	1829	6814
7	9440	8343	12755	8269	14807	13890	5375	12941	8404	3383	4868	11086	9369	6119	4642	7888	9611	2805	6968	8340	3505	6990
8	7903	7055	11812	7386	14517	13136	6202	12028	7919	4337	4060	9760	7907	4706	2865	6151	7897	3296	8310	9136	3297	5013
9	8306	7636	12509	8146	13573	12136	5719	11023	6962	4014	3086	8785	6960	3732	2063	5324	7059	4294	9240	10137	4284	4520
10	4937	3758	8385	3968	17639	15891	9592	14634	11028	7667	7164	11860	9868	7093	4935	7618	9243	3089	7834	7524	1967	5450
11	5429	4289	8908	4473	17213	15533	9063	14300	10596	7134	6722	11601	9620	6757	4602	7424	9085	2744	7677	7566	1715	5371
12	5928	4721	9212	4740	17151	15577	8751	14377	10536	6798	6654	11771	9807	6851	4717	7673	9362	2214	7216	7243	1246	5726
13	10131	9590	14507	10166	11618	10400	4117	9404	5041	2896	1320	7626	6047	2917	2613	5087	6655	5972	10515	11769	6178	5285
14	3919	4084	9014	5548	16601	14278	10499	12869	10253	8877	6827	9673	7699	5792	4053	5284	6609	6278	11242	10852	5296	2752
15	10070	9362	14177	9760	12361	11314	3955	10362	5863	2331	2318	8641	7047	3873	3132	5957	7579	5146	9533	10878	5488	5829
16	12220	11744	16676	12335	9635	8829	2821	8051	3264	2836	1710	7055	5953	3612	4418	5873	7092	7871	11969	13528	8224	6849
17	12642	12158	17082	12731	9344	8676	2570	7963	3104	2878	2118	7159	6159	3969	4841	6208	7370	8180	12166	13790	8569	7254
18	11044	10585	15533	11221	10535	9404	3641	8470	3976	2973	756	6972	5585	2783	3262	5073	6469	7020	11420	12784	7260	5770
19	12098	12009	17033	12971	8519	6837	5389	5781	2095	5495	2311	4349	3376	2395	4346	4049	4800	9529	14134	15360	9582	5892
20	6696	6878	11838	8193	13804	11457	8699	10058	7570	7433	4536	6946	4949	3088	2016	2570	4133	7107	12313	12526	6487	693
21	2928	2075	7071	3156	18497	16411	11243	15053	11973	9394	8246	11983	9987	7683	5640	7595	9016	5086	9492	8696	3920	5119
22	7481	7012	11989	7770	13728	11995	6665	10781	7129	5090	3319	8244	6323	3259	1181	4429	6176	4865	9996	10615	4567	3352
23	2591	1156	4127	1011	21493	19385	13891	18009	14956	11962	11192	14866	12885	10678	8631	10473	11782	6628	9666	8009	5501	7947
24	5014	5263	10180	6696	15486	13113	9871	11696	9213	8386	5957	8496	6521	4730	3210	4106	5458	6697	11816	11664	5849	1577
25	4376	4360	9350	5685	16209	13969	9931	12582	9806	8301	6312	9460	7468	5375	3546	5067	6494	5856	10895	10636	4927	2592
26	3500	3437	8421	4830	17135	14892	10639	13500	10716	8934	7168	10349	8365	6298	4423	5955	7322	5812	10667	10177	4770	3442
27	8334	7337	11929	7454	14865	13659	6036	12606	8319	4082	4542	10475	8660	5428	3690	6977	8720	2696	7539	8526	2972	5862
28	10169	9093	13507	9021	14338	13579	4690	12695	8042	2710	4709	11030	9394	6169	4919	8083	9776	3462	7206	8789	4238	7405
29	9368	8973	13956	9721	11816	10275	5144	9158	5201	3973	1353	7028	5302	2060	1594	4084	5714	6143	10973	11989	6140	4219
30	5224	4576	9535	5344	16138	14244	8801	12955	9563	7012	5775	10119	8123	5438	3300	5865	7499	4085	9198	9179	3239	3758
31	4756	4165	9152	5041	16461	14493	9266	13179	9908	7484	6157	10266	8265	5701	3598	5955	7540	4375	9415	9256	3444	3715
32	4302	3737	8739	4699	16843	14820	9721	13489	10307	7936	6581	10517	8515	6050	3979	6169	7707	4599	9546	9249	3597	3832
33	3784	2950	7902	3791	17725	15729	10345	14400	11171	8498	7406	11420	9417	6952	4861	7061	8571	4447	9133	8607	3329	4677
34	5898	4478	3866	2715	23847	22047	15270	20745	17232	13278	13359	17781	15779	13241	11097	13406	14845	7208	8224	5844	6410	10948
35	5227	3860	3449	2186	23540	21660	15169	20337	16935	13182	13076	17320	15322	12864	10735	12933	14336	7204	8647	6382	6322	10451
36	5321	4117	2841	2623	24079	22142	15802	20803	17482	13818	13635	17739	15746	13361	11246	13346	14708	7863	9236	6890	6965	10842
37	6166	4497	5466	2648	22576	20954	13707	19708	15962	11716	12081	16897	14898	12165	10007	12586	14127	5581	6642	4526	4894	10234
38	6285	4569	6066	2809	22024	20465	13066	19240	15416	11075	11538	16490	14496	11697	9541	12214	13790	4927	6115	4197	4285	9916
39	8514	6915	10088	5936	18945	17909	9290	16872	12498	7354	8797	14662	12783	9610	7655	10858	12593	1616	3724	4261	2249	9145
40	7923	6362	9781	5511	18592	17452	9125	16383	12092	7157	8336	14095	12197	9051	7058	10232	11961	1099	4411	4767	1560	8476
41	7061	5346	6547	3576	22368	20910	13196	19714	15777	11216	11913	17037	15050	12182	10035	12802	14404	5049	5539	3453	4574	10551
42	8786	7058	8091	5328	22761	21559	13155	20442	16250	11227	12458	17964	16007	12989	10892	13859	15522	5260	4071	1691	5178	11754

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DECIBEL - Main Result

Calculation: SG132-3.465

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Table with columns WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V. Contains numerical data for wind turbine performance across various parameters.

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DECIBEL - Main Result

Calculation: SG132-3.465

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Table with columns WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V. Contains numerical data for wind turbine performance across various parameters.

To be continued on next page...

DECIBEL - Main Result

Calculation: SG132-3.465

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Table with 22 columns (WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V) and 28 rows of numerical data.

Table with 22 columns (WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR) and 39 rows of numerical data.

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DECIBEL - Main Result

Calculation: SG132-3.465

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Table with columns WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR. Contains 108 rows of numerical data representing decibel measurements across various wind turbine weights and directions.

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DECIBEL - Main Result

Calculation: SG132-3.465

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Table with columns WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR. Rows 109-177 containing numerical data for each category.

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DECIBEL - Main Result

Calculation: SG132-3.465

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WTG	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
178	7993	4219	4209	5127	5134	16986	18953	19768	14701	14654	15153	4222	13878	4115	7805	18983	15517	11929	9665	12802	11082	17520
179	10251	5817	5516	5950	4566	17859	17918	19078	13058	12339	14372	4930	14255	6046	10444	17781	15924	14445	8549	10805	9243	17561
180	9867	5431	5129	5569	4228	17497	17684	18814	12878	12249	14108	4547	13912	5663	10070	17562	15581	14065	8295	10664	9074	17242
181	15644	11190	10804	10925	8941	21844	19397	21016	13968	11978	16535	10037	17903	11521	16004	18995	19496	19880	11116	11398	10481	20600
182	13365	8995	8726	9200	7739	21077	20497	21822	15352	14073	17141	8176	17408	9169	13429	20263	19072	17503	11332	12909	11556	20605
183	17036	12636	12343	12740	11082	24391	22802	24328	17429	15579	19747	11737	20591	12833	17117	22449	22233	21187	14101	14874	13810	23567
184	17305	12890	12587	12958	11258	24540	22784	24336	17391	15477	19777	11963	20716	13100	17410	22415	22352	21470	14168	14829	13806	23649
185	17668	13258	12959	13337	11646	24930	23151	24711	17752	15811	20157	12341	21107	13463	17760	22776	22743	21826	14555	15187	14179	24037
186	18073	13667	13369	13750	12058	25339	23505	25078	18097	16119	20534	12753	21512	13869	18158	23123	23147	22228	14946	15530	14542	24431
187	18421	14009	13707	14076	12364	25629	23684	25276	18264	16237	20749	13083	21788	14216	18515	23290	23419	22580	15189	15694	14738	24679
188	18658	14235	13926	14275	12531	25766	23685	25297	18252	16174	20791	13288	21907	14452	18771	23278	23533	22828	15268	15681	14759	24762
189	8289	5712	5899	6925	7490	18025	21040	21686	17069	17202	17180	6233	15325	5376	7670	21141	16900	11666	11951	15291	13550	19080
190	9802	7067	7205	8211	8511	19515	22252	22977	18091	18007	18418	7432	16748	6777	9164	22314	18339	13126	13033	16187	14472	20482
191	9515	5073	4768	5207	3902	17147	17440	18545	12686	12139	13840	4184	13576	5313	9733	17334	15246	13717	8039	10508	8895	16926
192	17579	13231	12964	13420	11852	25191	23802	25307	18444	16620	20708	12402	21432	13394	17588	23459	23082	21686	15025	15893	14803	24468
193	13298	8833	8469	8685	6835	20046	18589	20033	13315	11830	15410	7746	16208	9135	13600	18293	17844	17527	9712	10811	9586	19167
194	13024	8562	8218	8497	6736	20024	18848	20249	13624	12239	15601	7531	16230	8838	13277	18577	17876	17242	9854	11145	9861	19264
195	15381	10936	10542	10633	8623	21467	18977	20597	13549	11571	16119	9762	17518	11280	15770	18575	19107	19618	10715	10979	10063	20195
196	17048	12599	12208	12301	10282	23021	20105	21805	14642	12415	17420	11431	19044	12938	17424	19650	20613	21285	12174	12075	11323	21611
197	16787	12345	11950	12025	9992	22696	19772	21469	14310	12099	17082	11164	18716	12691	17181	19320	20283	21024	11842	11742	10986	21275
198	7753	3846	3808	4706	4682	16615	18500	19321	14253	14230	14703	3785	13468	3781	7634	18529	15111	11750	9213	12366	10642	17097
199	9434	5792	5780	6683	6493	18558	20367	21244	15957	15686	16602	5750	15445	5674	9129	20363	17087	13248	11012	13939	12256	19073
200	9127	5457	5444	6349	6189	18223	20058	20923	15677	15449	16286	5419	15109	5342	8845	20060	16750	12967	10713	13681	11990	18739
201	8785	5111	5105	6018	5919	17875	19776	20623	15439	15268	15994	5099	14773	4992	8518	19789	16412	12642	10450	13474	11772	18410
202	10672	6413	6207	6837	5810	18893	19406	20513	14605	13901	15809	5799	15421	6518	10666	19291	17091	14762	10008	12368	10796	18834
203	10402	6115	5899	6514	5475	18566	19087	20186	14305	13642	15482	5476	15088	6234	10424	18977	16758	14509	9686	12085	10501	18500
204	10021	5728	5512	6134	5139	18191	18811	19885	14077	13488	15184	5096	14728	5850	10056	18714	16397	14136	9402	11889	10283	18155
205	13635	9188	8866	9203	7510	20827	19688	21096	14446	12997	16450	8216	17052	9433	13825	19409	18701	17834	10703	11955	10695	20107
206	11611	7626	7502	8256	7479	20318	21178	22252	16399	15661	17553	7237	16970	7625	11411	21074	18635	15537	11771	14157	12590	20458
207	12552	8238	7998	8542	7241	20520	20367	21614	15330	14244	16914	7507	16930	8377	12566	20175	18599	16658	11085	12949	11511	20218
208	13208	8908	8671	9217	7896	21189	20919	22196	15834	14650	17502	8182	17586	9040	13202	20710	19254	17301	11677	13422	12023	20855

WTG	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
1	6812	8954	5590	9227	14393	12323	10669	2835	2820	4312	18171	17936	17655	16822	6821	6270	9202
2	2356	13440	10098	5140	16139	13918	12411	5275	5910	8096	20528	20279	20101	18834	11098	9417	12857
3	2885	12689	9395	6270	14946	12725	11216	5390	5909	7974	19335	19086	18910	17639	10788	9529	11801
4	3428	12147	8847	6655	14750	12539	11001	4959	5441	7468	19076	18827	18638	17419	10249	9074	11356
5	8752	7129	3765	11015	14246	12318	10663	3314	2808	3140	17634	17409	17079	16485	5029	5350	8106
6	8100	8299	4982	9939	15436	13450	11789	1931	1490	2644	18944	18716	18397	17741	5354	4629	9487
7	9441	6625	3304	11564	14541	12670	11025	3506	2871	2652	17771	17551	17203	16703	4291	4885	8057
8	7905	7697	4370	10579	13341	11339	9678	3861	3585	4389	16953	16721	16422	15685	6270	6560	7813
9	8308	7292	4102	11267	12351	10366	8707	4866	4571	5164	15949	15717	15419	14682	6629	7378	6908
10	4938	11029	7662	7155	15518	13359	11745	2990	3484	5577	19577	19334	19094	18078	8511	7108	11061
11	5430	10495	7128	7681	15258	13119	11491	2753	3150	5162	19247	19006	18754	17787	8030	6793	10602
12	5929	10146	6777	7998	15422	13306	11667	2270	2622	4625	19324	19086	18821	17913	7521	6265	10490
13	10133	5759	3084	13263	11011	9199	7578	6614	6173	6141	14265	14041	13709	13156	6601	8354	4907
14	3920	12111	8966	7809	13245	11020	9534	6334	6688	8506	17688	17438	17278	15954	10975	10319	10598
15	10072	5537	2461	12941	12017	10215	8593	5814	5311	5139	15192	14972	14627	14132	5667	7344	5605
16	12222	4369	3084	15431	10033	8528	7053	8547	8013	7518	12720	12511	12130	11863	7033	9609	2875
17	12644	4059	3122	15838	10027	8599	7166	8862	8308	7718	12563	12359	11965	11774	7053	9772	2603
18	11046	5271	3206	14288	10216	8516	6943	7672	7204	6997	13283	13064	12716	12254	7037	9173	3821
19	12100	6768	5741	15794	7467	5840	4345	10139	9758	9733	10670	10442	10129	9532	9675	11920	2682
20	6698	10344	7586	10629	10572	8368	6816	7428	7489	8729	14909	14659	14484	13233	10466	10843	8022
21	2929	12754	9419	5826	15596	13381	11851	4886	5467	7605	19935	19686	19498	18271	10537	9041	12160
22	7482	8279	5201	10743	11876	9803	8149	5334	5200	6138	15728	15489	15227	14327	7800	8309	7242
23	2591	15320	11951	2882	18438	16213	14728	6143	6907	9149	22864	22614	22441	21149	12356	10003	15114
24	5016	11506	8503	8980	12073	9851	8357	6867	7103	8706	16510	16260	16102	14778	10896	10663	9616
25	4378	11539	8389	8129	13065	10849	9326	5960	6266	8017	17437	17188	17012	15748	10429	9878	10119
26	3501	12225	9004	7201	13938	11716	10213	5806	6220	8140	18344	18094	17925	16635	10756	9863	11008

DECIBEL - Main Result

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WTG	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
33	3785	11857	8525	6655	15058	12858	11293	4345	4844	6904	19308	19061	18856	17697	9746	8471	11326
34	5897	16503	13207	3260	21409	19200	17652	6538	7317	9318	25666	25420	25206	24062	12579	9398	17230
35	5226	16448	13123	2691	20935	18719	17188	6559	7351	9429	25243	24996	24794	23606	12705	9667	16971
36	5320	17093	13762	2226	21338	19117	17605	7220	8013	10094	25694	25446	25254	24027	13370	10314	17539
37	6166	14890	11631	4655	20551	18371	16778	4894	5656	7604	24651	24408	24166	23139	10857	7681	15891
38	6285	14233	10986	5193	20148	17981	16374	4236	4992	6931	24186	23945	23693	22710	10185	7044	15320
39	8515	10282	7218	9059	18248	16237	14577	1228	1341	2741	21766	21539	21215	20569	5984	3213	12191
40	7924	10206	7040	8709	17698	15665	14006	556	975	2927	21293	21064	20751	20054	6205	3780	11832
41	7061	14297	11111	5765	20696	18544	16925	4348	5051	6825	24662	24423	24158	23228	10028	6696	15636
42	8786	14089	11088	7418	21608	19506	17862	4602	5122	6402	25374	25141	24845	24054	9389	5719	16001
43	11458	7195	5861	15194	7578	5804	4225	9789	9452	9575	11030	10796	10509	9781	9747	11786	3352
44	10732	7681	6039	14511	7813	5902	4263	9401	9115	9409	11502	11263	11002	10146	9838	11637	4098
45	10489	8325	6631	14360	7533	5532	3874	9639	9401	9822	11421	11179	10946	9965	10388	12054	4617
46	10111	8762	6949	14032	7603	5533	3875	9597	9398	9932	11635	11389	11177	10107	10644	12164	5112
47	17392	10787	11335	21416	3182	3973	4531	16402	16016	15841	4410	4187	3866	3652	15203	17964	5860
48	16415	9128	9665	20330	4378	4347	4258	14912	14492	14227	6000	5791	5417	5330	13521	16330	4173
49	17153	8738	9639	20994	5224	5382	5289	15233	14769	14346	6035	5853	5410	5748	13399	16392	4076
50	17317	10197	10840	21293	3764	4331	4679	16061	15652	15408	4819	4609	4239	4242	14683	17511	5326
51	11720	7825	6636	15561	6817	5017	3439	10469	10159	10342	10401	10163	9898	9077	10531	12558	3584
52	15475	10081	10105	19508	3146	2708	2739	14724	14383	14375	6135	5895	5652	4878	14040	16546	4954
53	15244	10487	10367	19316	2774	2153	2311	14768	14455	14531	6213	5967	5772	4777	14313	16718	5354
54	14814	10586	10308	18903	2815	1790	1821	14511	14219	14366	6590	6341	6173	5046	14257	16566	5464
55	11058	11512	9994	15255	5680	3456	2243	12244	12153	12900	10345	10092	10021	8445	13720	15125	7093
56	15450	7917	8308	19273	5354	4781	4192	13605	13168	12869	7361	7153	6774	6635	12177	14967	2860
57	16634	8722	9427	20499	4923	4908	4744	14865	14419	14068	6206	6010	5599	5715	13240	16142	3881
58	6214	9604	6238	8576	14731	12628	10983	2710	2878	4639	18605	18367	18099	17206	7324	6465	9779
59	8535	7513	4688	11900	10916	8906	7245	6260	6018	6611	14638	14401	14125	13297	7790	8834	6080
60	4870	10978	7827	8500	12872	10669	9113	5663	5912	7579	17169	16921	16731	15525	9916	9493	9638
61	8847	7584	4304	10702	15323	13393	11738	2477	1845	2188	18680	18456	18120	17553	4626	4340	9053
62	7910	7718	4552	10959	12264	10241	8581	4910	4686	5455	15966	15732	15447	14646	7050	7649	7120
63	11062	6059	4327	14539	9123	7384	5803	8469	8067	8042	12359	12133	11810	11235	8179	10240	3451
64	13240	6855	6402	16970	6719	5359	4070	11252	10841	10684	9595	9372	9037	8581	10349	12837	2052
65	8783	8008	5513	12417	9793	7744	6085	7388	7188	7815	13660	13420	13169	12237	8867	10040	5724
66	9969	6178	3661	13247	10497	8646	7015	6952	6562	6669	13866	13638	13321	12696	7211	8892	4776
67	8112	9245	6752	11968	9533	7381	5760	7891	7807	8702	13696	13449	13246	12114	10003	10899	6602
68	10916	4666	1580	13672	12245	10547	8962	6189	5601	5055	15172	14959	14588	14232	5069	7186	5327
69	7773	12980	9871	7100	20133	18030	16386	3216	3819	5403	23924	23690	23399	22587	8568	5207	14633
70	7496	15366	12201	5524	21715	19552	17942	5446	6136	7831	25726	25486	25228	24268	10989	7513	16742
71	8053	12377	9299	7645	19820	17739	16089	2746	3280	4772	23534	23302	23002	22238	7925	4585	14147
72	11474	4542	1404	13693	14144	12486	10909	5462	4732	3518	16881	16677	16282	16050	3143	5466	6858
73	7769	14685	11559	6162	21417	19274	17649	4843	5494	7100	25343	25105	24833	23933	10230	6725	16219
74	9506	8543	6471	13355	8405	6330	4674	8800	8611	9202	12402	12158	11934	10900	10056	11432	5348
75	9109	9283	7148	13059	8339	6193	4567	9016	8890	9634	12526	12278	12086	10923	10656	11854	6005
76	8680	9665	7423	12665	8597	6420	4825	8908	8824	9677	12870	12621	12443	11222	10841	11884	6483
77	12282	8539	7569	16221	5828	4038	2497	11417	11125	11334	9527	9285	9045	8130	11485	13550	3911
78	12239	7412	6458	16033	6781	5125	3632	10684	10334	10389	10128	9895	9604	8910	10389	12587	3002
79	10781	9504	7959	14814	6511	4397	2749	10740	10556	11094	10707	10458	10280	9083	11726	13327	5348
80	12810	7211	6530	16585	6603	5100	3718	11078	10699	10650	9729	9501	9190	8604	10478	12828	2551
81	17221	11069	11503	21273	2742	3586	4253	16426	16059	15946	4386	4152	3883	3410	15394	18085	6082
82	10575	10083	8468	14665	6453	4275	2686	10950	10806	11445	10812	10561	10412	9101	12193	13675	5926
83	9929	10033	8212	14006	7115	4927	3351	10361	10242	10961	11474	11223	11070	9768	11853	13186	6146
84	9473	10418	8467	13581	7447	5235	3719	10240	10162	10989	11893	11641	11504	10139	12026	13203	6655
85	10592	11834	10174	14806	6152	3942	2812	12088	12033	12877	10864	10611	10553	8931	13833	15092	7541
86	7723	10103	7610	11716	9457	7257	5698	8322	8311	9357	13797	13548	13378	12115	10800	11527	7280
87	7096	10750	8155	11152	9886	7666	6164	8305	8363	9568	14325	14074	13924	12585	11199	11697	8013
88	5117	15520	12200	3393	20298	18092	16538	5624	6416	8504	24540	24295	24079	22944	11781	8801	16125
89	8593	9389	6280	9564	17388	15403	13743	1008	514	2061	20846	20621	20292	19677	5336	3194	11238
90	7408	8604	5239	9540	14872	12842	11182	2303	2130	3518	18521	18289	17989	17242	6107	5487	9297
91	11647	4809	3110	14877	10084	8480	6953	8124	7621	7264	12966	12751	12387	12021	7032	9400	3306
92	9029	10845	7892	9171	19146	17140	15480	2104	2226	3159	22630	22405	22075	21454	6244	2965	12992
93	9449	10254	7365	9772	18900	16929	15269	2165	2041	2550	22287	22065	21724	21161	5590	2371	12560

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WTG	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
94	9013	13567	10607	7880	21359	19277	17627	4251	4710	5868	25055	24824	24519	23772	8815	5125	15597
95	10208	11520	8791	9875	20473	18495	16835	3540	3580	3882	23852	23631	23287	22735	6532	2739	14083
96	9959	6764	4520	13447	9633	7739	6098	7662	7331	7573	13152	12919	12624	11900	8149	9801	4554
97	9354	7441	5067	12928	9640	7657	5999	7545	7283	7731	13356	13119	12849	12008	8561	9964	5144
98	9328	6326	3267	12314	11843	9952	8307	5601	5192	5366	15233	15006	14685	14066	6283	7598	5941
99	14367	9325	9070	18363	4050	2916	2208	13520	13188	13227	7344	7105	6856	6050	13017	15411	4213
100	12777	9717	8852	16833	4661	2765	1224	12514	12261	12563	8688	8439	8257	7116	12768	14785	4874
101	12732	8319	7541	16646	5692	4043	2612	11666	11346	11466	9201	8963	8703	7885	11479	13670	3548
102	9900	9244	7384	13880	7521	5397	3756	9758	9596	10222	11687	11439	11249	10089	11038	12452	5554
103	19668	12523	13437	23725	4008	5674	6626	18720	18316	18058	2201	2020	1588	2551	17229	20147	7882
104	19339	12518	13330	23411	3600	5281	6268	18511	18121	17909	2318	2107	1756	2290	17150	20013	7792
105	18010	12298	12742	22120	2213	3812	4881	17551	17206	17148	3366	3118	2962	2163	16638	19299	7328
106	18513	12440	13011	22614	2663	4338	5395	17947	17587	17479	2901	2657	2462	2009	16885	19616	7543
107	19030	12482	13206	23113	3248	4927	5939	18298	17919	17745	2507	2280	1995	2137	17047	19862	7687
108	8984	11399	9327	13171	7763	5536	4191	10534	10531	11533	12379	12127	12030	10519	12777	13720	7677
109	2076	16167	12805	2372	18582	16354	14924	7182	7937	10182	23105	22853	22705	21325	13368	11072	15703
110	2201	16798	13438	2055	18900	16674	15275	7842	8598	10843	23469	23217	23081	21656	14030	11714	16239
111	2522	17302	13943	1806	19258	17035	15655	8318	9079	11322	23853	23600	23472	22021	14518	12158	16714
112	3789	15588	12228	2648	19451	17231	15716	5987	6780	8978	23806	23558	23368	22138	12241	9567	15756
113	3975	16118	12759	2178	19902	17680	16176	6474	7270	9452	24284	24035	23850	22599	12722	9973	16285
114	4065	16919	13557	1365	20375	18148	16674	7301	8096	10277	24816	24566	24395	23093	13548	10769	16985
115	4191	17547	14183	712	20718	18490	17041	7963	8758	10942	25206	24955	24795	23451	14212	11426	17522
116	10166	13391	10605	9054	21902	19864	18206	4734	5023	5722	25446	25220	24893	24246	8394	4547	15801
117	10564	12804	10107	9682	21688	19683	18023	4595	4767	5195	25130	24907	24569	23984	7729	3852	15392
118	12636	12617	10347	11818	22660	20750	19095	6061	5982	5578	25804	25592	25219	24815	7273	3557	15848
119	12717	10984	8857	12457	21447	19605	17962	5533	5242	4297	24421	24214	23825	23514	5619	2098	14401
120	12099	10994	8707	11848	21130	19256	17607	4971	4725	3991	24197	23987	23608	23242	5680	1912	14218
121	10293	9918	7208	10604	19167	17244	15588	2888	2582	2292	22409	22192	21835	21358	5012	1530	12560
122	11524	5448	2762	13307	15577	13883	12289	4762	3973	2265	18334	18130	17733	17504	2116	4038	8296
123	10974	6053	3206	12682	15751	13998	12383	4123	3333	1716	18646	18438	18053	17750	2525	3683	8658
124	12560	4444	2313	14435	15419	13842	12295	5898	5109	3291	17909	17714	17295	17205	1677	4752	7827
125	12024	4916	2441	13868	15443	13806	12234	5334	4546	2789	18071	17872	17464	17302	1862	4409	8003
126	13636	3734	2591	15523	15588	14130	12634	6964	6170	4245	17798	17614	17173	17227	1688	5408	7753
127	13142	3926	2289	15059	15377	13869	12352	6525	5735	3881	17709	17521	17089	17079	1723	5205	7638
128	14091	10016	9572	18152	3596	2165	1448	13683	13393	13560	7378	7130	6940	5874	13520	15765	4940
129	17862	10048	10916	21799	4377	5046	5365	16353	15917	15575	4729	4543	4111	4492	14701	17645	5357
130	18461	10119	11182	22373	4881	5681	6024	16781	16324	15907	4577	4417	3938	4657	14909	17946	5624
131	2797	18340	15021	3246	18993	16797	15532	9865	10593	12834	23708	23455	23370	21780	15956	13829	17259
132	2811	18281	14950	2870	19194	16992	15705	9669	10407	12652	23891	23638	23545	21979	15796	13599	17306
133	4503	19979	16718	5183	19280	17145	16033	11946	12650	14877	24089	23837	23803	22065	17934	15969	18444
134	4897	20299	17057	5678	19283	17167	16093	12389	13085	15307	24107	23856	23833	22064	18343	16428	18656
135	5281	20647	17414	6025	19434	17332	16285	12785	13480	15700	24266	24016	24001	22210	18730	16826	18946
136	5632	20807	17611	6703	19123	17049	16055	13198	13875	16080	23968	23719	23719	21889	19062	17274	18932
137	6346	21316	18159	7559	19099	17066	16142	13933	14595	16786	23954	23706	23727	21847	19728	18029	19265
138	6530	21199	18088	8102	18558	16553	15676	14111	14750	16916	23415	23168	23201	21294	19798	18234	19893
139	6918	21533	18434	8454	18698	16713	15867	14497	15135	17297	23555	23309	23351	21424	20171	18622	19263
140	7268	22744	19490	7077	21359	19293	18303	14615	15338	17576	26207	25958	25963	24121	20668	18573	21079
141	7801	23277	20024	7501	21781	19728	18759	15133	15858	18097	26633	26384	26395	24536	21195	19079	21593
142	8002	23434	20195	7828	21731	19694	18750	15381	16101	18337	26586	26338	26357	24480	21420	19346	21677
143	8332	23787	20541	8020	22097	20064	19124	15677	16402	18641	26953	26705	26725	24844	21735	19624	22049
144	8794	24249	21005	8405	22473	20450	19527	16127	16854	19093	27329	27082	27108	25213	22192	20064	22497
145	10813	26134	22931	10549	23536	21599	20799	18230	18948	21182	28385	28142	28205	26228	24251	22193	24140
146	11393	26663	23474	11177	23826	21917	21153	18832	19546	21778	28668	28426	28500	26501	24837	22805	24598
147	11778	27063	23871	11495	24196	22294	21538	19204	19921	22155	29036	28794	28871	26865	25220	23167	24999
148	8041	21195	17864	3801	24734	22507	21081	11288	12075	14093	29259	29008	28855	27481	17351	14074	21515
149	7634	21042	17700	3423	24349	22123	20711	11182	11973	14027	28896	28645	28498	27102	17295	14087	21253
150	6974	20551	17200	2778	23695	21469	20062	10747	11542	13631	28250	27998	27853	26449	16906	13781	20668
151	7037	20866	17510	2932	23773	21550	20162	11104	11901	14007	28357	28105	27969	26535	17284	14194	20893
152	7415	21251	17895	3329	24152	21929	20546	11471	12266	14362	28742	28490	28356	26916	17638	14517	21291
153	8202	22178	18823	4213	24928	22709	21347	12392	13188	15276	29547	29294	29169	27699	18550	15395	22191
154	8024	22165	18805	4122	24734	22518	21168	12424	13220	15328	29368	29116	28996	27508	18604	15495	22098

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DECIBEL - Main Result

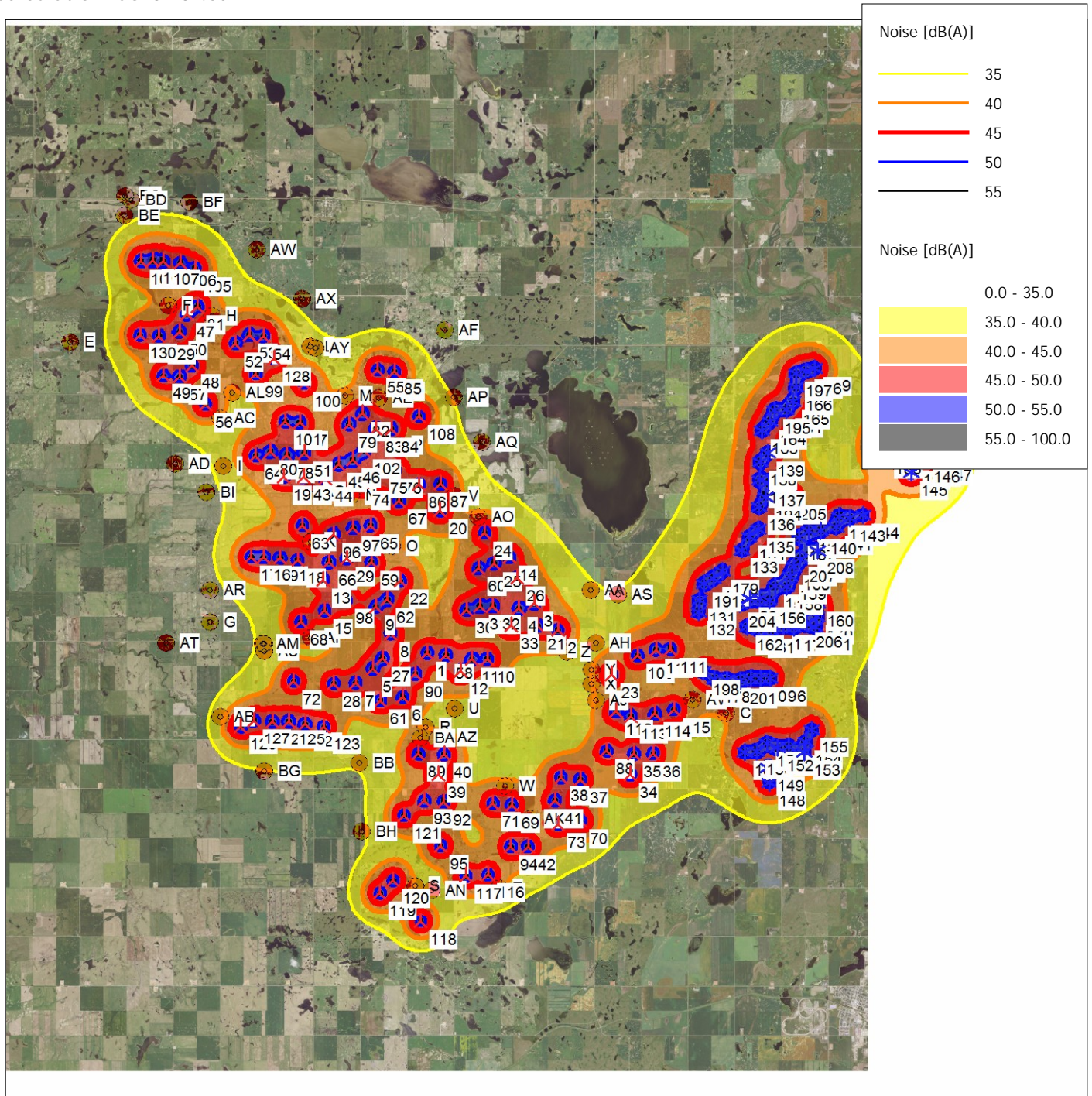
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WTG	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
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156	5191	20732	17407	4189	20945	18782	17601	12055	12808	15053	25722	25469	25413	23735	18225	15898	19607
157	5384	20954	17641	4661	20860	18710	17561	12403	13148	15393	25654	25402	25356	23648	18546	16282	19715
158	5789	21357	18043	4912	21208	19065	17927	12772	13521	15767	26009	25757	25715	23996	18927	16632	20116
159	5940	21514	18210	5242	21151	19019	17904	13018	13761	16006	25962	25711	25676	23936	19154	16901	20195
160	6840	22368	19036	5314	22397	20255	19118	13560	14325	16567	27200	26948	26906	25184	19767	17315	21246
161	4966	20339	16990	3234	21204	19016	17773	11394	12163	14403	25938	25685	25607	23993	17612	15144	19463
162	4528	19914	16568	3024	20801	18610	17357	11020	11785	14027	25528	25275	25193	23589	17227	14805	19025
163	7291	21563	18516	9099	18259	16312	15525	14827	15442	17577	23112	22868	22924	20965	20388	18969	19123
164	7699	21921	18888	9464	18425	16501	15747	15234	15848	17980	23273	23030	23096	21117	20784	19376	19429
165	8722	22892	19882	10332	19004	17135	16452	16264	16879	19011	23837	23596	23682	21662	21810	20405	20306
166	9119	23138	20155	10793	18979	17142	16501	16642	17248	19369	23800	23561	23657	21616	22142	20788	20467
167	6492	21973	18716	6459	20784	18698	17674	13855	14574	16811	25625	25375	25369	23554	19896	17827	20349
168	6099	21666	18372	5561	21097	18976	17884	13256	13995	16239	25917	25666	25639	23879	19372	17162	20272
169	10035	23981	21022	11624	19473	17689	17112	17559	18164	20282	24269	24033	24147	22073	23045	21705	21222
170	6848	22328	18986	5062	22597	20445	19285	13411	14183	16421	27388	27136	27087	25386	19635	17121	21302
171	6848	22272	18924	4842	22749	20589	19409	13268	14044	16278	27529	27277	27221	25539	19503	16938	21329
172	6110	21523	18175	4199	22130	19959	18756	12546	13319	15556	26895	26642	26579	24920	18775	16248	20599
173	5355	20734	17385	3518	21532	19350	18118	11767	12538	14777	26277	26024	25950	24322	17791	15496	19851
174	5765	21180	17833	3943	21823	19649	18438	12229	12999	15238	26582	26330	26263	24614	18452	15952	20255
175	6666	22215	18933	6188	21350	19249	18196	13882	14617	16860	26184	25933	25918	24126	19984	17798	20730
176	5881	20750	17382	2762	22468	20262	18958	11384	12174	14379	27150	26898	26797	25251	17640	14883	20256
177	4627	19257	15888	1346	21343	19125	17771	9903	10691	12903	25971	25718	25598	24115	16158	13467	18846
178	4283	18835	15466	1012	21015	18795	17427	9493	10280	12495	25626	25374	25249	23783	15747	13083	18441
179	3660	19214	15927	4314	19082	16917	15737	11007	11720	13953	23857	23604	23548	21872	17035	15011	17862
180	3310	18877	15582	4026	18950	16774	15569	10623	11337	13572	23708	23456	23391	21740	16659	14624	17588
181	8365	22584	19561	9999	18857	16967	16256	15910	16527	18662	23697	23455	23533	21528	21468	20051	20041
182	6874	22338	19087	6818	20997	18924	17923	14248	14966	17202	25843	25593	25594	23762	20285	18220	20672
183	10298	25432	22270	10473	22480	20565	19799	17813	18510	20730	27324	27082	27153	25160	23743	21838	23283
184	10493	25535	22393	10798	22359	20466	19730	18034	18723	20936	27197	26956	27035	25026	23928	22076	23308
185	10877	25925	22784	11126	22681	20800	20078	18413	19105	21319	27515	27275	27359	25340	24315	22450	23687
186	11290	26325	23189	11511	22974	21108	20406	18826	19517	21732	27802	27563	27652	25622	24272	22861	24061
187	11607	26587	23464	11876	23070	21224	20547	19153	19841	22052	27891	27652	27749	25705	25036	23196	24271
188	11790	26687	23581	12157	22984	21158	20507	19351	20032	22238	27796	27558	27662	25605	25203	23407	24307
189	6734	20166	16817	2498	23431	21204	19785	10352	11147	13234	27967	27716	27566	26180	16509	13387	20321
190	7675	21618	18262	3650	24408	22187	20816	11848	12644	14742	29014	28762	28633	27176	18018	14895	21625
191	2973	18545	15245	3801	18798	16614	15386	10260	10975	13209	23541	23288	23216	21588	16300	14263	17309
192	11033	26302	23112	10860	23523	21604	20829	18479	19192	21423	28368	28126	28196	26205	24478	22457	24247
193	6147	21032	17886	7542	18772	16738	15813	13737	14391	16573	23627	23379	23399	21522	19496	17844	18950
194	5992	21091	17910	7092	19173	17118	16155	13568	14240	16439	24024	23775	23785	21932	19408	17650	19142
195	8074	22185	19173	9862	18457	16559	15841	15596	16204	18328	23299	23057	23132	21133	21114	19741	19623
196	9743	23645	20688	11413	19181	17386	16797	17254	17856	19969	23983	23747	23857	21790	22722	21402	20888
197	9468	23311	20359	11229	18878	17073	16474	16963	17560	19666	23685	23448	23555	21495	22408	21113	20551
198	3836	18431	15063	976	20572	18350	16979	9161	9944	12168	25177	24925	24799	23338	15410	12814	17996
199	5582	20406	17038	2425	22206	19997	18681	11041	11831	14037	26877	26624	26519	24987	17297	14553	19930
200	5286	20069	16701	2108	21941	19729	18403	10712	11501	13709	26600	26347	26238	24719	16967	14241	19607
201	5031	19730	16362	1762	21721	19506	18165	10362	11151	13359	26365	26112	25998	24496	16617	13896	19302
202	4858	20403	17079	4017	20648	18481	17291	11761	12511	14756	25419	25166	25107	23438	17920	15624	19274
203	4524	20070	16747	3837	20368	18197	16996	11454	12201	14446	25132	24880	24817	23159	17604	15334	18945
204	4184	19711	16384	3520	20178	17997	16775	11068	11815	14060	24927	24674	24604	22968	17220	14948	18635
205	6733	21924	18732	7453	19938	17900	16961	14279	14965	17176	24792	24544	24562	22689	20174	18337	19991
206	6520	21956	18610	4616	22432	20269	19085	12988	13762	15998	27209	26956	26899	25222	19218	16684	20998
207	6333	21888	18603	5896	21129	19019	17950	13546	14281	16523	25957	25706	25686	23907	19647	17466	20429
208	6996	22539	19260	6494	21559	19467	18432	14220	14955	17198	26397	26147	26138	24331	20322	18134	21023

DECIBEL - Map 95% rated power

Calculation: SG132-3.465



Map: US Naval Research Laboratory , Print scale 1:200,000, Map center UTM WGS84 Zone: 13 East: 641,190 North: 5,375,412
 ▲ New WTG * Existing WTG ■ Noise sensitive area
 Noise calculation model: ISO 9613-2 General. Wind speed: 95% rated power
 Height above sea level from active line object

DECIBEL - Main Result

Calculation: V136-4.0/4.2

Noise calculation model:

ISO 9613-2 General

Wind speed:

95% rated power

Ground attenuation:

General, fixed, Ground factor: 0.5

Meteorological coefficient, CO:

0.0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

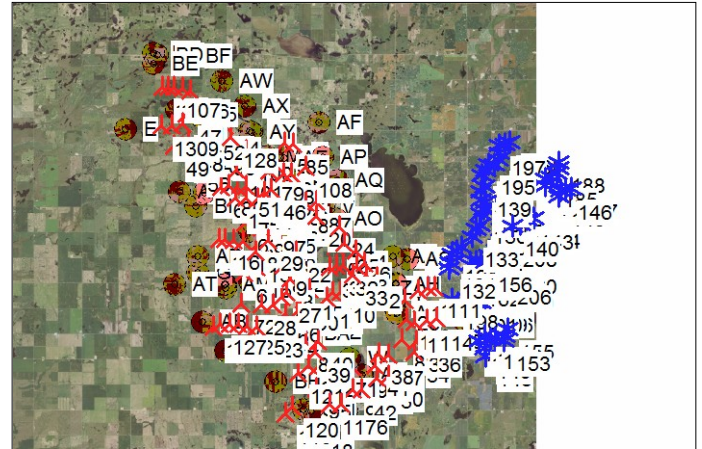
Pure and Impulse tone penalty are added to WTG source noise

Height above ground level, when no value in NSA object:

1.5 m Don't allow override of model height with height from NSA object

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0.0 dB(A)



Scale 1:500,000
 ▲ New WTG * Existing WTG
 ■ Noise sensitive area

WTGs

	X(East)	Y(North)	Z	Row data/Description	WTG type			Noise data			Wind speed [m/s]	LwA_ref [dB(A)]	Pure tones	
					Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]				Creator
			[m]											
1	637,619	5,373,512	727.5	T-43	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
2	642,085	5,374,363	728.5	T-41	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
3	641,252	5,375,220	737.7	T-63	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
4	640,729	5,375,038	740.7	T-62	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
5	635,764	5,372,945	724.6	T-45	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
6	636,817	5,372,047	728.5	T-35	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
7	635,193	5,372,473	710.2	T-47	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
8	636,346	5,374,109	734.6	T-56	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
9	635,830	5,374,972	728.5	T-55	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
10	639,692	5,373,363	740.7	T-39	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
11	639,157	5,373,344	739.4	T-38	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
12	638,790	5,372,951	734.6	T-37	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
13	633,988	5,375,810	737.6	T-70	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
14	640,372	5,376,713	738.1	T-77	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
15	634,074	5,374,798	721.2	T-53	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
16	631,934	5,376,511	729.8	T-67	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
17	631,510	5,376,507	731.5	T-66	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
18	633,108	5,376,447	723.9	T-69	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
19	632,563	5,379,145	737.6	T-93	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
20	637,951	5,378,169	715.2	T-80	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
21	641,389	5,374,486	743.7	T-58	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
22	636,640	5,375,835	734.6	T-73	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
23	643,972	5,372,967	712.3	T-28	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
24	639,495	5,377,499	738.7	T-78	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
25	639,840	5,376,489	737.6	T-76	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
26	640,649	5,376,031	731.5	T-79	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
27	636,095	5,373,292	733.9	T-46	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
28	634,438	5,372,432	701.0	T-57	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
29	634,798	5,376,526	725.4	T-71	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
30	638,928	5,374,941	737.6	T-59	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
31	639,384	5,375,074	737.6	T-60	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
32	639,838	5,375,100	737.6	T-61	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
33	640,492	5,374,466	743.6	T-40	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
34	644,695	5,369,685	736.0	T-15	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
35	644,792	5,370,371	743.7	T-16	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
36	645,456	5,370,405	735.1	T-17	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
37	642,975	5,369,494	737.6	T-12	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
38	642,303	5,369,536	734.9	T-13	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
39	638,102	5,369,527	710.5	T-26	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
40	638,282	5,370,192	712.5	T-25	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
41	642,122	5,368,780	734.6	T-10	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
42	641,239	5,367,252	719.1	T-8	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No
43	633,243	5,379,162	737.6	T-94	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%) 108.9	No

To be continued on next page...

Project: Description:

Aurora

Licensed user:

TradeWind Energy, Inc

16105 W. 113th Street, Suite 105

US-LENEXA, KS 66219

+1 913 424 5308

Kevin Walter / kwalter@tradewindenergy.com

Calculated:

9/15/2018 12:04 AM/3.0.654

DECIBEL - Main Result

Calculation: V136-4.0/4.2

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type			Noise data				Wind speed [m/s]	LwA_ref [dB(A)]	Pure tones	
					Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Creator				Name
44	634,001	5,379,136	737.6	T-95	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
45	634,443	5,379,605	731.5	T-96	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
46	634,918	5,379,749	728.5	T-121	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
47	629,136	5,384,387	713.2	T-142	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
48	629,347	5,382,713	710.2	T-131	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
49	628,366	5,382,343	707.1	T-129	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
50	628,893	5,383,804	717.2	T-141	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
51	633,253	5,379,950	729.4	T-123	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
52	630,815	5,383,459	711.9	T-144	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
53	631,275	5,383,767	710.7	T-145	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
54	631,767	5,383,732	713.2	T-146	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
55	635,699	5,382,724	710.2	T-122	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
56	629,834	5,381,441	713.0	T-117	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
57	628,926	5,382,328	703.0	T-130	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
58	638,268	5,373,457	731.5	T-44	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
59	635,628	5,376,434	728.5	T-72	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
60	639,307	5,376,310	731.5	T-75	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
61	636,056	5,371,908	719.3	T-34	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
62	636,215	5,375,218	731.5	T-74	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
63	633,243	5,377,581	731.5	T-81	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
64	631,582	5,379,814	726.8	T-98	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
65	635,586	5,377,640	725.5	T-85	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
66	634,183	5,376,389	733.5	T-86	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
67	636,542	5,378,452	715.1	T-87	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
68	633,261	5,374,418	716.3	T-51	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
69	640,641	5,368,602	728.5	T-23	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
70	643,024	5,368,138	728.5	T-11	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
71	639,998	5,368,634	725.4	T-22	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
72	633,064	5,372,478	698.0	T-5	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
73	642,243	5,368,015	730.6	T-9	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
74	635,270	5,379,029	725.4	T-90	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
75	635,883	5,379,448	720.6	T-91	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
76	636,364	5,379,455	716.0	T-92	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
77	633,072	5,380,925	729.9	T-106	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
78	632,659	5,379,855	737.2	T-100	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
79	634,758	5,380,905	718.9	T-107	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
80	632,089	5,379,958	731.5	T-99	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
81	629,494	5,384,648	709.6	T-143	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
82	635,222	5,381,271	716.3	T-108	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
83	635,678	5,380,785	716.0	T-109	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
84	636,220	5,380,785	716.3	T-110	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
85	636,276	5,382,673	710.2	T-124	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
86	637,208	5,379,005	710.9	T-88	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
87	637,941	5,379,046	713.2	T-89	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
88	643,859	5,370,443	732.3	T-14	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
89	637,408	5,370,185	701.0	T-24	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
90	637,234	5,372,817	719.9	T-42	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
91	632,509	5,376,501	722.8	T-68	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
92	638,306	5,368,644	716.3	T-21	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
93	637,648	5,368,666	713.2	T-20	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
94	640,643	5,367,238	719.3	T-19	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
95	638,242	5,367,207	710.2	T-18	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
96	634,318	5,377,326	731.6	T-83	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
97	634,979	5,377,549	725.3	T-84	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
98	634,798	5,375,163	713.2	T-54	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
99	631,532	5,382,484	707.7	T-118	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
100	633,206	5,382,201	722.4	T-120	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
101	632,585	5,380,949	731.5	T-105	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
102	635,298	5,380,049	728.5	T-97	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
103	627,504	5,386,079	711.3	T-147	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
104	627,911	5,386,105	710.2	T-148	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
105	629,368	5,385,888	704.0	T-149	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
106	628,867	5,386,049	710.2	T-150	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
107	628,269	5,386,086	711.9	T-151	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
108	637,149	5,381,224	704.1	T-152	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
109	644,833	5,373,605	713.9	T-153	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
110	645,462	5,373,811	728.5	T-154	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
111	645,966	5,373,838	730.1	T-155	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
112	644,144	5,371,765	710.2	T-156	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No
113	644,660	5,371,616	715.4	T-157	Yes	VESTAS	V136-4.0-4,000	4,000	136.0	82.0	USER	Mode 0 Std Blades 106.9+2dB	(95%)	108.9	No

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Project: Aurora

Description:

Licensed user:

TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
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+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/15/2018 12:04 AM/3.0.654

DECIBEL - Main Result

Calculation: V136-4.0/4.2

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Table with columns: X(East), Y(North), Z, Row data/Description, WTG type (Valid, Manufact., Type-generator, Power, Rotor diameter, Hub height), Noise data (Creator, Name), Wind speed [m/s], LwA_ref [dB(A)], Pure tones. Contains 183 rows of turbine data.

To be continued on next page...



DECIBEL - Main Result

Calculation: V136-4.0/4.2

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	X(East)	Y(North)	Z	Row data/Description	WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Noise data		Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones
					Valid	Manufact.				Type-generator	Creator			
184	653,130	5,380,927	710.2	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
185	653,497	5,381,062	704.6	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
186	653,850	5,381,276	700.8	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
187	654,022	5,381,604	696.2	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
188	654,011	5,381,966	694.9	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
189	648,594	5,370,523	731.5	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
190	650,092	5,370,737	743.7	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
191	647,056	5,376,002	741.1	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
192	654,134	5,380,179	733.9	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
193	648,870	5,379,452	759.0	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
194	649,079	5,378,913	759.0	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
195	649,308	5,381,738	716.7	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
196	650,346	5,383,045	709.6	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
197	650,021	5,382,956	710.0	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
198	647,090	5,373,129	713.2	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
199	649,061	5,372,960	722.4	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
200	648,724	5,372,961	720.7	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
201	648,383	5,372,886	719.3	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
202	648,975	5,375,560	735.2	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
203	648,641	5,375,554	726.1	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
204	648,297	5,375,376	728.5	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
205	649,928	5,378,956	741.8	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
206	650,591	5,374,779	748.5	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
207	650,301	5,376,922	735.1	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No
208	650,917	5,377,197	740.0	VESTAS V100 2000 100.0...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No

Calculation Results

Sound Level

No.	Name	X(East)	Y(North)	Z	Imission height [m]	Demands Noise [dB(A)]	Sound Level		Demands fulfilled ? Noise
							From WTGs [dB(A)]	Distance to noise demand [m]	
A 1	- Non-Participating	644,116	5,375,554	701.3	1.5	50.0	36.2	1,844	Yes
B 39	- Participating	643,400	5,373,971	711.5	1.5	50.0	39.2	933	Yes
C 2	- Non-Participating	647,930	5,371,801	718.0	1.5	50.0	40.9	889	Yes
D 40	- Participating	643,453	5,372,099	716.3	1.5	50.0	41.7	537	Yes
E 41	- Participating	625,162	5,383,364	711.9	1.5	50.0	30.8	2,168	Yes
F 42	- Participating	628,500	5,384,644	704.1	1.5	50.0	43.8	437	Yes
G 43	- Participating	630,148	5,374,327	691.9	1.5	50.0	32.9	2,338	Yes
H 44	- Participating	629,997	5,384,325	711.4	1.5	50.0	43.9	355	Yes
I 3	- Non-Participating	630,488	5,379,437	722.7	1.5	50.0	38.1	927	Yes
J 4	- Non-Participating	632,031	5,373,676	696.3	1.5	50.0	37.3	1,214	Yes
K 45	- Participating	633,554	5,377,057	735.4	1.5	50.0	45.6	372	Yes
L 46	- Participating	633,395	5,383,413	715.7	1.5	50.0	38.7	1,001	Yes
M 47	- Participating	634,615	5,381,825	716.9	1.5	50.0	42.4	578	Yes
N 48	- Participating	634,891	5,378,584	728.5	1.5	50.0	45.3	336	Yes
O 5	- Non-Participating	636,328	5,376,974	731.5	1.5	50.0	42.6	648	Yes
P 49	- Participating	636,455	5,380,259	709.9	1.5	50.0	45.4	333	Yes
Q 50	- Participating	636,416	5,382,006	707.4	1.5	50.0	43.0	453	Yes
R 51	- Participating	637,621	5,371,070	716.6	1.5	50.0	41.2	682	Yes
S 6	- Non-Participating	637,411	5,365,868	713.2	1.5	50.0	40.7	565	Yes
T 52	- Participating	640,276	5,365,862	710.2	1.5	50.0	42.1	367	Yes
U 7	- Non-Participating	638,615	5,371,717	720.3	1.5	50.0	39.7	1,008	Yes
V 8	- Non-Participating	638,435	5,378,666	709.4	1.5	50.0	43.7	391	Yes
W 9	- Non-Participating	640,413	5,369,191	728.5	1.5	50.0	43.4	394	Yes
X 10	- Non-Participating	643,279	5,372,615	722.4	1.5	50.0	41.0	550	Yes
Y 11	- Non-Participating	643,282	5,373,088	726.9	1.5	50.0	41.3	475	Yes
Z 53	- Participating	642,413	5,373,644	734.1	1.5	50.0	40.7	562	Yes
AA 54	- Participating	643,167	5,375,685	714.9	1.5	50.0	36.7	1,484	Yes
AB 12	- Non-Participating	630,584	5,371,240	682.8	1.5	50.0	39.9	530	Yes
AC 13	- Non-Participating	630,347	5,380,996	717.6	1.5	50.0	41.3	457	Yes
AD 14	- Non-Participating	628,838	5,379,465	705.2	1.5	50.0	33.6	1,993	Yes

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DECIBEL - Main Result

Calculation: V136-4.0/4.2

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No.	Name	X(East)	Y(North)	Z [m]	Emission height [m]	Demands			Distance to noise demand [m]	Demands fulfilled ?
						Noise [dB(A)]	From WTGs [dB(A)]	Noise		
AE 55 - Participating	635,760	5,381,775	711.0	1.5	50.0	43.7		495	Yes	
AF 15 - Non-Participating	637,972	5,384,054	715.8	1.5	50.0	32.1		1,962	Yes	
AG 57 - Participating	633,480	5,378,691	739.8	1.5	50.0	45.8		275	Yes	
AH 59 - Participating	643,400	5,373,968	711.4	1.5	50.0	39.2		929	Yes	
AI 61 - Participating	633,645	5,373,895	713.7	1.5	50.0	42.7		421	Yes	
AJ 62 - Participating	643,453	5,372,097	716.3	1.5	50.0	41.7		535	Yes	
AK 63 - Participating	641,300	5,368,154	725.4	1.5	50.0	43.4		569	Yes	
AL 16 - Non-Participating	630,734	5,381,835	710.2	1.5	50.0	41.0		761	Yes	
AM 17 - Non-Participating	631,989	5,373,670	695.8	1.5	50.0	37.2		1,253	Yes	
AN 18 - Non-Participating	637,954	5,365,740	710.2	1.5	50.0	39.3		856	Yes	
AO 64 - Participating	639,268	5,377,996	720.6	1.5	50.0	43.1		325	Yes	
AP 19 - Non-Participating	638,331	5,381,857	701.5	1.5	50.0	36.0		1,120	Yes	
AQ 20 - Non-Participating	639,333	5,380,415	707.1	1.5	50.0	34.9		1,725	Yes	
AR 21 - Non-Participating	630,142	5,375,377	701.9	1.5	50.0	34.2		1,544	Yes	
AS 22 - Non-Participating	644,117	5,375,554	701.3	1.5	50.0	36.2		1,843	Yes	
AT 23 - Non-Participating	628,666	5,373,611	682.8	1.5	50.0	29.7		3,504	Yes	
AU 24 - Non-Participating	632,030	5,373,428	696.5	1.5	50.0	37.4		1,182	Yes	
AV 27 - Non-Participating	646,754	5,372,213	713.2	1.5	50.0	42.7		483	Yes	
AW 29 - Non-Participating	631,486	5,386,533	696.9	1.5	50.0	33.3		1,982	Yes	
AX 30 - Non-Participating	633,067	5,384,963	707.0	1.5	50.0	34.9		1,555	Yes	
AY 31 - Non-Participating	633,553	5,383,375	714.8	1.5	50.0	38.3		1,001	Yes	
AZ 66 - Participating	638,244	5,370,747	710.8	1.5	50.0	43.4		327	Yes	
BA 67 - Participating	637,448	5,370,698	712.2	1.5	50.0	44.0		287	Yes	
BB 68 - Participating	635,378	5,369,828	692.6	1.5	50.0	36.8		1,490	Yes	
BC 32 - Non-Participating	626,925	5,388,203	701.4	1.5	50.0	31.5		1,956	Yes	
BD 33 - Non-Participating	627,137	5,388,066	701.0	1.5	50.0	32.5		1,772	Yes	
BE 34 - Non-Participating	626,921	5,387,556	704.1	1.5	50.0	34.3		1,346	Yes	
BF 35 - Non-Participating	629,137	5,388,039	693.3	1.5	50.0	33.4		1,762	Yes	
BG 36 - Non-Participating	632,118	5,369,480	691.6	1.5	50.0	36.0		1,431	Yes	
BH 37 - Non-Participating	635,531	5,367,600	699.2	1.5	50.0	35.6		1,310	Yes	
BI 38 - Non-Participating	629,941	5,378,583	713.2	1.5	50.0	34.9		1,821	Yes	

Distances (m)

WTG	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	6810	5799	10452	6003	15882	14390	7516	13229	9271	5591	5393	10764	8839	5759	3695	6847	8579	2442	7647	8099	2053	5218
2	2355	1372	6382	2645	19168	17037	11937	15664	12659	10077	8946	12547	10558	8341	6322	8153	9516	5546	9696	8691	4363	5643
3	2883	2484	7503	3819	18034	15857	11140	14477	11561	9350	7914	11352	9363	7196	5227	6957	8333	5514	10110	9409	4385	4451
4	3426	2876	7896	4008	17654	15551	10605	14192	11146	8804	7453	11132	9134	6830	4808	6747	8195	5040	9752	9188	3937	4293
5	8751	7705	12221	7736	14865	13771	5783	12758	8366	3804	4668	10733	8954	5707	4069	7347	9085	2639	7266	8398	3105	6315
6	8098	6859	11117	6637	16245	15095	7047	14045	9729	5055	5978	11870	10022	6815	4951	8220	9967	1266	6207	7087	1829	6814
7	9440	8343	12755	8269	14807	13890	5375	12941	8404	3383	4868	11086	9369	6119	4642	7888	9611	2805	6968	8340	3505	6990
8	7903	7055	11812	7386	14517	13136	6202	12028	7919	4337	4060	9760	7907	4706	2865	6151	7897	3296	8310	9136	3297	5013
9	8306	7636	12509	8146	13573	12136	5719	11023	6962	4014	3086	8785	6960	3732	2063	5324	7059	4294	9240	10137	4284	4520
10	4937	3758	8385	3968	17639	15891	9592	14634	11028	7667	7164	11860	9868	7093	4935	7618	9243	3089	7834	7524	1967	5450
11	5429	4289	8908	4473	17213	15533	9063	14300	10596	7134	6722	11601	9620	6757	4602	7424	9085	2744	7677	7566	1715	5371
12	5928	4721	9212	4740	17151	15577	8751	14377	10536	6798	6654	11771	9807	6851	4717	7673	9362	2214	7216	7243	1246	5726
13	10131	9590	14507	10166	11618	10400	4117	9404	5041	2896	1320	7626	6047	2917	2613	5087	6655	5972	10515	11769	6178	5285
14	3919	4084	9014	5548	16601	14278	10499	12869	10253	8877	6827	9673	7699	5792	4053	5284	6609	6278	11242	10852	5296	2752
15	10070	9362	14177	9760	12361	11314	3955	10362	5863	2331	2318	8641	7047	3873	3132	5957	7579	5146	9533	10878	5488	5829
16	12220	11744	16676	12335	9635	8829	2821	8051	3264	2836	1710	7055	5953	3612	4418	5873	7092	7871	11969	13528	8224	6849
17	12642	12158	17082	12731	9344	8676	2570	7963	3104	2878	2118	7159	6159	3969	4841	6208	7370	8180	12166	13790	8569	7254
18	11044	10585	15533	11221	10535	9404	3641	8470	3976	2973	756	6972	5585	2783	3262	5073	6469	7020	11420	12784	7260	5770
19	12098	12009	17033	12971	8519	6837	5389	5781	2095	5495	2311	4349	3376	2395	4346	4049	4800	9529	14134	15360	9582	5892
20	6696	6878	11838	8193	13804	11457	8699	10058	7570	7433	4536	6946	4949	3088	2016	2570	4133	7107	12313	12526	6487	693
21	2928	2075	7071	3156	18497	16411	11243	15053	11973	9394	8246	11983	9987	7683	5640	7595	9016	5086	9492	8696	3920	5119
22	7481	7012	11989	7770	13728	11995	6665	10781	7129	5090	3319	8244	6323	3259	1181	4429	6176	4865	9996	10615	4567	3352
23	2591	1156	4127	1011	21493	19385	13891	18009	14956	11962	11192	14866	12885	10678	8631	10473	11782	6628	9666	8009	5501	7947
24	5014	5263	10180	6696	15486	13113	9871	11696	9213	8386	5957	8496	6521	4730	3210	4106	5458	6697	11816	11664	5849	1577
25	4376	4360	9350	5855	16209	13969	9931	12582	9806	8301	6312	9460	7468	5375	3546	5067	6494	5856	10895	10636	4927	2592
26	3500	3437	8421	4680	17135	14892	10639	13500	10716	8934	7168	10349	8365	6298	4423	5955	7322	5812	10667	10177	4770	3442
27	8334	7337	11929	7454	14865	13659	6036	12606	8319	4082	4542	10475	8660	5428	3690	6977	8720	2696	7539	8526	2972	5862

To be continued on next page...

DECIBEL - Main Result

Calculation: V136-4.0/4.2

...continued from previous page

Table with columns WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V. It contains a grid of numerical data representing decibel values for various wind turbine weights and directions.

To be continued on next page...

DECIBEL - Main Result

Calculation: V136-4.0/4.2

...continued from previous page

Table with columns WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V. It contains a grid of numerical data points representing decibel values for various wind turbine weights and directions.

To be continued on next page...

DECIBEL - Main Result

Calculation: V136-4.0/4.2

...continued from previous page

Table with columns WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V. Contains numerical data for wind turbine performance across various parameters.

Table with columns WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR. Contains numerical data for wind turbine performance across various parameters.

To be continued on next page...

DECIBEL - Main Result

Calculation: V136-4.0/4.2

...continued from previous page

Table with columns WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR. Contains numerical data for wind turbine performance across various parameters.

To be continued on next page...

DECIBEL - Main Result

Calculation: V136-4.0/4.2

...continued from previous page

WTG	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	AK	AL	AM	AN	AO	AP	AQ	AR
94	1966	5988	6418	6647	8816	10827	17185	16996	15336	17028	13509	7273	9660	5613	1127	17643	10783	3078	10846	14802	13243	13286
95	2941	7390	7746	7671	9805	8655	15890	15450	14779	16850	12432	8504	8116	7147	3201	16442	8992	1495	10838	14651	13253	11504
96	10166	10125	9916	8893	9001	7141	5408	5882	4677	7657	1601	9683	3496	10527	11528	5760	4335	12144	4996	6053	5891	4608
97	9969	9656	9425	8397	8398	7689	5775	6433	4298	7161	1885	9150	3890	10076	11324	6033	4898	12178	4312	5459	5213	5302
98	8197	8855	8734	7765	8385	5758	7338	7351	6682	9441	3766	8684	1714	9182	9560	7813	3181	9937	5293	7570	6939	4661
99	15987	15342	15045	14019	13476	11284	1902	4047	4287	6629	4264	14607	8845	15811	17343	1029	8826	17933	8943	6827	8071	7242
100	14874	13906	13586	12570	11904	11271	3103	5155	5289	5114	3522	13104	8318	14391	16213	2499	8618	17133	7378	5136	6383	7481
101	14126	13558	13275	12245	11819	9913	2239	4031	3281	6218	2429	12872	7133	14017	15481	2053	7304	16129	7306	5817	6769	6084
102	12004	10908	10593	9574	8999	9992	5041	6486	1787	4816	2269	10131	6373	11391	13325	4901	7187	14554	4470	3531	4052	6958
103	21258	20740	20438	19414	18799	15155	5824	6748	9311	10663	9503	19984	13644	21211	22620	5334	13195	22867	14274	11621	13116	11023
104	21034	20450	20143	19121	18476	15104	5660	6705	8964	10269	9274	19679	13490	20924	22395	5119	13088	22708	13956	11253	12762	10959
105	20020	19228	18906	17891	17162	14699	4989	6446	7601	8797	8290	18412	12733	19713	21375	4277	12497	21902	12661	9827	11369	10541
106	20433	19703	19385	18368	17661	14908	5265	6584	8110	9321	8685	18899	13059	20185	21791	4609	12767	22250	13154	10350	11886	10748
107	20808	20169	19859	18838	18170	15026	5498	6646	8643	9914	9047	19386	13324	20647	22168	4914	12962	22534	13654	10914	12433	10873
108	12469	10569	10189	9229	8180	11950	6806	8496	1495	2947	4459	9578	8124	11093	13714	6444	9148	15505	3862	1341	2329	9126
109	6247	1843	1635	2421	2665	14445	16264	17035	12210	12500	12440	1479	11193	2044	6497	16326	12844	10449	7089	10506	8754	14797
110	6845	2490	2297	3054	2963	15100	16737	17560	12553	12690	12938	2069	11818	2641	7024	16772	13474	11024	7475	10752	9010	15400
111	7242	2953	2787	3559	3353	15601	17182	18029	12930	12972	13396	2570	12322	3058	7355	17204	13978	11392	7884	11073	9341	15899
112	4533	1213	1580	2556	4040	13571	16602	17134	13058	13753	12716	2325	10714	767	4597	16771	12303	8638	7913	11648	9898	14461
113	4891	1704	2017	3027	4334	14082	17114	17662	13507	14123	13231	2668	11249	1299	4824	17274	12836	8916	8354	12040	10286	14997
114	5664	2374	2586	3618	4586	14904	17748	18354	13982	14436	13875	3059	12032	2060	5497	17879	13629	9614	8827	12401	10645	15766
115	6314	2943	3093	4114	4824	15557	18227	18882	14335	14657	14367	3438	12645	2683	6096	18335	14251	10220	9193	12666	10913	16364
116	2929	7159	7581	7757	9932	10533	17516	17183	16009	17849	13943	8425	9827	6797	2322	18025	10799	2018	11704	15627	14118	13314
117	3216	7604	8007	8098	10271	9906	17176	16761	15899	17853	13676	8827	9421	7278	2890	17715	10309	1282	11758	15639	14177	12820
118	5274	9717	10107	10133	12291	9591	17828	17162	17158	19339	14572	10908	10000	9408	5037	18449	10573	1076	13380	17154	15790	13018
119	5536	9966	10306	10162	12255	7947	16460	15686	16172	18531	13360	11038	8669	9738	5707	17119	9090	1768	12764	16389	15136	11489
120	4914	9342	9684	9546	11645	7981	16225	15526	15758	18062	13038	10417	8405	9115	5116	16861	8934	1349	12240	15906	14623	11373
121	3608	7734	8019	7736	9756	7074	14434	13914	13664	15924	11086	8674	6619	7597	4346	15020	7414	2622	10102	13763	12481	9921
122	7174	9903	9990	9278	10710	2915	10398	9585	10926	13719	7604	10316	2812	10010	8338	11097	2990	6963	9004	11807	11005	5444
123	6540	9290	9386	8693	10177	3554	10683	9978	10892	13603	7712	9732	2930	9387	7717	11349	3417	6508	8676	11636	10752	5916
124	8286	11019	11096	10361	11725	1779	10061	9040	11167	14082	7634	11397	3041	11135	9426	10819	2558	7775	9735	12270	11605	4782
125	7741	10455	10534	9807	11197	2344	10172	9259	10990	13849	7554	10844	2830	10569	8896	10900	2681	7391	9327	11987	11259	5055
126	9297	12111	12189	11452	12794	759	10093	8862	11718	14716	8050	12488	3778	12224	10399	10902	2813	8463	10652	12989	12428	4574
127	8901	11638	11710	10966	12298	1152	9935	8796	11355	14326	7732	12001	3338	11759	10028	10723	2524	8251	10176	12570	11977	4508
128	16090	15219	14902	13884	13221	11864	2698	4847	3808	5913	4508	14424	9226	15701	17437	1837	9331	18208	8697	6281	7630	7884
129	18929	18689	18416	17385	16959	12636	3415	4232	7794	9786	7246	18025	11172	19138	20293	3120	10675	20395	12433	10293	11598	8497
130	19375	19236	18970	17939	17552	12795	3877	4399	8439	10444	7752	18595	11524	19679	20739	3686	10944	20735	13032	10946	12238	8690
131	9028	4612	4334	4851	3753	16865	17469	18515	12820	12405	13818	3815	13360	4821	9210	17392	15030	13215	8056	10708	9059	16771
132	8753	4371	4119	4700	3770	16751	17568	18575	12987	12650	13886	3661	13297	4549	8900	17510	14965	12925	8159	10916	9249	16749
133	11226	6788	6478	6877	5365	18704	18389	19627	13392	12446	14928	5867	15040	7022	11417	18207	16706	15422	9099	11050	9569	18272
134	11710	7265	6946	7314	5730	19076	18539	19821	13476	12413	15130	6314	15377	7509	11914	18334	17039	15912	9311	11093	9659	18561
135	12108	7663	7345	7709	6103	19448	18791	20100	13687	12541	15415	6172	15734	7905	12305	18571	17394	16307	9605	11277	9877	18893
136	12633	8172	7831	8125	6394	19704	18684	20055	13498	12201	15393	7152	15930	8444	12880	18430	17580	16849	9621	11042	9715	19001
137	13439	8975	8622	8870	7059	20304	18913	20352	13644	12157	15724	7917	16480	9261	13712	18620	18119	17662	10015	11140	9911	19461
138	13750	9289	8913	9083	7170	20290	18547	20038	13223	11614	15447	8167	16415	9608	14086	18224	18039	17984	9814	10694	9542	19296
139	14140	9678	9303	9472	7553	20648	18790	20305	13442	11758	15730	8557	16763	9996	14472	18452	18383	18373	10128	10901	9791	19617
140	13695	9345	9085	9576	8139	21473	20897	22227	15741	14429	17547	8549	17812	9507	13734	20658	19476	17818	11740	13290	11949	21014
141	14181	9849	9596	10100	8673	22006	21390	22735	16211	14844	18059	9071	18346	10001	14196	21142	20010	18289	12257	13747	12429	21543
142	14470	10118	9855	10335	8858	22201	21434	22806	16222	14789	18139	9311	18515	10281	14503	21172	20177	18591	12353	13741	12455	21678
143	14723	10395	10141	10642	9197	22535	21810	23180	16598	15155	18512	9614	18862	10544	14730	21548	20525	18826	12723	14115	12832	22039
144	15149	10835	10586	11097	9660	22998	22242	23623	17014	15528	18959	10068	19326	10977	15137	21972	20988	19239	13175	14522	13257	22499
145	17297	12965	12704	13179	11645	24989	23730	25213	18391	16620	20600	12157	21250	13119	17290	23400	22904	21393	14893	15847	14726	24318
146	17918	13578	13313	13775	12213	25552	24143	25655	18778	16930	21											

DECIBEL - Main Result

Calculation: V136-4.0/4.2

...continued from previous page

Table with columns WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR. Contains numerical data for wind turbine performance across various parameters.

Table with columns WTG, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI. Contains numerical data for wind turbine performance across various parameters.

To be continued on next page...

DECIBEL - Main Result

Calculation: V136-4.0/4.2

...continued from previous page

WTG	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
19	12100	6768	5741	15794	7467	5840	4345	10139	9758	9733	10670	10442	10129	9532	9675	11920	2682
20	6698	10344	7586	10629	10572	8368	6816	7428	7489	8729	14909	14659	14484	13233	10466	10843	8022
21	2929	12754	9419	5826	15596	13381	11851	4886	5467	7605	19935	19686	19498	18271	10537	9041	12160
22	7482	8279	5201	10743	11876	9803	8149	5334	5200	6138	15728	15489	15227	14327	7800	8309	7242
23	2591	15320	11951	2882	18438	16213	14728	6143	6907	9149	22864	22614	22441	21149	12356	10003	15114
24	5016	11506	8503	8980	12073	9851	8357	6867	7103	8706	16510	16260	16102	14778	10896	10663	9616
25	4378	11539	8389	8129	13065	10849	9326	5960	6266	8017	17437	17188	17012	15748	10429	9878	10119
26	3501	12225	9004	7201	13938	11716	10213	5806	6220	8140	18344	18094	17925	16635	10756	9863	11008
27	8336	7436	4067	10714	14021	12058	10399	3331	2926	3537	17505	17278	16960	16307	5508	5720	8116
28	10170	5892	2606	12318	14407	12606	10979	4162	3474	2768	17469	17255	16890	16483	3755	4954	7620
29	9370	6790	4155	12710	10541	8613	6962	6728	6403	6723	14084	13852	13555	12830	7539	8956	5275
30	5226	10348	7062	8288	13776	11611	10002	4249	4493	6224	17888	17644	17416	16354	8729	8088	9697
31	4758	10817	7536	7906	13917	11734	10145	4475	4785	6601	18100	17854	17639	16526	9170	8409	10074
32	4304	11271	7985	7495	14159	11964	10392	4635	5009	6905	18397	18150	17945	16791	9549	8649	10492
33	3785	11857	8525	6655	15058	12858	11293	4345	4844	6904	19308	19061	18856	17697	9746	8471	11326
34	5897	16503	13207	3260	21409	19200	17652	6538	7317	9318	25666	25420	25206	24062	12579	9398	17230
35	5226	16448	13123	2691	20935	18719	17188	6559	7351	9429	25243	24996	24794	23606	12705	9667	16971
36	5320	17093	13762	2226	21338	19117	17605	7220	8013	10094	25694	25446	25254	24027	13370	10314	17539
37	6166	14890	11631	4655	20551	18371	16778	4894	5656	7604	24651	24408	24166	23139	10857	7681	15891
38	6285	14233	10986	5193	20148	17981	16374	4236	4992	6931	24186	23945	23693	22710	10185	7044	15320
39	8515	10282	7218	9059	18248	16237	14577	1228	1341	2741	21766	21539	21215	20569	5984	3213	12191
40	7924	10206	7040	8709	17698	15665	14006	556	975	2927	21293	21064	20751	20054	6205	3780	11832
41	7061	14297	11111	5765	20696	18544	16925	4348	5051	6825	24662	24423	24158	23228	10028	6696	15636
42	8786	14089	11088	7418	21608	19506	17862	4602	5122	6402	25374	25141	24845	24054	9389	5719	16001
43	11458	7195	5861	15194	7578	5804	4225	9789	9452	9575	11030	10796	10509	9781	9747	11786	3352
44	10732	7681	6039	14511	7813	5902	4263	9401	9115	9409	11502	11263	11002	10146	9838	11637	4098
45	10489	8325	6631	14360	7533	5532	3874	9639	9401	9822	11421	11179	10946	9965	10388	12054	4617
46	10111	8762	6949	14032	7603	5533	3875	9597	9398	9932	11635	11389	11177	10107	10644	12164	5112
47	17392	10787	11335	21416	3182	3973	4531	16402	16016	15841	4410	4187	3866	3652	15203	17964	5860
48	16415	9128	9665	20330	4378	4347	4258	14912	14492	14227	6000	5791	5417	5330	13521	16330	4173
49	17153	8738	9639	20994	5224	5382	5289	15233	14769	14346	6035	5853	5410	5748	13399	16392	4076
50	17317	10197	10840	21293	3764	4331	4679	16061	15652	15408	4819	4609	4239	4242	14683	17511	5326
51	11720	7825	6636	15561	6817	5017	3439	10469	10159	10342	10401	10163	9898	9077	10531	12558	3584
52	15475	10081	10105	19508	3146	2708	2739	14724	14383	14375	6135	5895	5652	4878	14040	16546	4954
53	15244	10487	10367	19316	2774	2153	2311	14768	14455	14531	6213	5967	5772	4777	14313	16718	5354
54	14814	10586	10308	18903	2815	1790	1821	14511	14219	14366	6590	6341	6173	5046	14257	16566	5464
55	11058	11512	9994	15255	5680	3456	2243	12244	12153	12900	10345	10092	10021	8445	13720	15125	7093
56	15450	7917	8308	19273	5354	4781	4192	13605	13168	12869	7361	7153	6774	6635	12177	14967	2860
57	16634	8722	9427	20499	4923	4908	4744	14865	14419	14068	6206	6010	5599	5715	13240	16142	3881
58	6214	9604	6238	8576	14731	12628	10983	2710	2878	4639	18605	18367	18099	17206	7324	6465	9779
59	8535	7513	4688	11900	10916	8906	7245	6260	6018	6611	14638	14401	14125	13297	7790	8834	6080
60	4870	10978	7827	8500	12872	10669	9113	5663	5912	7579	17169	16921	16731	15525	9916	9493	9638
61	8847	7584	4304	10702	15323	13393	11738	2477	1845	2188	18680	18456	18120	17553	4626	4340	9053
62	7910	7718	4552	10959	12264	10241	8581	4910	4686	5455	15966	15732	15447	14646	7050	7649	7120
63	11062	6059	4327	14539	9123	7384	5803	8469	8067	8042	12359	12133	11810	11235	8179	10240	3451
64	13240	6855	6402	16970	6719	5359	4070	11252	10841	10684	9595	9372	9037	8581	10349	12837	2052
65	8783	8008	5513	12417	9793	7744	6085	7388	7188	7815	13660	13420	13169	12237	8867	10040	5724
66	9969	6178	3661	13247	10497	8646	7015	6952	6562	6669	13866	13638	13321	12696	7211	8892	4776
67	8112	9245	6752	11968	9533	7381	5760	7891	7807	8702	13696	13449	13246	12114	10003	10899	6602
68	10916	4666	1580	13672	12245	10547	8962	6189	5601	5055	15172	14959	14588	14232	5069	7186	5327
69	7773	12980	9871	7100	20133	18030	16386	3216	3819	5403	23924	23690	23399	22587	8568	5207	14633
70	7496	15366	12201	5524	21715	19552	17942	5446	6136	7831	25726	25486	25228	24268	10989	7513	16742
71	8053	12377	9299	7645	19820	17739	16089	2746	3280	4772	23534	23302	23002	22238	7925	4585	14147
72	11474	4542	1404	13693	14144	12486	10909	5462	4732	3518	16881	16677	16282	16050	3143	5466	6858
73	7769	14685	11559	6162	21417	19274	17649	4843	5494	7100	25343	25105	24833	23933	10230	6725	16219
74	9506	8543	6471	13355	8405	6330	4674	8800	8611	9202	12402	12158	11934	10900	10056	11432	5348
75	9109	9283	7148	13059	8339	6193	4567	9016	8890	9634	12526	12278	12086	10923	10656	11854	6005
76	8680	9665	7423	12665	8597	6420	4825	8908	8824	9677	12870	12621	12443	11222	10841	11884	6483
77	12282	8539	7569	16221	5828	4038	2497	11417	11125	11334	9527	9285	9045	8130	11485	13550	3911
78	12239	7412	6458	16033	6781	5125	3632	10684	10334	10389	10128	9895	9604	8910	10389	12587	3002
79	10781	9504	7959	14814	6511	4397	2749	10740	10556	11094	10707	10458	10280	9083	11726	13327	5348

To be continued on next page...

DECIBEL - Main Result

Calculation: V136-4.0/4.2

...continued from previous page

Table with columns WTG, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI and rows of numerical data.

To be continued on next page...

DECIBEL - Main Result

Calculation: V136-4.0/4.2

...continued from previous page

WTG	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
141	7801	23277	20024	7501	21781	19728	18759	15133	15858	18097	26633	26384	26395	24536	21195	19079	21593
142	8002	23434	20195	7828	21731	19694	18750	15381	16101	18337	26586	26338	26357	24480	21420	19346	21677
143	8332	23787	20541	8020	22097	20064	19124	15677	16402	18641	26953	26705	26725	24844	21735	19624	22049
144	8794	24249	21005	8405	22473	20450	19527	16127	16854	19093	27329	27082	27108	25213	22192	20064	22497
145	10813	26134	22931	10549	23536	21599	20799	18230	18948	21182	28385	28142	28205	26228	24251	22193	24140
146	11393	26663	23474	11177	23826	21917	21153	18832	19546	21778	28668	28426	28500	26501	24837	22805	24598
147	11778	27063	23871	11495	24196	22294	21538	19204	19921	22155	29036	28794	28871	26865	25220	23167	24999
148	8041	21195	17864	3801	24734	22507	21081	11288	12075	14093	29259	29008	28855	27481	17351	14074	21515
149	7634	21042	17700	3423	24349	22123	20711	11182	11973	14027	28896	28645	28498	27102	17295	14087	21253
150	6974	20551	17200	2778	23695	21469	20062	10747	11542	13631	28250	27998	27853	26449	16906	13781	20668
151	7037	20866	17510	2932	23773	21550	20162	11104	11901	14007	28357	28105	27969	26535	17284	14194	20893
152	7415	21251	17895	3329	24152	21929	20546	11471	12266	14362	28742	28490	28356	26916	17638	14517	21291
153	8202	22178	18823	4213	24928	22709	21347	12392	13188	15276	29547	29294	29169	27699	18550	15395	22191
154	8024	22165	18805	4122	24734	22518	21168	12424	13220	15328	29368	29116	28996	27508	18604	15495	22098
155	7970	22332	18968	4220	24639	22428	21100	12652	13449	15578	29298	29045	28934	27418	18856	15800	22159
156	5191	20732	17407	4189	20945	18782	17601	12055	12808	15053	25722	25469	25413	23735	18225	15898	19607
157	5384	20954	17641	4661	20860	18710	17561	12403	13148	15393	25654	25402	25356	23648	18546	16282	19715
158	5789	21357	18043	4912	21208	19065	17927	12772	13521	15767	26009	25757	25715	23996	18927	16632	20116
159	5940	21514	18210	5242	21151	19019	17904	13018	13761	16006	25962	25711	25676	23936	19154	16901	20195
160	6840	22368	19036	5314	22397	20255	19118	13560	14325	16567	27200	26948	26906	25184	19767	17315	21246
161	4966	20339	16990	3234	21204	19016	17773	11394	12163	14403	25938	25685	25607	23993	17612	15144	19463
162	4528	19914	16568	3024	20801	18610	17357	11020	11785	14027	25528	25275	25193	23589	17227	14805	19025
163	7291	21563	18516	9099	18259	16312	15525	14827	15442	17577	23112	22868	22924	20965	20388	18969	19123
164	7699	21921	18888	9464	18425	16501	15747	15234	15848	17980	23273	23030	23096	21117	20784	19376	19429
165	8722	22892	19882	10332	19004	17135	16452	16264	16879	19011	23837	23596	23682	21662	21810	20405	20306
166	9119	23138	20155	10793	18979	17142	16501	16642	17248	19369	23800	23561	23657	21616	22142	20788	20467
167	6492	21973	18716	6459	20784	18698	17674	13855	14574	16811	25625	25375	25369	23554	19896	17827	20349
168	6099	21666	18372	5561	21097	18976	17884	13256	13995	16239	25917	25666	25639	23879	19372	17162	20272
169	10035	23981	21022	11624	19473	17689	17112	17559	18164	20282	24269	24033	24147	22073	23045	21705	21222
170	6848	22328	18986	5062	22597	20445	19285	13411	14183	16421	27388	27136	27087	25386	19635	17121	21302
171	6848	22272	18924	4842	22749	20589	19409	13268	14044	16278	27529	27277	27221	25539	19503	16938	21329
172	6110	21523	18175	4199	22130	19959	18756	12546	13319	15556	26895	26642	26579	24920	18775	16248	20599
173	5355	20734	17385	3518	21532	19350	18118	11767	12538	14777	26277	26024	25950	24322	17991	15496	19851
174	5765	21180	17833	3943	21823	19649	18438	12229	12999	15238	26582	26330	26263	24614	18452	15952	20255
175	6666	22215	18933	6188	21350	19249	18196	13882	14617	16860	26184	25933	25918	24126	19984	17798	20730
176	5881	20750	17382	2762	22468	20262	18958	11384	12174	14379	27150	26898	26797	25251	17640	14883	20256
177	4627	19257	15888	1346	21343	19125	17771	9903	10691	12903	25971	25718	25598	24115	16158	13467	18846
178	4283	18835	15466	1012	21015	18795	17427	9493	10280	12495	25626	25374	25249	23783	15747	13083	18441
179	3660	19214	15927	4314	19082	16917	15737	11007	11720	13953	23857	23604	23548	21872	17035	15011	17862
180	3310	18877	15582	4026	18950	16774	15569	10623	11337	13572	23708	23456	23391	21740	16659	14624	17588
181	8365	22584	19561	9999	18857	16967	16256	15910	16527	18662	23697	23455	23533	21528	21468	20051	20041
182	6874	22338	19087	6818	20997	18924	17923	14248	14966	17202	25843	25593	25594	23762	20285	18220	20672
183	10298	25432	22270	10473	22480	20565	19799	17813	18510	20730	27324	27082	27153	25160	23743	21838	23283
184	10493	25535	22393	10798	22359	20466	19730	18034	18723	20936	27197	26956	27035	25026	23928	22076	23308
185	10877	25925	22784	11126	22681	20800	20078	18413	19105	21319	27515	27275	27359	25340	24315	22450	23687
186	11290	26325	23189	11511	22974	21108	20406	18826	19517	21732	27802	27563	27652	25622	24727	22861	24061
187	11607	26587	23464	11876	23070	21224	20547	19153	19841	22052	27891	27652	27749	25705	25036	23196	24271
188	11790	26687	23581	12157	22984	21158	20507	19351	20032	22238	27796	27558	27662	25605	25203	23407	24307
189	6734	20166	16817	2498	23431	21204	19785	10352	11147	13234	27967	27716	27566	26180	16509	13387	20321
190	7675	21618	18262	3650	24408	22187	20816	11848	12644	14742	29014	28762	28633	27176	18018	14895	21625
191	2973	18545	15245	3801	18798	16614	15386	10260	10975	13209	23541	23288	23216	21588	16300	14263	17309
192	11033	26302	23112	10860	23523	21604	20829	18479	19192	21423	28368	28126	28196	26205	24478	22457	24247
193	6147	21032	17886	7542	18772	16738	15813	13737	14391	16573	23627	23379	23399	21522	19496	17844	18950
194	5992	21091	17910	7092	19173	17118	16155	13568	14240	16439	24024	23775	23785	21932	19408	17650	19142
195	8074	22185	19173	9862	18457	16559	15841	15596	16204	18328	23299	23057	23132	21133	21114	19741	19623
196	9743	23645	20688	11413	19181	17386	16797	17254	17856	19969	23983	23747	23857	21790	22722	21402	20888
197	9468	23311	20359	11229	18878	17073	16474	16963	17560	19666	23685	23448	23555	21495	22408	21113	20551
198	3836	18431	15063	976	20572	18350	16979	9161	9944	12168	25177	24925	24799	23338	15410	12814	17996
199	5582	20406	17038	2425	22206	19997	18681	11041	11831	14037	26877	26624	26519	24987	17297	14553	19930
200	5286	20069	16701	2108	21941	19729	18403	10712	11501	13709	26600	26347	26238	24719	16967	14241	19607
201	5031	19730	16362	1762	21721	19506	18165	10362	11151	13359	26365	26112	25998	24496	16617	13896	19302

To be continued on next page...

Project: Description:

Aurora

Licensed user:

TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/15/2018 12:04 AM/3.0.654

DECIBEL - Main Result

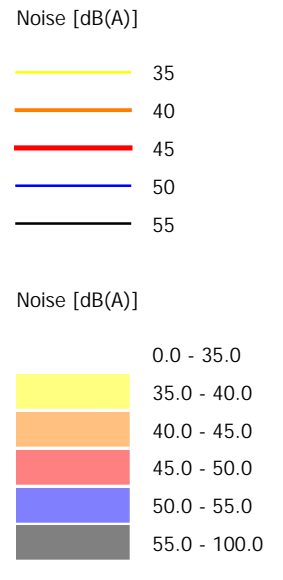
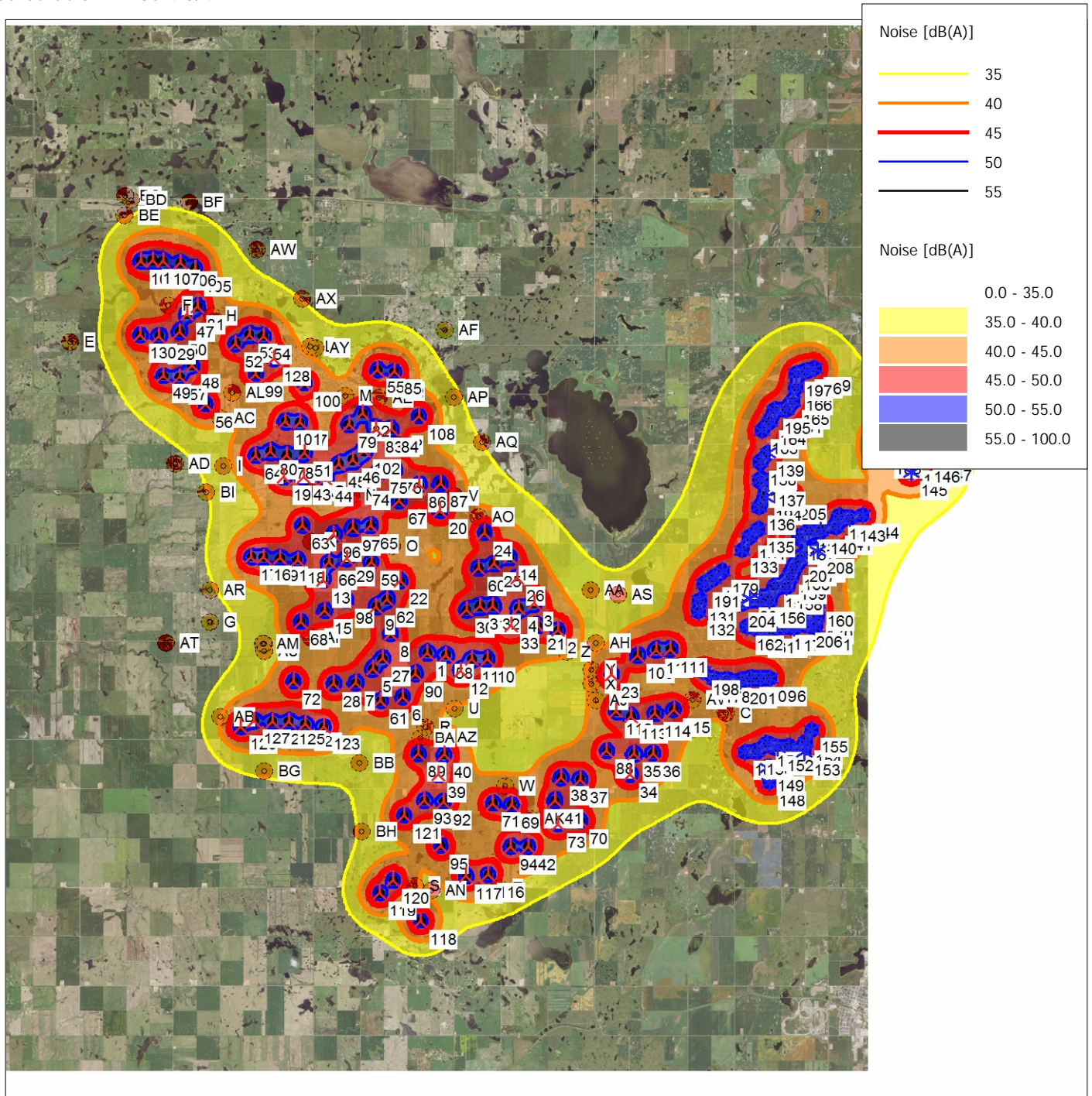
Calculation: V136-4.0/4.2

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WTG	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
202	4858	20403	17079	4017	20648	18481	17291	11761	12511	14756	25419	25166	25107	23438	17920	15624	19274
203	4524	20070	16747	3837	20368	18197	16996	11454	12201	14446	25132	24880	24817	23159	17604	15334	18945
204	4184	19711	16384	3520	20178	17997	16775	11068	11815	14060	24927	24674	24604	22968	17220	14948	18635
205	6733	21924	18732	7453	19938	17900	16961	14279	14965	17176	24792	24544	24562	22689	20174	18337	19991
206	6520	21956	18610	4616	22432	20269	19085	12988	13762	15998	27209	26956	26899	25222	19218	16684	20998
207	6333	21888	18603	5896	21129	19019	17950	13546	14281	16523	25957	25706	25686	23907	19647	17466	20429
208	6996	22539	19260	6494	21559	19467	18432	14220	14955	17198	26397	26147	26138	24331	20322	18134	21023

DECIBEL - Map 95% rated power

Calculation: V136-4.0/4.2



0 2.5 5 7.5 10km

Map: US Naval Research Laboratory , Print scale 1:200,000, Map center UTM WGS84 Zone: 13 East: 641,190 North: 5,375,412

▲ New WTG * Existing WTG ● Noise sensitive area

Noise calculation model: ISO 9613-2 General. Wind speed: 95% rated power
 Height above sea level from active line object

DECIBEL - Main Result

Calculation: V136-3.45/3.6

Noise calculation model:

ISO 9613-2 General

Wind speed:

95% rated power

Ground attenuation:

General, fixed, Ground factor: 0.5

Meteorological coefficient, CO:

0.0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

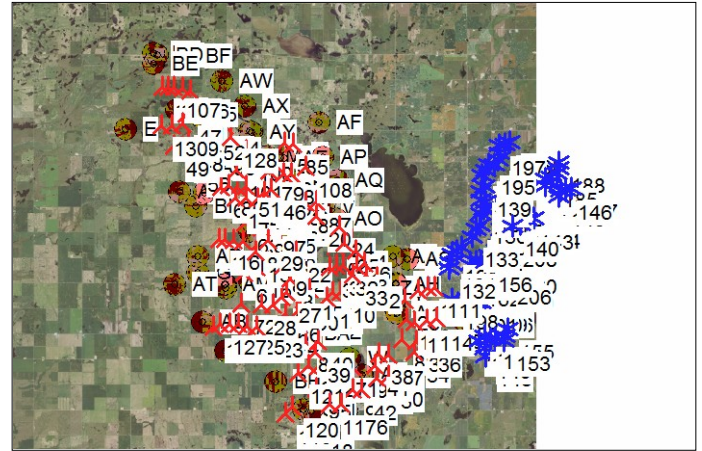
Pure and Impulse tone penalty are added to WTG source noise

Height above ground level, when no value in NSA object:

1.5 m Don't allow override of model height with height from NSA object

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0.0 dB(A)



Scale 1:500,000

- ▲ New WTG
- ✱ Existing WTG
- Noise sensitive area

WTGs

X(East)	Y(North)	Z	Row data/Description	WTG type			Noise data			Wind speed [m/s]	LwA_ref [dB(A)]	Pure tones	
				Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]				Creator
[m]													
1	637,619	5,373,512	727.5 T-43	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
2	642,085	5,374,363	728.5 T-41	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
3	641,252	5,375,220	737.7 T-63	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
4	640,729	5,375,038	740.7 T-62	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
5	635,764	5,372,945	724.6 T-45	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
6	636,817	5,372,047	728.5 T-35	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
7	635,193	5,372,473	710.2 T-47	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
8	636,346	5,374,109	734.6 T-56	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
9	635,830	5,374,972	728.5 T-55	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
10	639,692	5,373,363	740.7 T-39	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
11	639,157	5,373,344	739.4 T-38	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
12	638,790	5,372,951	734.6 T-37	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
13	633,988	5,375,810	737.6 T-70	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
14	640,372	5,376,713	738.1 T-77	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
15	634,074	5,374,798	721.2 T-53	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
16	631,934	5,376,511	729.8 T-67	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
17	631,510	5,376,507	731.5 T-66	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
18	633,108	5,376,447	723.9 T-69	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
19	632,563	5,379,145	737.6 T-93	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
20	637,951	5,378,169	715.2 T-80	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
21	641,389	5,374,486	743.7 T-58	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
22	636,640	5,375,835	734.6 T-73	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
23	643,972	5,372,967	712.3 T-28	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
24	639,495	5,377,499	738.7 T-78	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
25	639,840	5,376,489	737.6 T-76	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
26	640,649	5,376,031	731.5 T-79	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
27	636,095	5,373,292	733.9 T-46	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
28	634,438	5,372,432	701.0 T-57	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
29	634,798	5,376,526	725.4 T-71	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
30	638,928	5,374,941	737.6 T-59	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
31	639,384	5,375,074	737.6 T-60	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
32	639,838	5,375,100	737.6 T-61	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
33	640,492	5,374,466	743.6 T-40	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
34	644,695	5,369,685	736.0 T-15	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
35	644,792	5,370,371	743.7 T-16	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
36	645,456	5,370,405	735.1 T-17	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
37	642,975	5,369,494	737.6 T-12	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
38	642,303	5,369,536	734.9 T-13	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
39	638,102	5,369,527	710.5 T-26	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
40	638,282	5,370,192	712.5 T-25	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
41	642,122	5,368,780	734.6 T-10	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No
42	641,239	5,367,252	719.1 T-8	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB)	(95%) 110.2	No

To be continued on next page...

Project:
Aurora

Description:

Licensed user:

TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
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+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/14/2018 11:15 PM/3.0.654

DECIBEL - Main Result

Calculation: V136-3.45/3.6

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	X(East)	Y(North)	Z	Row data/Description	WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Noise data		Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones
					Valid	Manufact.				Type-generator	Creator			
43	633,243	5,379,162	737.6	T-94	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
44	634,001	5,379,136	737.6	T-95	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
45	634,443	5,379,605	731.5	T-96	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
46	634,918	5,379,749	728.5	T-121	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
47	629,136	5,384,387	713.2	T-142	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
48	629,347	5,382,713	710.2	T-131	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
49	628,366	5,382,343	707.1	T-129	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
50	628,893	5,383,804	717.2	T-141	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
51	633,253	5,379,950	729.4	T-123	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
52	630,815	5,383,459	711.9	T-144	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
53	631,275	5,383,767	710.7	T-145	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
54	631,767	5,383,732	713.2	T-146	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
55	635,699	5,382,724	710.2	T-122	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
56	629,834	5,381,441	713.0	T-117	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
57	628,926	5,382,328	703.0	T-130	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
58	638,268	5,373,457	731.5	T-44	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
59	635,628	5,376,434	728.5	T-72	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
60	639,307	5,376,310	731.5	T-75	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
61	636,056	5,371,908	719.3	T-34	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
62	636,215	5,375,218	731.5	T-74	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
63	633,243	5,377,581	731.5	T-81	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
64	631,582	5,379,814	726.8	T-98	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
65	635,586	5,377,640	725.5	T-85	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
66	634,183	5,376,389	733.5	T-86	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
67	636,542	5,378,452	715.1	T-87	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
68	633,261	5,374,418	716.3	T-51	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
69	640,641	5,368,602	728.5	T-23	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
70	643,024	5,368,138	728.5	T-11	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
71	639,998	5,368,634	725.4	T-22	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
72	633,064	5,372,478	698.0	T-5	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
73	642,243	5,368,015	730.6	T-9	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
74	635,270	5,379,029	725.4	T-90	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
75	635,883	5,379,448	720.6	T-91	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
76	636,364	5,379,455	716.0	T-92	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
77	633,072	5,380,925	729.9	T-106	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
78	632,659	5,379,855	737.2	T-100	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
79	634,758	5,380,905	718.9	T-107	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
80	632,089	5,379,958	731.5	T-99	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
81	629,494	5,384,648	709.6	T-143	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
82	635,222	5,381,271	716.3	T-108	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
83	635,678	5,380,785	716.0	T-109	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
84	636,220	5,380,785	716.3	T-110	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
85	636,276	5,382,673	710.2	T-124	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
86	637,208	5,379,005	710.9	T-88	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
87	637,941	5,379,046	713.2	T-89	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
88	643,859	5,370,443	732.3	T-14	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
89	637,408	5,370,185	701.0	T-24	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
90	637,234	5,372,817	719.9	T-42	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
91	632,509	5,376,501	722.8	T-68	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
92	638,306	5,368,644	716.3	T-21	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
93	637,648	5,368,666	713.2	T-20	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
94	640,643	5,367,238	719.3	T-19	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
95	638,242	5,367,207	710.2	T-18	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
96	634,318	5,377,326	731.6	T-83	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
97	634,979	5,377,549	725.3	T-84	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
98	634,798	5,375,163	713.2	T-54	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
99	631,532	5,382,484	707.7	T-118	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
100	633,206	5,382,201	722.4	T-120	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
101	632,585	5,380,949	731.5	T-105	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
102	635,298	5,380,049	728.5	T-97	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
103	627,504	5,386,079	711.3	T-147	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
104	627,911	5,386,105	710.2	T-148	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
105	629,368	5,385,888	704.0	T-149	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
106	628,867	5,386,049	710.2	T-150	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
107	628,269	5,386,086	711.9	T-151	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
108	637,149	5,381,224	704.1	T-152	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
109	644,833	5,373,605	713.9	T-153	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No
110	645,462	5,373,811	728.5	T-154	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER	Standard +2 (110.2 dB) (95%)	110.2	No

To be continued on next page...

Project:
Aurora

Description:

Licensed user:

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+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/14/2018 11:15 PM/3.0.654

DECIBEL - Main Result

Calculation: V136-3.45/3.6

...continued from previous page

X(East)	Y(North)	Z	Row data/Description	WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Noise data		Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones
				Valid	Manufact.				Type-generator	Creator			
111	645,966	5,373,838	730.1 T-155	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
112	644,144	5,371,765	710.2 T-156	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
113	644,660	5,371,616	715.4 T-157	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
114	645,479	5,371,724	719.3 T-158	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
115	646,127	5,371,875	717.1 T-159	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
116	639,890	5,366,309	710.2 T-160	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
117	639,135	5,366,239	709.0 T-161	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
118	637,617	5,364,719	707.6 T-162	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
119	636,191	5,365,609	711.4 T-163	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
120	636,640	5,366,042	710.2 T-164	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
121	636,954	5,368,164	711.3 T-165	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
122	633,495	5,371,087	689.0 T-166	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
123	634,130	5,371,006	696.6 T-167	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
124	632,359	5,371,139	688.8 T-168	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
125	632,926	5,371,158	686.0 T-169	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
126	631,283	5,370,947	682.8 T-170	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
127	631,732	5,371,159	684.7 T-171	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
128	632,154	5,382,999	713.2 T-172	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
129	628,195	5,383,647	711.6 T-173	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
130	627,535	5,383,666	710.2 T-174	Yes	VESTAS	V136-3.6-3,600	3,600	136.0	82.0	USER Standard +2 (110.2 dB)	(95%)	110.2	No
131	646,913	5,375,455	745.7 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
132	646,888	5,375,080	743.7 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
133	648,328	5,377,151	749.8 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
134	648,570	5,377,592	749.8 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
135	648,872	5,377,853	752.9 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
136	648,872	5,378,572	753.8 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
137	649,189	5,379,368	749.8 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
138	648,868	5,380,034	743.7 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
139	649,124	5,380,328	729.4 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
140	651,007	5,377,868	748.7 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
141	651,525	5,378,000	750.5 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
142	651,616	5,378,348	758.5 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
143	651,987	5,378,290	755.6 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
144	652,436	5,378,405	749.8 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
145	654,047	5,379,834	743.7 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
146	654,478	5,380,290	740.6 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
147	654,876	5,380,346	731.4 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
148	649,468	5,369,552	735.9 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
149	649,403	5,370,046	745.1 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
150	648,989	5,370,563	740.7 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
151	649,348	5,370,846	749.8 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
152	649,714	5,370,690	746.8 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
153	650,635	5,370,574	746.1 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
154	650,667	5,370,918	744.2 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
155	650,882	5,371,340	743.7 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
156	649,309	5,375,532	733.1 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
157	649,484	5,375,990	732.8 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
158	649,889	5,375,994	741.6 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
159	650,008	5,376,322	740.0 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
160	650,956	5,375,465	750.7 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
161	648,982	5,374,557	737.6 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
162	648,553	5,374,643	733.0 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
163	648,903	5,381,054	722.4 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
164	649,170	5,381,363	721.8 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
165	649,950	5,382,038	713.3 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
166	650,030	5,382,496	712.9 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
167	650,267	5,377,632	746.8 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
168	650,119	5,376,640	740.5 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
169	650,663	5,383,159	707.1 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
170	650,947	5,375,049	753.6 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
171	650,911	5,374,694	758.6 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
172	650,163	5,374,664	746.8 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
173	649,378	5,374,555	741.2 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
174	649,818	5,374,694	743.7 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
175	650,613	5,377,049	737.7 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
176	649,406	5,372,982	725.6 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
177	647,909	5,372,903	716.3 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No
178	647,487	5,372,910	715.5 VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER Mode 0 (105) + 2dB	(95%)	107.0	No

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DECIBEL - Main Result

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	X(East)	Y(North)	Z	Row data/Description	WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Noise data		Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones
					Valid	Manufact.				Type-generator	Creator			
179	647,672	5,376,428	744.3	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
180	647,365	5,376,192	740.8	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
181	649,728	5,381,758	721.2	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
182	650,599	5,377,842	746.4	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
183	653,143	5,380,511	713.2	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
184	653,130	5,380,927	710.2	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
185	653,497	5,381,062	704.6	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
186	653,850	5,381,276	700.8	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
187	654,022	5,381,604	696.2	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
188	654,011	5,381,966	694.9	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
189	648,594	5,370,523	731.5	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
190	650,092	5,370,737	743.7	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
191	647,056	5,376,002	741.1	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
192	654,134	5,380,179	733.9	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
193	648,870	5,379,452	759.0	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
194	649,079	5,378,913	759.0	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
195	649,308	5,381,738	716.7	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
196	650,346	5,383,045	709.6	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
197	650,021	5,382,956	710.0	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
198	647,090	5,373,129	713.2	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
199	649,061	5,372,960	722.4	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
200	648,724	5,372,961	720.7	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
201	648,883	5,372,886	713.9	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
202	648,975	5,375,560	735.2	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
203	648,641	5,375,554	726.1	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
204	648,297	5,375,376	728.5	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
205	649,928	5,378,956	741.8	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
206	650,591	5,374,779	748.5	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
207	650,301	5,376,922	735.1	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No
208	650,917	5,377,197	740.0	VESTAS V100 2000 100.....	Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB (95%)	107.0	No

Calculation Results

Sound Level

No.	Name	X(East)	Y(North)	Z [m]	Imission height [m]	Demands		Distance to noise demand [m]	Demands fulfilled ?
						Noise [dB(A)]	Sound Level From WTGs [dB(A)]		
A 1 - Non-Participating	644,116	5,375,554	701.3	1.5	50.0	36.8	1,797	Yes	
B 39 - Participating	643,400	5,373,971	711.5	1.5	50.0	40.2	889	Yes	
C 2 - Non-Participating	647,930	5,371,801	718.0	1.5	50.0	41.1	888	Yes	
D 40 - Participating	643,453	5,372,099	716.3	1.5	50.0	42.8	490	Yes	
E 41 - Participating	625,162	5,383,364	711.9	1.5	50.0	31.7	2,125	Yes	
F 42 - Participating	628,500	5,384,644	704.1	1.5	50.0	45.0	381	Yes	
G 43 - Participating	630,148	5,374,327	691.9	1.5	50.0	33.7	2,291	Yes	
H 44 - Participating	629,997	5,384,325	711.4	1.5	50.0	45.1	305	Yes	
I 3 - Non-Participating	630,488	5,379,437	722.7	1.5	50.0	39.0	882	Yes	
J 4 - Non-Participating	632,031	5,373,676	696.3	1.5	50.0	38.3	1,172	Yes	
K 45 - Participating	633,554	5,377,057	735.4	1.5	50.0	46.8	318	Yes	
L 46 - Participating	633,395	5,383,413	715.7	1.5	50.0	39.7	958	Yes	
M 47 - Participating	634,615	5,381,825	716.9	1.5	50.0	43.5	522	Yes	
N 48 - Participating	634,891	5,378,584	728.5	1.5	50.0	46.4	280	Yes	
O 5 - Non-Participating	636,328	5,376,974	731.5	1.5	50.0	43.7	597	Yes	
P 49 - Participating	636,455	5,380,259	709.9	1.5	50.0	46.6	276	Yes	
Q 50 - Participating	636,416	5,382,006	707.4	1.5	50.0	44.1	406	Yes	
R 51 - Participating	637,621	5,371,070	716.6	1.5	50.0	42.3	636	Yes	
S 6 - Non-Participating	637,411	5,365,868	713.2	1.5	50.0	41.9	522	Yes	
T 52 - Participating	640,276	5,365,862	710.2	1.5	50.0	43.4	323	Yes	
U 7 - Non-Participating	638,615	5,371,717	720.3	1.5	50.0	40.7	959	Yes	
V 8 - Non-Participating	638,435	5,378,666	709.4	1.5	50.0	44.9	343	Yes	
W 9 - Non-Participating	640,413	5,369,191	728.5	1.5	50.0	44.6	344	Yes	
X 10 - Non-Participating	643,279	5,372,615	722.4	1.5	50.0	42.1	506	Yes	
Y 11 - Non-Participating	643,282	5,373,088	726.9	1.5	50.0	42.4	432	Yes	

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DECIBEL - Main Result

Calculation: V136-3.45/3.6

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No.	Name	X(East)	Y(North)	Z [m]	Emission height [m]	Demands Noise [dB(A)]	Sound Level		Demands fulfilled ?
							From WTGs [dB(A)]	Distance to noise demand [m]	
Z 53 - Participating	642,413	5,373,644	734.1	1.5	50.0	41.8	517	Yes	
AA 54 - Participating	643,167	5,375,685	714.9	1.5	50.0	37.4	1,438	Yes	
AB 12 - Non-Participating	630,584	5,371,240	682.8	1.5	50.0	41.1	486	Yes	
AC 13 - Non-Participating	630,347	5,380,996	717.6	1.5	50.0	42.4	416	Yes	
AD 14 - Non-Participating	628,838	5,379,465	705.2	1.5	50.0	34.4	1,950	Yes	
AE 55 - Participating	635,760	5,381,775	711.0	1.5	50.0	44.9	441	Yes	
AF 15 - Non-Participating	637,972	5,384,054	715.8	1.5	50.0	32.9	1,918	Yes	
AG 57 - Participating	633,480	5,378,691	739.8	1.5	50.0	47.1	215	Yes	
AH 59 - Participating	643,400	5,373,968	711.4	1.5	50.0	40.2	886	Yes	
AI 61 - Participating	633,645	5,373,895	713.7	1.5	50.0	43.9	376	Yes	
AJ 62 - Participating	643,453	5,372,097	716.3	1.5	50.0	42.8	489	Yes	
AK 63 - Participating	641,300	5,368,154	725.4	1.5	50.0	44.5	520	Yes	
AL 16 - Non-Participating	630,734	5,381,835	710.2	1.5	50.0	42.1	717	Yes	
AM 17 - Non-Participating	631,989	5,373,670	695.8	1.5	50.0	38.1	1,210	Yes	
AN 18 - Non-Participating	637,954	5,365,740	710.2	1.5	50.0	40.4	814	Yes	
AO 64 - Participating	639,268	5,377,996	720.6	1.5	50.0	44.3	282	Yes	
AP 19 - Non-Participating	638,331	5,381,857	701.5	1.5	50.0	36.9	1,076	Yes	
AQ 20 - Non-Participating	639,333	5,380,415	707.1	1.5	50.0	35.7	1,682	Yes	
AR 21 - Non-Participating	630,142	5,375,377	701.9	1.5	50.0	35.1	1,498	Yes	
AS 22 - Non-Participating	644,117	5,375,554	701.3	1.5	50.0	36.8	1,796	Yes	
AT 23 - Non-Participating	628,666	5,373,611	682.8	1.5	50.0	30.5	3,456	Yes	
AU 24 - Non-Participating	632,030	5,373,428	696.5	1.5	50.0	38.4	1,139	Yes	
AV 27 - Non-Participating	646,754	5,372,213	713.2	1.5	50.0	43.5	438	Yes	
AW 29 - Non-Participating	631,486	5,386,533	696.9	1.5	50.0	34.1	1,938	Yes	
AX 30 - Non-Participating	633,067	5,384,963	707.0	1.5	50.0	35.7	1,509	Yes	
AY 31 - Non-Participating	633,553	5,383,375	714.8	1.5	50.0	39.3	958	Yes	
AZ 66 - Participating	638,244	5,370,747	710.8	1.5	50.0	44.6	281	Yes	
BA 67 - Participating	637,448	5,370,698	712.2	1.5	50.0	45.2	241	Yes	
BB 68 - Participating	635,378	5,369,828	692.6	1.5	50.0	37.7	1,447	Yes	
BC 32 - Non-Participating	626,925	5,388,203	701.4	1.5	50.0	32.4	1,904	Yes	
BD 33 - Non-Participating	627,137	5,388,066	701.0	1.5	50.0	33.4	1,718	Yes	
BE 34 - Non-Participating	626,921	5,387,556	704.1	1.5	50.0	35.3	1,296	Yes	
BF 35 - Non-Participating	629,137	5,388,039	693.3	1.5	50.0	34.3	1,708	Yes	
BG 36 - Non-Participating	632,118	5,369,480	691.6	1.5	50.0	37.0	1,376	Yes	
BH 37 - Non-Participating	635,531	5,367,600	699.2	1.5	50.0	36.6	1,267	Yes	
BI 38 - Non-Participating	629,941	5,378,583	713.2	1.5	50.0	35.7	1,775	Yes	

Distances (m)

WTG	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	6810	5799	10452	6003	15882	14390	7516	13229	9271	5591	5393	10764	8839	5759	3695	6847	8579	2442	7647	8099	2053	5218
2	2355	1372	6382	2645	19168	17037	11937	15664	12659	10077	8946	12547	10558	8341	6322	8153	9516	5546	9696	8691	4363	5643
3	2883	2484	7503	3819	18034	15857	11140	14477	11561	9350	7914	11352	9363	7196	5227	6957	8333	5514	10110	9409	4385	4451
4	3426	2876	7896	4008	17654	15551	10605	14192	11146	8804	7453	11132	9134	6830	4808	6747	8195	5040	9752	9188	3937	4293
5	8751	7705	12221	7736	14865	13771	5783	12758	8366	3804	4668	10733	8954	5707	4069	7347	9085	2639	7266	8398	3105	6315
6	8098	6859	11117	6637	16245	15095	7047	14045	9729	5055	5978	11870	10022	6815	4951	8220	9967	1266	6207	7087	1829	6814
7	9440	8343	12755	8269	14807	13890	5375	12941	8404	3383	4868	11086	9369	6119	4642	7888	9611	2805	6968	8340	3505	6990
8	7903	7055	11812	7386	14517	13136	6202	12028	7919	4337	4060	9760	7907	4706	2865	6151	7897	3296	8310	9136	3297	5013
9	8306	7636	12509	8146	13573	12136	5719	11023	6962	4014	3086	8785	6960	3732	2063	5324	7059	4294	9240	10137	4284	4520
10	4937	3758	8385	3968	17639	15891	9592	14634	11028	7667	7164	11860	9868	7093	4935	7618	9243	3089	7834	7524	1967	5450
11	5429	4289	8908	4473	17213	15533	9063	14300	10596	7134	6722	11601	9620	6757	4602	7424	9085	2744	7677	7566	1715	5371
12	5928	4721	9212	4740	17151	15577	8751	14377	10536	6798	6654	11771	9807	6851	4717	7673	9362	2214	7216	7243	1246	5726
13	10131	9590	14507	10166	11618	10400	4117	9404	5041	2896	1320	7626	6047	2917	2613	5087	6655	5972	10515	11769	6178	5285
14	3919	4084	9014	5548	16601	14278	10499	12869	10253	8877	6827	9673	7699	5792	4053	5284	6609	6278	11242	10852	5296	2752
15	10070	9362	14177	9760	12361	11314	3955	10362	5863	2331	2318	8641	7047	3873	3132	5957	7579	5146	9533	10878	5488	5829
16	12220	11744	16676	12335	9635	8829	2821	8051	3264	2836	1710	7055	5953	3612	4418	5873	7092	7871	11969	13528	8224	6849
17	12642	12158	17082	12731	9344	8676	2570	7963	3104	2878	2118	7159	6159	3969	4841	6208	7370	8180	12166	13790	8569	7254
18	11044	10585	15533	11221	10535	9404	3641	8470	3976	2973	756	6972	5585	2783	3262	5073	6469	7020	11420	12784	7260	5770
19	12098	12009	17033	12971	8519	6837	5389	5781	2095	5495	2311	4349	3376	2395	4346	4049	4800	9529	14134	15360	9582	5892
20	6696	6878	11838	8193	13804	11457	8699	10058	7570	7433	4536	6946	4949	3088	2016	2570	4133	7107	12313	12526	6487	693
21	2928	2075	7071	3156	18497	16411	11243	15053	11973	9394	8246	11983	9987	7683	5640	7595	9016	5086	9492	8696	3920	5119

To be continued on next page...

DECIBEL - Main Result

Calculation: V136-3.45/3.6

...continued from previous page

Table with columns WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V. It contains a grid of numerical data points representing decibel measurements across various wind turbine weights and directions.

To be continued on next page...

DECIBEL - Main Result

Calculation: V136-3.45/3.6

...continued from previous page

Table with 21 columns (WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V) and 30 rows of numerical data representing decibel measurements.

To be continued on next page...

DECIBEL - Main Result

Calculation: V136-3.45/3.6

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Table with columns WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V. Contains numerical data for wind turbine performance across various parameters.

Table with columns WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR. Contains numerical data for wind turbine performance across various parameters.

To be continued on next page...

DECIBEL - Main Result

Calculation: V136-3.45/3.6

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Table with columns WGTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR. Rows 19-87 containing numerical data.

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DECIBEL - Main Result

Calculation: V136-3.45/3.6

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Table with 23 columns (WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR) and 40 rows of numerical data representing decibel values.

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DECIBEL - Main Result

Calculation: V136-3.45/3.6

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Table with columns WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR. Contains numerical data for wind turbine performance across various parameters.

Table with columns WTG, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI. Contains numerical data for wind turbine performance across various parameters.

To be continued on next page...

DECIBEL - Main Result

Calculation: V136-3.45/3.6

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WTG	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
14	3920	12111	8966	7809	13245	11020	9534	6334	6688	8506	17688	17438	17278	15954	10975	10319	10598
15	10072	5537	2461	12941	12017	10215	8593	5814	5311	5139	15192	14972	14627	14132	5667	7344	5605
16	12222	4369	3084	15431	10033	8528	7053	8547	8013	7518	12720	12511	12130	11863	7033	9609	2875
17	12644	4059	3122	15838	10027	8599	7166	8862	8308	7718	12563	12359	11965	11774	7053	9772	2603
18	11046	5271	3206	14288	10216	8516	6943	7672	7204	6997	13283	13064	12716	12254	7037	9173	3821
19	12100	6768	5741	15794	7467	5840	4345	10139	9758	9733	10670	10442	10129	9532	9675	11920	2682
20	6698	10344	7586	10629	10572	8368	6816	7428	7489	8729	14909	14659	14484	13233	10466	10843	8022
21	2929	12754	9419	5826	15596	13381	11851	4886	5467	7605	19935	19686	19498	18271	10537	9041	12160
22	7482	8279	5201	10743	11876	9803	8149	5334	5200	6138	15728	15489	15227	14327	7800	8309	7242
23	2591	15320	11951	2882	18438	16213	14728	6143	6907	9149	22864	22614	22441	21149	12356	10003	15114
24	5016	11506	8503	8980	12073	9851	8357	6867	7103	8706	16510	16260	16102	14778	10896	10663	9616
25	4378	11539	8389	8129	13065	10849	9326	5960	6266	8017	17437	17188	17012	15748	10429	9878	10119
26	3501	12225	9004	7201	13938	11716	10213	5806	6220	8140	18344	18094	17925	16635	10756	9863	11008
27	8336	7436	4067	10714	14021	12058	10399	3331	2926	3537	17505	17278	16960	16307	5508	5720	8116
28	10170	5892	2606	12318	14407	12606	10979	4162	3474	2768	17469	17255	16890	16483	3755	4954	7620
29	9370	6790	4155	12710	10541	8613	6962	6728	6403	6723	14084	13852	13555	12830	7539	8956	5275
30	5226	10348	7062	8288	13776	11611	10002	4249	4493	6224	17888	17644	17416	16354	8729	8088	9697
31	4758	10817	7536	7906	13917	11734	10145	4475	4785	6601	18100	17854	17639	16526	9170	8409	10074
32	4304	11271	7985	7495	14159	11964	10392	4635	5009	6905	18397	18150	17945	16791	9549	8649	10492
33	3785	11857	8525	6655	15058	12858	11293	4345	4844	6904	19308	19061	18856	17697	9746	8471	11326
34	5897	16503	13207	3260	21409	19200	17652	6538	7317	9318	25666	25420	25206	24062	12579	9398	17230
35	5226	16448	13123	2691	20935	18719	17188	6559	7351	9429	25243	24996	24794	23606	12705	9667	16971
36	5320	17093	13762	2226	21338	19117	17605	7220	8013	10094	25694	25446	25254	24027	13370	10314	17539
37	6166	14890	11631	4655	20551	18371	16778	4894	5656	7604	24651	24408	24166	23139	10857	7681	15891
38	6285	14233	10986	5193	20148	17981	16374	4236	4992	6931	24186	23945	23693	22710	10185	7044	15320
39	8515	10282	7218	9059	18248	16237	14577	1228	1341	2741	21766	21539	21215	20569	5984	3213	12191
40	7924	10206	7040	8709	17698	15665	14006	556	975	2927	21293	21064	20751	20054	6205	3780	11832
41	7061	14297	11111	5765	20696	18544	16925	4348	5051	6825	24662	24423	24158	23228	10028	6696	15636
42	8786	14089	11088	7418	21608	19506	17862	4602	5122	6402	25374	25141	24845	24054	9389	5719	16001
43	11458	7195	5861	15194	7578	5804	4225	9789	9452	9575	11030	10796	10509	9781	9747	11786	3352
44	10732	7681	6039	14511	7813	5902	4263	9401	9115	9409	11502	11263	11002	10146	9838	11637	4098
45	10489	8325	6631	14360	7533	5532	3874	9639	9401	9822	11421	11179	10946	9965	10388	12054	4617
46	10111	8762	6949	14032	7603	5533	3875	9597	9398	9932	11635	11389	11177	10107	10644	12164	5112
47	17392	10787	11335	21416	3182	3973	4531	16402	16016	15841	4410	4187	3866	3652	15203	17964	5860
48	16415	9128	9665	20330	4378	4347	4258	14912	14492	14227	6000	5791	5417	5330	13521	16330	4173
49	17153	8738	9639	20994	5224	5382	5289	15233	14769	14346	6035	5853	5410	5748	13399	16392	4076
50	17317	10197	10840	21293	3764	4331	4679	16061	15652	15408	4819	4609	4239	4242	14683	17511	5326
51	11720	7825	6636	15561	6817	5017	3439	10469	10159	10342	10401	10163	9898	9077	10531	12558	3584
52	15475	10081	10105	19508	3146	2708	2739	14724	14383	14375	6135	5895	5652	4878	14040	16546	4954
53	15244	10487	10367	19316	2774	2153	2311	14768	14455	14531	6213	5967	5772	4777	14313	16718	5354
54	14814	10586	10308	18903	2815	1790	1821	14511	14219	14366	6590	6341	6173	5046	14257	16566	5464
55	11058	11512	9994	15255	5680	3456	2243	12244	12153	12900	10345	10092	10021	8445	13720	15125	7093
56	15450	7917	8308	19273	5354	4781	4192	13605	13168	12869	7361	7153	6774	6635	12177	14967	2860
57	16634	8722	9427	20499	4923	4908	4744	14865	14419	14068	6206	6010	5599	5715	13240	16142	3881
58	6214	9604	6238	8576	14731	12628	10983	2710	2878	4639	18605	18367	18099	17206	7324	6465	9779
59	8535	7513	4688	11900	10916	8906	7245	6260	6018	6611	14638	14401	14125	13297	7790	8834	6080
60	4870	10978	7827	8500	12872	10669	9113	5663	5912	7579	17169	16921	16731	15525	9916	9493	9638
61	8847	7584	4304	10702	15323	13393	11738	2477	1845	2188	18680	18456	18120	17553	4626	4340	9053
62	7910	7718	4552	10959	12264	10241	8581	4910	4686	5455	15966	15732	15447	14646	7050	7649	7120
63	11062	6059	4327	14539	9123	7384	5803	8469	8067	8042	12359	12133	11810	11235	8179	10240	3451
64	13240	6855	6402	16970	6719	5359	4070	11252	10841	10684	9595	9372	9037	8581	10349	12837	2052
65	8783	8008	5513	12417	9793	7744	6085	7388	7188	7815	13660	13420	13169	12237	8867	10040	5724
66	9969	6178	3661	13247	10497	8646	7015	6952	6562	6669	13866	13638	13321	12696	7211	8892	4776
67	8112	9245	6752	11968	9533	7381	5760	7891	7807	8702	13696	13449	13246	12114	10003	10899	6602
68	10916	4666	1580	13672	12245	10547	8962	6189	5601	5055	15172	14959	14588	14232	5069	7186	5327
69	7773	12980	9871	7100	20133	18030	16386	3216	3819	5403	23924	23690	23399	22587	8568	5207	14633
70	7496	15366	12201	5524	21715	19552	17942	5446	6136	7831	25726	25486	25228	24268	10989	7513	16742
71	8053	12377	9299	7645	19820	17739	16089	2746	3280	4772	23534	23302	23002	22238	7925	4585	14147
72	11474	4542	1404	13693	14144	12486	10909	5462	4732	3518	16881	16677	16282	16050	3143	5466	6858
73	7769	14685	11559	6162	21417	19274	17649	4843	5494	7100	25343	25105	24833	23933	10230	6725	16219
74	9506	8543	6471	13355	8405	6330	4674	8800	8611	9202	12402	12158	11934	10900	10056	11432	5348

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DECIBEL - Main Result

Calculation: V136-3.45/3.6

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WTG	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
75	9109	9283	7148	13059	8339	6193	4567	9016	8890	9634	12526	12278	12086	10923	10656	11854	6005
76	8680	9665	7423	12665	8597	6420	4825	8908	8824	9677	12870	12621	12443	11222	10841	11884	6483
77	12282	8539	7569	16221	5828	4038	2497	11417	11125	11334	9527	9285	9045	8130	11485	13550	3911
78	12239	7412	6458	16033	6781	5125	3632	10684	10334	10389	10128	9895	9604	8910	10389	12587	3002
79	10781	9504	7959	14814	6511	4397	2749	10740	10556	11094	10707	10458	10280	9083	11726	13327	5348
80	12810	7211	6530	16585	6603	5100	3718	11078	10699	10650	9729	9501	9190	8604	10478	12828	2551
81	17221	11069	11503	21273	2742	3586	4253	16426	16059	15946	4386	4152	3883	3410	15394	18085	6082
82	10575	10083	8468	14665	6453	4275	2686	10950	10806	11445	10812	10561	10412	9101	12193	13675	5926
83	9929	10033	8212	14006	7115	4927	3351	10361	10242	10961	11474	11223	11070	9768	11853	13186	6146
84	9473	10418	8467	13581	7447	5235	3719	10240	10162	10989	11893	11641	11504	10139	12026	13203	6655
85	10592	11834	10174	14806	6152	3942	2812	12088	12033	12877	10864	10611	10553	8931	13833	15092	7541
86	7723	10103	7610	11716	9457	7257	5698	8322	8311	9357	13797	13548	13378	12115	10800	11527	7280
87	7096	10750	8155	11152	9886	7666	6164	8305	8363	9568	14325	14074	13924	12585	11199	11697	8013
88	5117	15520	12200	3393	20298	18092	16538	5624	6416	8504	24540	24295	24079	22944	11781	8801	16125
89	8593	9389	6280	9564	17388	15403	13743	1008	514	2061	20846	20621	20292	19677	5336	3194	11238
90	7408	8604	5239	9540	14872	12842	11182	2303	2130	3518	18521	18289	17989	17242	6107	5487	9297
91	11647	4809	3110	14877	10084	8480	6953	8124	7621	7264	12966	12751	12387	12021	7032	9400	3306
92	9029	10845	7892	9171	19146	17140	15480	2104	2226	3159	22630	22405	22075	21454	6244	2965	12992
93	9449	10254	7365	9772	18900	16929	15269	2165	2041	2550	22287	22065	21724	21161	5590	2371	12560
94	9013	13567	10607	7880	21359	19277	17627	4251	4710	5868	25055	24824	24519	23772	8815	5125	15597
95	10208	11520	8791	9875	20473	18495	16835	3540	3580	3882	23852	23631	23287	22735	6532	2739	14083
96	9959	6764	4520	13447	9633	7739	6098	7662	7331	7573	13152	12919	12624	11900	8149	9801	4554
97	9354	7441	5067	12928	9640	7657	5999	7545	7283	7731	13356	13119	12849	12008	8561	9964	5144
98	9328	6326	3267	12314	11843	9952	8307	5601	5192	5366	15233	15006	14685	14066	6283	7598	5941
99	14367	9325	9070	18363	4050	2916	2208	13520	13188	13227	7344	7105	6856	6050	13017	15411	4213
100	12777	9717	8852	16833	4661	2765	1224	12514	12261	12563	8688	8439	8257	7116	12768	14785	4874
101	12732	8319	7541	16646	5692	4043	2612	11666	11346	11466	9201	8963	8703	7885	11479	13670	3548
102	9900	9244	7384	13880	7521	5397	3756	9758	9596	10222	11687	11439	11249	10089	11038	12452	5554
103	19668	12523	13437	23725	4008	5674	6626	18720	18316	18058	2201	2020	1588	2551	17229	20147	7882
104	19339	12518	13330	23411	3600	5281	6268	18511	18121	17909	2318	2107	1756	2290	17150	20013	7792
105	18010	12298	12742	22120	2213	3812	4881	17551	17206	17148	3366	3118	2962	2163	16638	19299	7328
106	18513	12440	13011	22614	2663	4338	5395	17947	17587	17479	2901	2657	2462	2009	16885	19616	7543
107	19030	12482	13206	23113	3248	4927	5939	18298	17919	17745	2507	2280	1995	2137	17047	19862	7687
108	8984	11399	9327	13171	7763	5536	4191	10534	10531	11533	12379	12127	12030	10519	12777	13720	7677
109	2076	16167	12805	2372	18582	16354	14924	7182	7937	10182	23105	22853	22705	21325	13368	11072	15703
110	2201	16798	13438	2055	18900	16674	15275	7842	8598	10843	23469	23217	23081	21656	14030	11714	16239
111	2522	17302	13943	1806	19258	17035	15655	8318	9079	11322	23853	23600	23472	22021	14518	12158	16714
112	3789	15588	12228	2648	19451	17231	15716	5987	6780	8978	23806	23558	23368	22138	12241	9567	15756
113	3975	16118	12759	2178	19902	17680	16176	6474	7270	9452	24284	24035	23850	22599	12722	9973	16285
114	4065	16919	13557	1365	20375	18148	16674	7301	8096	10277	24816	24566	24395	23093	13548	10769	16985
115	4191	17547	14183	712	20718	18490	17041	7963	8758	10942	25206	24955	24795	23451	14212	11426	17522
116	10166	13391	10605	9054	21902	19864	18206	4734	5023	5722	25446	25220	24893	24246	8394	4547	15801
117	10564	12804	10107	9682	21688	19683	18023	4595	4767	5195	25130	24907	24569	23984	7729	3852	15392
118	12636	12617	10347	11818	22660	20750	19095	6061	5982	5578	25804	25592	25219	24815	7273	3557	15848
119	12717	10984	8857	12457	21447	19605	17962	5533	5242	4297	24421	24214	23825	23514	5619	2098	14401
120	12099	10994	8707	11848	21130	19256	17607	4971	4725	3991	24197	23987	23608	23242	5680	1912	14218
121	10293	9918	7208	10604	19167	17244	15588	2888	2582	2292	22409	22192	21835	21358	5012	1530	12560
122	11524	5448	2762	13307	15577	13883	12289	4762	3973	2265	18334	18130	17733	17504	2116	4038	8296
123	10974	6053	3206	12682	15751	13998	12383	4123	3333	1716	18646	18438	18053	17750	2525	3683	8658
124	12560	4444	2313	14435	15419	13842	12295	5898	5109	3291	17909	17714	17295	17205	1677	4752	7827
125	12024	4916	2441	13868	15443	13806	12234	5334	4546	2789	18071	17872	17464	17302	1862	4409	8003
126	13636	3734	2591	15523	15588	14130	12634	6964	6170	4245	17798	17614	17173	17227	1688	5408	7753
127	13142	3926	2289	15059	15377	13869	12352	6525	5735	3881	17709	17521	17089	17079	1723	5205	7638
128	14091	10016	9572	18152	3596	2165	1448	13683	13393	13560	7378	7130	6940	5874	15720	15765	4940
129	17862	10048	10916	21799	4377	5046	5365	16353	15917	15575	4729	4543	4111	4492	14701	17645	5357
130	18461	10119	11182	22373	4881	5681	6024	16781	16324	15907	4577	4417	3938	4657	14909	17946	5624
131	2797	18340	15021	3246	18993	16797	15532	9865	10593	12834	23708	23455	23370	21780	15956	13829	17259
132	2811	18281	14950	2870	19194	16992	15705	9669	10407	12652	23891	23638	23545	21979	15796	13599	17306
133	4503	19979	16718	5183	19280	17145	16033	11946	12650	14877	24089	23837	23803	22065	17934	15969	18444
134	4897	20299	17057	5678	19283	17167	16093	12389	13085	15307	24107	23856	23833	22064	18343	16428	18656
135	5281	20647	17414	6025	19434	17332	16285	12785	13480	15700	24266	24016	24001	22210	18730	16826	18946

To be continued on next page...

DECIBEL - Main Result

Calculation: V136-3.45/3.6

...continued from previous page

WTG	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
136	5632	20807	17611	6703	19123	17049	16055	13198	13875	16080	23968	23719	23719	21889	19062	17274	18932
137	6346	21316	18159	7559	19099	17066	16142	13933	14595	16786	23954	23706	23727	21847	19728	18029	19265
138	6530	21199	18088	8102	18558	16553	15676	14111	14750	16916	23415	23168	23201	21294	19798	18234	18983
139	6918	21533	18434	8454	18698	16713	15867	14497	15135	17297	23555	23309	23351	21424	20171	18622	19263
140	7268	22744	19490	7077	21359	19293	18303	14615	15338	17576	26207	25958	25963	24121	20668	18573	21079
141	7801	23277	20024	7501	21781	19728	18759	15133	15858	18097	26633	26384	26395	24536	21195	19079	21593
142	8002	23434	20195	7828	21731	19694	18750	15381	16101	18337	26586	26338	26357	24480	21420	19346	21677
143	8332	23787	20541	8020	22097	20064	19124	15677	16402	18641	26953	26705	26725	24844	21735	19624	22049
144	8794	24249	21005	8405	22473	20450	19527	16127	16854	19093	27329	27082	27108	25213	22192	20064	22497
145	10813	26134	22931	10549	23536	21599	20799	18230	18948	21182	28385	28142	28205	26228	24251	22193	24140
146	11393	26663	23474	11177	23826	21917	21153	18832	19546	21778	28668	28426	28500	26501	24837	22805	24598
147	11778	27063	23871	11495	24196	22294	21538	19204	19921	22155	29036	28794	28871	26865	25220	23167	24999
148	8041	21195	17864	3801	24734	22507	21081	11288	12075	14093	29259	29008	28855	27481	17351	14074	21515
149	7634	21042	17700	3423	24349	22123	20711	11182	11973	14027	28896	28645	28498	27102	17295	14087	21253
150	6974	20551	17200	2778	23695	21469	20062	10747	11542	13631	28250	27998	27853	26449	16906	13781	20668
151	7037	20866	17510	2932	23773	21550	20162	11104	11901	14007	28357	28105	27969	26535	17284	14194	20893
152	7415	21251	17895	3329	24152	21929	20546	11471	12266	14362	28742	28490	28356	26916	17638	14517	21291
153	8202	22178	18823	4213	24928	22709	21347	12392	13188	15276	29547	29294	29169	27699	18550	15395	22191
154	8024	22165	18805	4122	24734	22518	21168	12424	13220	15328	29368	29116	28996	27508	18604	15495	22098
155	7970	22332	18968	4220	24639	22428	21100	12652	13449	15578	29298	29045	28934	27418	18856	15800	22159
156	5191	20732	17407	4189	20945	18782	17601	12055	12808	15053	25722	25469	25413	23735	18225	15898	19607
157	5384	20954	17641	4661	20860	18710	17561	12403	13148	15393	25654	25402	25356	23648	18546	16282	19715
158	5789	21357	18043	4912	21208	19065	17927	12772	13521	15767	26009	25757	25715	23996	18927	16632	20116
159	5940	21514	18210	5242	21151	19019	17904	13018	13761	16006	25962	25711	25676	23936	19154	16901	20195
160	6840	22368	19036	5314	22397	20255	19118	13560	14325	16567	27200	26948	26906	25184	19767	17315	21246
161	4966	20339	16990	3234	21204	19016	17773	11394	12163	14403	25938	25685	25607	23993	17612	15144	19463
162	4528	19914	16568	3024	20801	18610	17357	11020	11785	14027	25528	25275	25193	23589	17227	14805	19025
163	7291	21563	18516	9099	18259	16312	15525	14827	15442	17577	23112	22868	22924	20965	20388	18969	19123
164	7699	21921	18888	9464	18425	16501	15747	15234	15848	17980	23273	23030	23096	21117	20784	19376	19429
165	8722	22892	19882	10332	19004	17135	16452	16264	16879	19011	23837	23596	23682	21662	21810	20405	20306
166	9119	23138	20155	10793	18979	17142	16501	16642	17248	19369	23800	23561	23657	21616	22142	20788	20467
167	6492	21973	18716	6459	20784	18698	17674	13855	14574	16811	25625	25375	25369	23554	19896	17827	20349
168	6099	21666	18372	5561	21097	18976	17884	13256	13995	16239	25917	25666	25639	23879	19372	17162	20272
169	10035	23981	21022	11624	19473	17689	17112	17559	18164	20282	24269	24033	24147	22073	23045	21705	21222
170	6848	22328	18986	5062	22597	20445	19285	13411	14183	16421	27388	27136	27087	25386	19635	17121	21302
171	6848	22272	18924	4842	22749	20589	19409	13268	14044	16278	27529	27277	27221	25539	19503	16938	21329
172	6110	21523	18175	4199	22130	19959	18756	12546	13319	15556	26895	26642	26579	24920	18775	16248	20599
173	5355	20734	17385	3518	21532	19350	18118	11767	12538	14777	26277	26024	25950	24322	17991	15496	19851
174	5765	21180	17833	3943	21823	19649	18438	12229	12999	15238	26582	26330	26263	24614	18452	15952	20255
175	6666	22215	18933	6188	21350	19249	18196	13882	14617	16860	26184	25933	25918	24126	19984	17798	20730
176	5881	20750	17382	2762	22468	20262	18958	11384	12174	14379	27150	26898	26797	25251	17640	14883	20256
177	4627	19257	15888	1346	21343	19125	17771	9903	10691	12903	25971	25718	25598	24115	16158	13467	18846
178	4283	18835	15466	1012	21015	18795	17427	9493	10280	12495	25626	25374	25249	23783	15747	13083	18441
179	3660	19214	15927	4314	19082	16917	15737	11007	11720	13953	23857	23604	23548	21872	17035	15011	17862
180	3310	18877	15582	4026	18950	16774	15569	10623	11337	13572	23708	23456	23391	21740	16659	14624	17588
181	8365	22584	19561	9999	18857	16967	16256	15910	16527	18662	23697	23455	23533	21528	21468	20051	20041
182	6874	22338	19087	6818	20997	18924	17923	14248	14966	17202	25843	25593	25594	23762	20285	18220	20672
183	10298	25432	22270	10473	22480	20565	19799	17813	18510	20730	27324	27082	27153	25160	23743	21838	23283
184	10493	25535	22393	10798	22359	20466	19730	18034	18723	20936	27197	26956	27035	25026	23928	22076	23308
185	10877	25925	22784	11126	22681	20800	20078	18413	19105	21319	27515	27275	27359	25340	24315	22450	23687
186	11290	26325	23189	11511	22974	21108	20406	18826	19517	21732	27802	27563	27652	25622	24727	22861	24061
187	11607	26587	23464	11876	23070	21224	20547	19153	19841	22052	27891	27652	27749	25705	25036	23196	24271
188	11790	26687	23581	12157	22984	21158	20507	19351	20032	22238	27796	27558	27662	25605	25203	23407	24307
189	6734	20166	16817	2498	23431	21204	19785	10352	11147	13234	27967	27716	27566	26180	16509	13387	20321
190	7675	21618	18262	3650	24408	22187	20816	11848	12644	14742	29014	28762	28633	27176	18018	14895	21625
191	2973	18545	15245	3801	18798	16614	15386	10260	10975	13209	23541	23288	23216	21588	16300	14263	17309
192	11033	26302	23112	10860	23523	21604	20829	18479	19192	21423	28368	28126	28196	26205	24478	22457	24247
193	6147	21032	17886	7542	18772	16738	15813	13737	14391	16573	23627	23379	23399	21522	19496	17844	18950
194	5992	21091	17910	7092	19173	17118	16155	13568	14240	16439	24024	23775	23785	21932	19408	17650	19142
195	8074	22185	19173	9862	18457	16559	15841	15596	16204	18328	23299	23057	23132	21133	21114	19741	19623
196	9743	23645	20688	11413	19181	17386	16797	17254	17856	19969	23983	23747	23857	21790	22722	21402	20888

To be continued on next page...

Project:
Aurora

Description:

Licensed user:
TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/14/2018 11:15 PM/3.0.654

DECIBEL - Main Result

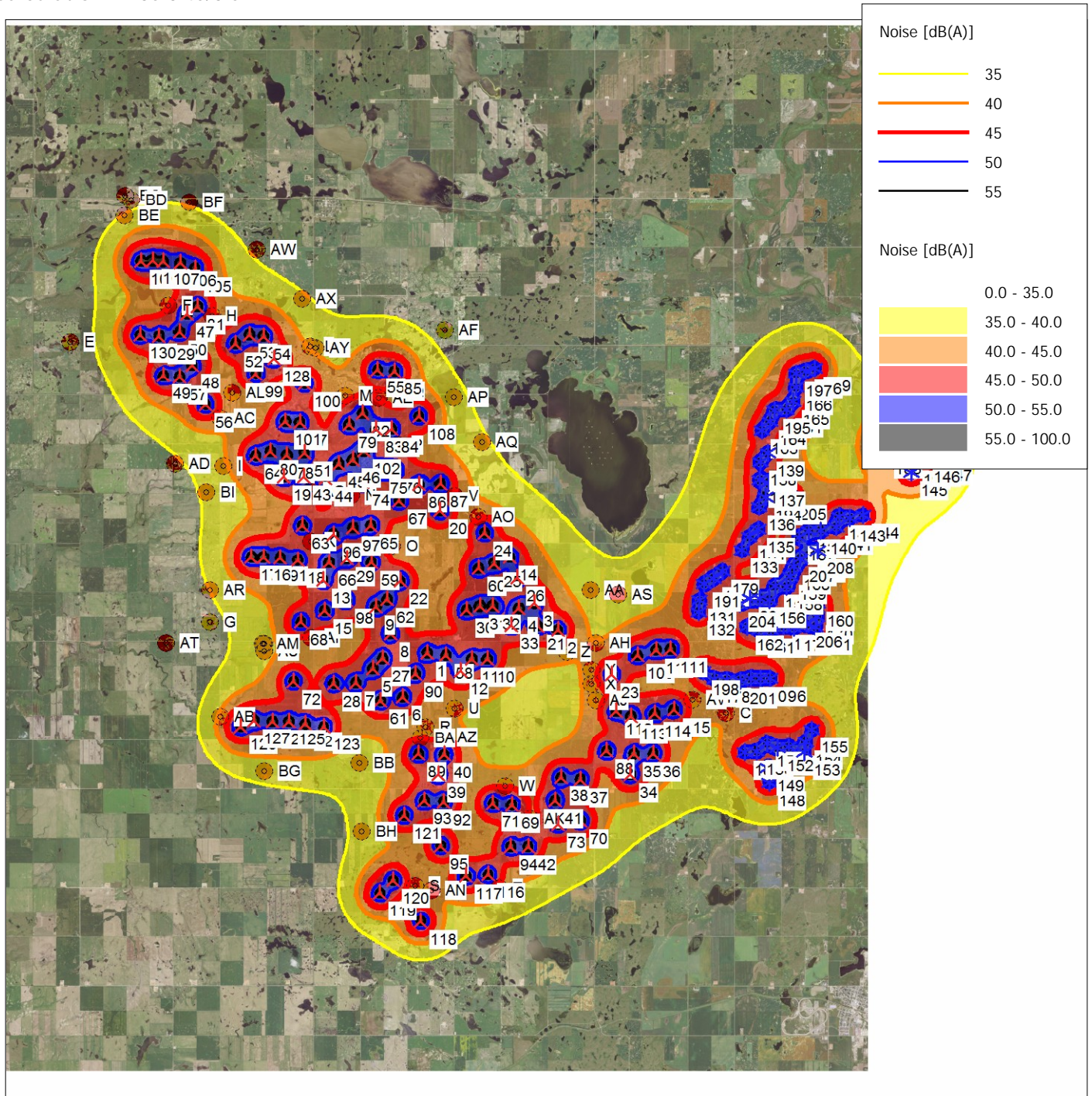
Calculation: V136-3.45/3.6

...continued from previous page

WTG	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
197	9468	23311	20359	11229	18878	17073	16474	16963	17560	19666	23685	23448	23555	21495	22408	21113	20551
198	3836	18431	15063	976	20572	18350	16979	9161	9944	12168	25177	24925	24799	23338	15410	12814	17996
199	5582	20406	17038	2425	22206	19997	18681	11041	11831	14037	26877	26624	26519	24987	17297	14553	19930
200	5286	20069	16701	2108	21941	19729	18403	10712	11501	13709	26600	26347	26238	24719	16967	14241	19607
201	5031	19730	16362	1762	21721	19506	18165	10362	11151	13359	26365	26112	25998	24496	16617	13896	19302
202	4858	20403	17079	4017	20648	18481	17291	11761	12511	14756	25419	25166	25107	23438	17920	15624	19274
203	4524	20070	16747	3837	20368	18197	16996	11454	12201	14446	25132	24880	24817	23159	17604	15334	18945
204	4184	19711	16384	3520	20178	17997	16775	11068	11815	14060	24927	24674	24604	22968	17220	14948	18635
205	6733	21924	18732	7453	19938	17900	16961	14279	14965	17176	24792	24544	24562	22689	20174	18337	19991
206	6520	21956	18610	4616	22432	20269	19085	12988	13762	15998	27209	26956	26899	25222	19218	16684	20998
207	6333	21888	18603	5896	21129	19019	17950	13546	14281	16523	25957	25706	25686	23907	19647	17466	20429
208	6996	22539	19260	6494	21559	19467	18432	14220	14955	17198	26397	26147	26138	24331	20322	18134	21023

DECIBEL - Map 95% rated power

Calculation: V136-3.45/3.6



Map: US Naval Research Laboratory , Print scale 1:200,000, Map center UTM WGS84 Zone: 13 East: 641,190 North: 5,375,412
▲ New WTG * Existing WTG ■ Noise sensitive area
Noise calculation model: ISO 9613-2 General. Wind speed: 95% rated power
Height above sea level from active line object

Project: Aurora

Description:

Licensed user:

TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated: 9/14/2018 10:25 PM/3.0.654

DECIBEL - Main Result

Calculation: A031 AW125-3.15

Noise calculation model:

ISO 9613-2 General

Wind speed:

95% rated power

Ground attenuation:

General, fixed, Ground factor: 0.5

Meteorological coefficient, CO:

0.0 dB

Type of demand in calculation:

1: WTG noise is compared to demand (DK, DE, SE, NL etc.)

Noise values in calculation:

All noise values are mean values (Lwa) (Normal)

Pure tones:

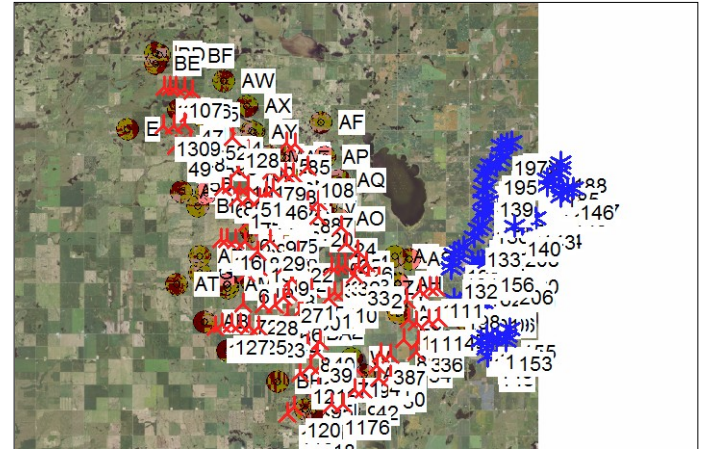
Pure and Impulse tone penalty are added to WTG source noise

Height above ground level, when no value in NSA object:

1.5 m Don't allow override of model height with height from NSA object

Deviation from "official" noise demands. Negative is more restrictive, positive is less restrictive.:

0.0 dB(A)



Scale 1:500,000

- New WTG (red triangle)
Noise sensitive area (brown square)
Existing WTG (blue star)

WTGs

Table with columns: X(East), Y(North), Z, Row data/Description, WTG type, Type-generator, Power, Rotor diameter, Hub height, Noise data, Wind speed, LwA,ref, Pure tones. Contains 51 rows of data.

To be continued on next page...

Project: Description:

Aurora

Licensed user:

TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/14/2018 10:25 PM/3.0.654

DECIBEL - Main Result

Calculation: A031 AW125-3.15

...continued from previous page

Table with columns: X(East), Y(North), Z, Row data/Description, WTG type (Valid, Manufact., Type-generator), Noise data (Power, rated, Rotor diameter, Hub height, Creator, Name), Wind speed, LwA,ref, Pure tones. Contains 134 rows of data for various turbine configurations and locations.

To be continued on next page...



Project:
Aurora

Description:

Licensed user:

TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/14/2018 10:25 PM/3.0.654

DECIBEL - Main Result

Calculation: A031 AW125-3.15

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Noise data		Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones
					Valid	Manufact.					Creator	Name			
135	648,872	5,377,853	[m]												
			752.9	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
136	648,872	5,378,572	753.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
137	649,189	5,379,368	749.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
138	648,868	5,380,034	743.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
139	649,124	5,380,328	729.4	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
140	651,007	5,377,868	748.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
141	651,525	5,378,000	750.5	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
142	651,616	5,378,348	758.5	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
143	651,987	5,378,290	755.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
144	652,436	5,378,405	749.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
145	654,047	5,379,834	743.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
146	654,478	5,380,290	740.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
147	654,876	5,380,346	731.4	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
148	649,468	5,369,552	735.9	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
149	649,403	5,370,046	745.1	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
150	648,989	5,370,563	740.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
151	649,348	5,370,846	749.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
152	649,714	5,370,690	746.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
153	650,635	5,370,574	746.1	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
154	650,667	5,370,918	744.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
155	650,882	5,371,340	743.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
156	649,309	5,375,532	733.1	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
157	649,484	5,375,990	732.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
158	649,889	5,375,994	741.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
159	650,008	5,376,322	740.0	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
160	650,956	5,375,465	750.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
161	648,982	5,374,557	737.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
162	648,553	5,374,643	733.0	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
163	648,903	5,381,054	722.4	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
164	649,170	5,381,363	721.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
165	649,950	5,382,038	713.3	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
166	650,030	5,382,496	712.9	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
167	650,267	5,377,632	746.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
168	650,119	5,376,640	740.5	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
169	650,663	5,383,159	707.1	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
170	650,947	5,375,049	753.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
171	650,911	5,374,694	758.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
172	650,163	5,374,664	746.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
173	649,378	5,374,555	741.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
174	649,818	5,374,694	743.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
175	650,613	5,377,049	737.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
176	649,406	5,372,982	725.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
177	647,909	5,372,903	716.3	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
178	647,487	5,372,910	715.5	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
179	647,672	5,376,428	744.3	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
180	647,365	5,376,192	740.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
181	649,728	5,381,758	721.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
182	650,599	5,377,842	746.4	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
183	653,143	5,380,511	713.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
184	653,130	5,380,927	710.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
185	653,497	5,381,062	704.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
186	653,850	5,381,276	700.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
187	654,022	5,381,604	696.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
188	654,011	5,381,966	694.9	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
189	648,594	5,370,523	731.5	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
190	650,092	5,370,737	743.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
191	647,056	5,376,002	741.1	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
192	654,134	5,380,179	733.9	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
193	648,870	5,379,452	759.0	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
194	649,079	5,378,913	759.0	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
195	649,308	5,381,738	716.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
196	650,346	5,383,045	709.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
197	650,021	5,382,956	710.0	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
198	647,090	5,373,129	713.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
199	649,061	5,372,960	722.4	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
200	648,724	5,372,961	720.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
201	648,383	5,372,886	719.3	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
202	648,975	5,375,560	735.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No	
203	648,641	5,375,554	726.1	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0		

DECIBEL - Main Result

Calculation: A031 AW125-3.15

Sound Level

Noise sensitive area				Demands		Sound Level			Demands fulfilled ?
No.	Name	X(East)	Y(North)	Z	Imission height	Noise	From WTGs	Distance to noise demand	Noise
				[m]	[m]	[dB(A)]	[dB(A)]	[m]	
A 1	- Non-Participating	644,116	5,375,554	701.3	1.5	50.0	37.7	1,794	Yes
B 39	- Participating	643,400	5,373,971	711.5	1.5	50.0	41.0	886	Yes
C 2	- Non-Participating	647,930	5,371,801	718.0	1.5	50.0	41.3	887	Yes
D 40	- Participating	643,453	5,372,099	716.3	1.5	50.0	43.5	486	Yes
E 41	- Participating	625,162	5,383,364	711.9	1.5	50.0	32.8	2,123	Yes
F 42	- Participating	628,500	5,384,644	704.1	1.5	50.0	45.6	372	Yes
G 43	- Participating	630,148	5,374,327	691.9	1.5	50.0	34.9	2,287	Yes
H 44	- Participating	629,997	5,384,325	711.4	1.5	50.0	45.6	298	Yes
I 3	- Non-Participating	630,488	5,379,437	722.7	1.5	50.0	40.0	877	Yes
J 4	- Non-Participating	632,031	5,373,676	696.3	1.5	50.0	39.3	1,169	Yes
K 45	- Participating	633,554	5,377,057	735.4	1.5	50.0	47.4	308	Yes
L 46	- Participating	633,395	5,383,413	715.7	1.5	50.0	40.6	955	Yes
M 47	- Participating	634,615	5,381,825	716.9	1.5	50.0	44.3	513	Yes
N 48	- Participating	634,891	5,378,584	728.5	1.5	50.0	47.1	267	Yes
O 5	- Non-Participating	636,328	5,376,974	731.5	1.5	50.0	44.5	588	Yes
P 49	- Participating	636,455	5,380,259	709.9	1.5	50.0	47.1	265	Yes
Q 50	- Participating	636,416	5,382,006	707.4	1.5	50.0	44.7	402	Yes
R 51	- Participating	637,621	5,371,070	716.6	1.5	50.0	43.1	632	Yes
S 6	- Non-Participating	637,411	5,365,868	713.2	1.5	50.0	42.5	520	Yes
T 52	- Participating	640,276	5,365,862	710.2	1.5	50.0	43.8	321	Yes
U 7	- Non-Participating	638,615	5,371,717	720.3	1.5	50.0	41.6	953	Yes
V 8	- Non-Participating	638,435	5,378,666	709.4	1.5	50.0	45.4	339	Yes
W 9	- Non-Participating	640,413	5,369,191	728.5	1.5	50.0	45.1	338	Yes
X 10	- Non-Participating	643,279	5,372,615	722.4	1.5	50.0	42.7	504	Yes
Y 11	- Non-Participating	643,282	5,373,088	726.9	1.5	50.0	43.0	430	Yes
Z 53	- Participating	642,413	5,373,644	734.1	1.5	50.0	42.5	514	Yes
AA 54	- Participating	643,167	5,375,685	714.9	1.5	50.0	38.4	1,435	Yes
AB 12	- Non-Participating	630,584	5,371,240	682.8	1.5	50.0	41.7	484	Yes
AC 13	- Non-Participating	630,347	5,380,996	717.6	1.5	50.0	43.1	414	Yes
AD 14	- Non-Participating	628,838	5,379,465	705.2	1.5	50.0	35.6	1,949	Yes
AE 55	- Participating	635,760	5,381,775	711.0	1.5	50.0	45.5	431	Yes
AF 15	- Non-Participating	637,972	5,384,054	715.8	1.5	50.0	34.0	1,916	Yes
AG 57	- Participating	633,480	5,378,691	739.8	1.5	50.0	47.6	200	Yes
AH 59	- Participating	643,400	5,373,968	711.4	1.5	50.0	41.0	883	Yes
AI 61	- Participating	633,645	5,373,895	713.7	1.5	50.0	44.5	372	Yes
AJ 62	- Participating	643,453	5,372,097	716.3	1.5	50.0	43.5	485	Yes
AK 63	- Participating	641,300	5,368,154	725.4	1.5	50.0	45.1	516	Yes
AL 16	- Non-Participating	630,734	5,381,835	710.2	1.5	50.0	42.9	714	Yes
AM 17	- Non-Participating	631,989	5,373,670	695.8	1.5	50.0	39.2	1,208	Yes
AN 18	- Non-Participating	637,954	5,365,740	710.2	1.5	50.0	41.2	814	Yes
AO 64	- Participating	639,268	5,377,996	720.6	1.5	50.0	44.8	280	Yes
AP 19	- Non-Participating	638,331	5,381,857	701.5	1.5	50.0	37.9	1,074	Yes
AQ 20	- Non-Participating	639,333	5,380,415	707.1	1.5	50.0	36.9	1,678	Yes
AR 21	- Non-Participating	630,142	5,375,377	701.9	1.5	50.0	36.2	1,495	Yes
AS 22	- Non-Participating	644,117	5,375,554	701.3	1.5	50.0	37.7	1,793	Yes
AT 23	- Non-Participating	628,666	5,373,611	682.8	1.5	50.0	31.6	3,454	Yes
AU 24	- Non-Participating	632,030	5,373,428	696.5	1.5	50.0	39.4	1,137	Yes
AV 27	- Non-Participating	646,754	5,372,213	713.2	1.5	50.0	43.9	436	Yes
AW 29	- Non-Participating	631,486	5,386,533	696.9	1.5	50.0	35.3	1,935	Yes
AX 30	- Non-Participating	633,067	5,384,963	707.0	1.5	50.0	36.8	1,505	Yes
AY 31	- Non-Participating	633,553	5,383,375	714.8	1.5	50.0	40.3	955	Yes
AZ 66	- Participating	638,244	5,370,747	710.8	1.5	50.0	45.1	277	Yes
BA 67	- Participating	637,448	5,370,698	712.2	1.5	50.0	45.7	237	Yes
BB 68	- Participating	635,378	5,369,828	692.6	1.5	50.0	38.8	1,444	Yes
BC 32	- Non-Participating	626,925	5,388,203	701.4	1.5	50.0	33.5	1,899	Yes
BD 33	- Non-Participating	627,137	5,388,066	701.0	1.5	50.0	34.5	1,713	Yes
BE 34	- Non-Participating	626,921	5,387,556	704.1	1.5	50.0	36.3	1,292	Yes
BF 35	- Non-Participating	629,137	5,388,039	693.3	1.5	50.0	35.4	1,702	Yes

To be continued on next page...

DECIBEL - Main Result

Calculation: A031 AW125-3.15

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Noise sensitive area

No.	Name	X(East)	Y(North)	Z [m]	Emission height [m]	Demands			Demands fulfilled ? Noise
						Noise [dB(A)]	Sound Level From WTGs [dB(A)]	Distance to noise demand [m]	
BG 36 - Non-Participating	632,118	5,369,480	691.6	1.5	50.0	38.0	1,368	Yes	
BH 37 - Non-Participating	635,531	5,367,600	699.2	1.5	50.0	37.6	1,265	Yes	
BI 38 - Non-Participating	629,941	5,378,583	713.2	1.5	50.0	36.9	1,771	Yes	

Distances (m)

WTG	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V
1	6810	5799	10452	6003	15882	14390	7516	13229	9271	5591	5393	10764	8839	5759	3695	6847	8579	2442	7647	8099	2053	5218
2	2355	1372	6382	2645	19168	17037	11937	15664	12659	10077	8946	12547	10558	8341	6322	8153	9516	5546	9696	8691	4363	5643
3	2883	2484	7503	3819	18034	15857	11140	14477	11561	9350	7914	11352	9363	7196	5227	6957	8333	5514	10110	9409	4385	4451
4	3426	2876	7896	4008	17654	15551	10605	14192	11146	8804	7453	11132	9134	6830	4808	6747	8195	5040	9752	9188	3937	4293
5	8751	7705	12221	7736	14865	13771	5783	12758	8366	3804	4668	10733	8954	5707	4069	7347	9085	2639	7266	8398	3105	6315
6	8098	6859	11117	6637	16245	15095	7047	14045	9729	5055	5978	11870	10022	6815	4951	8220	9967	1266	6207	7087	1829	6814
7	9440	8343	12755	8269	14807	13890	5375	12941	8404	3383	4868	11086	9369	6119	4642	7888	9611	2805	6968	8340	3505	6990
8	7903	7055	11812	7386	14517	13136	6202	12028	7919	4337	4060	9760	7907	4706	2865	6151	7897	3296	8310	9136	3297	5013
9	8306	7636	12509	8146	13573	12136	5719	11023	6962	4014	3086	8785	6960	3732	2063	5324	7059	4294	9240	10137	4284	4520
10	4937	3758	8385	3968	17639	15891	9592	14634	11028	7667	7164	11860	9868	7093	4935	7618	9243	3089	7834	7524	1967	5450
11	5429	4289	8908	4473	17213	15533	9063	14300	10596	7134	6722	11601	9620	6757	4602	7424	9085	2744	7677	7566	1715	5371
12	5928	4721	9212	4740	17151	15577	8751	14377	10536	6798	6654	11771	9807	6851	4717	7673	9362	2214	7216	7243	1246	5726
13	10131	9590	14507	10166	11618	10400	4117	9404	5041	2896	1320	7626	6047	2917	2613	5087	6655	5972	10515	11769	6178	5285
14	3919	4084	9014	5548	16601	14278	10499	12869	10253	8877	6827	9673	7699	5792	4053	5284	6609	6278	11242	10852	5296	2752
15	10070	9362	14177	9760	12361	11314	3955	10362	5863	2331	2318	8641	7047	3873	3132	5957	7579	5146	9533	10878	5488	5829
16	12220	11744	16676	12335	9635	8829	2821	8051	3264	2836	1710	7055	5953	3612	4418	5873	7092	7871	11969	13528	8224	6849
17	12642	12158	17082	12731	9344	8676	2570	7963	3104	2878	2118	7159	6159	3969	4841	6208	7370	8180	12166	13790	8569	7254
18	11044	10585	15533	11221	10535	9404	3641	8470	3976	2973	756	6972	5585	2783	3262	5073	6469	7020	11420	12784	7260	5770
19	12098	12009	17033	12971	8519	6837	5389	5781	2095	5495	2311	4349	3376	2395	4346	4049	4800	9529	14134	15360	9582	5892
20	6696	6878	11838	8193	13804	11457	8699	10058	7570	7433	4536	6946	4949	3088	2016	2570	7103	12313	12526	6487	693	
21	2928	2075	7071	3156	18497	16411	11243	15053	11973	9394	8246	11983	9987	7683	5640	7595	9016	5086	9492	8696	3920	5119
22	7481	7012	11989	7770	13728	11995	6665	10781	7129	5090	3319	8244	6323	3259	1181	4429	6176	4865	9996	10615	4567	3352
23	2591	1156	4127	1011	21493	19385	13891	18009	14956	11962	11192	14866	12885	10678	8631	10473	11782	6628	9666	8009	5501	7947
24	5014	5263	10180	6696	15486	13113	9871	11696	9213	8386	5957	8496	6521	4730	3210	4106	5458	6697	11816	11664	5849	1577
25	4376	4360	9350	5685	16209	13969	9931	12582	9806	8301	6312	9460	7468	5375	3546	5067	6494	5856	10895	10636	4927	2592
26	3500	3437	8421	4830	17135	14892	10639	13500	10716	8934	7168	10349	8365	6298	4423	5955	7322	5812	10667	10177	4770	3442
27	8334	7337	11929	7454	14865	13659	6036	12606	8319	4082	4542	10475	8660	5428	3690	6977	8720	2696	7539	8526	2972	5862
28	10169	9093	13507	9021	14338	13579	4690	12695	8042	2710	4709	11030	9394	6169	4919	8083	9776	3462	7206	8789	4238	7405
29	9368	8973	13956	9721	11816	10275	5144	9158	5201	3973	1353	7028	5302	2060	1594	4084	5714	6143	10973	11989	6140	4219
30	5224	4576	9535	5344	16138	14244	8801	12955	9563	7012	5775	10119	8123	5438	3300	5865	7499	4085	9198	9179	3239	3758
31	4756	4165	9152	5041	16461	14493	9266	13179	9908	7484	6157	10266	8265	5701	3598	5955	7540	4375	9415	9256	3444	3715
32	4302	3737	8739	4699	16843	14820	9721	13489	10307	7936	6581	10517	8515	6050	3979	6169	7707	4599	9546	9249	3597	3832
33	3784	2950	7902	3791	17725	15729	10345	14400	11171	8498	7406	11420	9417	6952	4861	7061	8571	4447	9133	8607	3329	4677
34	5898	4478	3866	2715	23847	22047	15270	20745	17232	13278	13359	17781	15779	13241	11097	13406	14845	7208	8224	5844	6410	10948
35	5227	3860	3449	2186	23540	21660	15169	20337	16935	13182	13076	17320	15322	12864	10735	12933	14336	7204	8647	6382	6322	10451
36	5321	4117	2841	2623	24079	22142	15802	20803	17482	13818	13635	17739	15746	13361	11246	13346	14708	7863	9236	6890	6965	10842
37	6166	4497	5466	2648	22576	20954	13707	19708	15962	11716	12081	16897	14898	12165	10007	12586	14127	5581	6642	4526	4894	10234
38	6285	4569	6066	2809	22024	20465	13066	19240	15416	11075	11538	16490	14496	11697	9541	12214	13790	4927	6115	4197	4285	9916
39	8514	6915	10088	5936	18945	17909	9290	16872	12498	7354	8797	14662	12783	9610	7655	10858	12593	1616	3724	4261	2249	9145
40	7923	6362	9781	5511	18592	17452	9125	16383	12092	7157	8336	14095	12197	9051	7058	10232	11961	1099	4411	4767	1560	8476
41	7061	5346	6547	3576	22368	20910	13196	19714	15777	11216	11913	17037	15050	12182	10035	12802	14404	5049	5539	3453	4574	10551
42	8786	7058	8091	5328	22761	21559	13155	20442	16250	11227	12458	17964	16007	12989	10892	13859	15522	5260	4071	1691	5178	11754
43	11456	11407	16429	12415	9108	7249	5741	6098	2768	5618	2128	4253	2996	1747	3782	3395	4261	9201	13932	15046	9182	5216
44	10730	10724	15743	11784	9798	7785	6163	6554	3526	5805	2127	4319	2758	1047	3176	2699	3751	8841	13699	14683	8737	4458
45	10487	10582	15583	11727	10013	7792	6805	6484	3958	6401	2698	3949	2227	1115	3237	2116	3108	9108	14054	14930	8924	4101
46	10109	10263	15248	11462	10404	8072	7222	6720	4441	6724	3018	3968	2098	1165	3113	1620	2709	9090	14103	14885	8842	3680
47	17391	17662	22620	18868	4103	686	10112	863	5132	11096	8559	4369	6049	8173	10329	8403	7660	15791	20284	21617	15824	10918
48	16413	16551	21551	17654	4235	2108	8425	1738	3469	9428	7050	4108	5343	6913	9038	7520	7105	14284	18676	20086	14382	9949
49	17151	17208	22225	18237	3362	2305	8212	2567	3598	9410	7407	5142	6271	7531	9603	8354	8058	14586	18795	20335	14764	10720
50	17315	17526	22506	18682	3757	927	9561	1220	4650	10604	8201	4519	6055	7952	10096	8352	7735	15439	19856	21249	15513	10837
51	11718	11777	16788	12871	8782	6681	6424	5454	2812	6392	2908	3466	2317	2132	4279	3217	3772	9896	14683	15741	9825	5338
52	15473	15761	20709	16994	5653	2601	9157	1191	4													

DECIBEL - Main Result

Calculation: A031 AW125-3.15

...continued from previous page

Table with columns WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V. Contains numerical data for wind turbine performance across various parameters.

To be continued on next page...

DECIBEL - Main Result

Calculation: A031 AW125-3.15

...continued from previous page

Table with columns WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V. Contains numerical data for wind turbine performance across various parameters.

To be continued on next page...

DECIBEL - Main Result

Calculation: A031 AW125-3.15

...continued from previous page

Table with columns WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V and rows 197-208. Second table with columns WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR and rows 1-55.

To be continued on next page...

DECIBEL - Main Result

Calculation: A031 AW125-3.15

...continued from previous page

Table with columns WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR. It contains a grid of numerical data points representing decibel levels across various wind turbine locations.

To be continued on next page...

DECIBEL - Main Result

Calculation: A031 AW125-3.15

...continued from previous page

Table with columns WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR. Contains numerical data for each column across 193 rows.

To be continued on next page...

DECIBEL - Main Result

Calculation: A031 AW125-3.15

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Table with 21 columns (WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR) and 20 rows of numerical data.

Table with 19 columns (WTG, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI) and 46 rows of numerical data.

To be continued on next page...

DECIBEL - Main Result

Calculation: A031 AW125-3.15

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WTG	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
47	17392	10787	11335	21416	3182	3973	4531	16402	16016	15841	4410	4187	3866	3652	15203	17964	5860
48	16415	9128	9665	20330	4378	4347	4258	14912	14492	14227	6000	5791	5417	5330	13521	16330	4173
49	17153	8738	9639	20994	5224	5382	5289	15233	14769	14346	6035	5853	5410	5748	13399	16392	4076
50	17317	10197	10840	21293	3764	4331	4679	16061	15652	15408	4819	4609	4239	4242	14683	17511	5326
51	11720	7825	6636	15561	6817	5017	3439	10469	10159	10342	10401	10163	9898	9077	10531	12558	3584
52	15475	10081	10105	19508	3146	2708	2739	14724	14383	14375	6135	5895	5652	4878	14040	16546	4954
53	15244	10487	10367	19316	2774	2153	2311	14768	14455	14531	6213	5967	5772	4777	14313	16718	5354
54	14814	10586	10308	18903	2815	1790	1821	14511	14219	14366	6590	6341	6173	5046	14257	16566	5464
55	11058	11512	9994	15255	5680	3456	2243	12244	12153	12900	10345	10092	10021	8445	13720	15125	7093
56	15450	7917	8308	19273	5354	4781	4192	13605	13168	12869	7361	7153	6774	6635	12177	14967	2860
57	16634	8722	9427	20499	4923	4908	4744	14865	14419	14068	6206	6010	5599	5715	13240	16142	3881
58	6214	9604	6238	8576	14731	12628	10983	2710	2878	4639	18605	18367	18099	17206	7324	6465	9779
59	8535	7513	4688	11900	10916	8906	7245	6260	6018	6611	14638	14401	14125	13297	7790	8834	6080
60	4870	10978	7827	8500	12872	10669	9113	5663	5912	7579	17169	16921	16731	15525	9916	9493	9638
61	8847	7584	4304	10702	15323	13393	11738	2477	1845	2188	18680	18456	18120	17553	4626	4340	9053
62	7910	7718	4552	10959	12264	10241	8581	4910	4686	5455	15966	15732	15447	14646	7050	7649	7120
63	11062	6059	4327	14539	9123	7384	5803	8469	8067	8042	12359	12133	11810	11235	8179	10240	3451
64	13240	6855	6402	16970	6719	5359	4070	11252	10841	10684	9595	9372	9037	8581	10349	12837	2052
65	8783	8008	5513	12417	9793	7744	6085	7388	7188	7815	13660	13420	13169	12237	8867	10040	5724
66	9969	6178	3661	13247	10497	8646	7015	6952	6562	6669	13866	13638	13321	12696	7211	8892	4776
67	8112	9245	6752	11968	9533	7381	5760	7891	7807	8702	13696	13449	13246	12114	10003	10899	6602
68	10916	4666	1580	13672	12245	10547	8962	6189	5601	5055	15172	14959	14588	14232	5069	7186	5327
69	7773	12980	9871	7100	20133	18030	16386	3216	3819	5403	23924	23690	23399	22587	8568	5207	14633
70	7496	15366	12201	5524	21715	19552	17942	5446	6136	7831	25726	25486	25228	24268	10989	7513	16742
71	8053	12377	9299	7645	19820	17739	16089	2746	3280	4772	23534	23302	23002	22238	7925	4585	14147
72	11474	4542	1404	13693	14144	12486	10909	5462	4732	3518	16881	16677	16282	16050	3143	5466	6858
73	7769	14685	11559	6162	21417	19274	17649	4843	5494	7100	25343	25105	24833	23933	10230	6725	16219
74	9506	8543	6471	13355	8405	6330	4674	8800	8611	9202	12402	12158	11934	10900	10056	11432	5348
75	9109	9283	7148	13059	8339	6193	4567	9016	8890	9634	12526	12278	12086	10923	10656	11854	6005
76	8680	9665	7423	12665	8597	6420	4825	8908	8824	9677	12870	12621	12443	11222	10841	11884	6483
77	12282	8539	7569	16221	5828	4038	2497	11417	11125	11334	9527	9285	9045	8130	11485	13550	3911
78	12239	7412	6458	16033	6781	5125	3632	10684	10334	10389	10128	9895	9604	8910	10389	12587	3002
79	10781	9504	7959	14814	6511	4397	2749	10740	10556	11094	10707	10458	10280	9083	11726	13327	5348
80	12810	7211	6530	16585	6603	5100	3718	11078	10699	10650	9729	9501	9190	8604	10478	12828	2551
81	17221	11069	11503	21273	2742	3586	4253	16426	16059	15946	4386	4152	3883	3410	15394	18085	6082
82	10575	10083	8468	14665	6453	4275	2686	10950	10806	11445	10812	10561	10412	9101	12193	13675	5926
83	9929	10033	8212	14006	7115	4927	3351	10361	10242	10961	11474	11223	11070	9768	11853	13186	6146
84	9473	10418	8467	13581	7447	5235	3719	10240	10162	10989	11893	11641	11504	10139	12026	13203	6655
85	10592	11834	10174	14806	6152	3942	2812	12088	12033	12877	10864	10611	10553	8931	13833	15092	7541
86	7723	10103	7610	11716	9457	7257	5698	8322	8311	9357	13797	13548	13378	12115	10800	11527	7280
87	7096	10750	8155	11152	9886	7666	6164	8305	8363	9568	14325	14074	13924	12585	11199	11697	8013
88	5117	15520	12200	3393	20298	18092	16538	5624	6416	8504	24540	24295	24079	22944	11781	8801	16125
89	8593	9389	6280	9564	17388	15403	13743	1008	514	2061	20846	20621	20292	19677	5336	3194	11238
90	7408	8604	5239	9540	14872	12842	11182	2303	2130	3518	18521	18289	17989	17242	6107	5487	9297
91	11647	4809	3110	14877	10084	8480	6953	8124	7621	7264	12966	12751	12387	12021	7032	9400	3306
92	9029	10845	7892	9171	19146	17140	15480	2104	2226	3159	22630	22405	22075	21454	6244	2965	12992
93	9449	10254	7365	9772	18900	16929	15269	2165	2041	2550	22287	22065	21724	21161	5590	2371	12560
94	9013	13567	10607	7880	21359	19277	17627	4251	4710	5868	25055	24824	24519	23772	8815	5125	15597
95	10208	11520	8791	9875	20473	18495	16835	3540	3580	3882	23852	23631	23287	22735	6532	2739	14083
96	9959	6764	4520	13447	9633	7739	6098	7662	7331	7573	13152	12919	12624	11900	8149	9801	4554
97	9354	7441	5067	12928	9640	7657	5999	7545	7283	7731	13356	13119	12849	12008	8561	9964	5144
98	9328	6326	3267	12314	11843	9952	8307	5601	5192	5366	15233	15006	14685	14066	6283	7598	5941
99	14367	9325	9070	18363	4050	2916	2208	13520	13188	13227	7344	7105	6856	6050	13017	15411	4213
100	12777	9717	8852	16833	4661	2765	1224	12514	12261	12563	8688	8439	8257	7116	12768	14785	4874
101	12732	8319	7541	16646	5692	4043	2612	11666	11346	11466	9201	8963	8703	7885	11479	13670	3548
102	9900	9244	7384	13880	7521	5397	3756	9758	9596	10222	11687	11439	11249	10089	11038	12452	5554
103	19668	12523	13437	23725	4008	5674	6626	18720	18316	18058	2201	2020	1588	2551	17229	20147	7882
104	19339	12518	13330	23411	3600	5281	6268	18511	18121	17909	2318	2107	1756	2290	17150	20013	7792
105	18010	12298	12742	22120	2213	3812	4881	17551	17206	17148	3366	3118	2962	2163	16638	19299	7328
106	18513	12440	13011	22614	2663	4338	5395	17947	17587	17479	2901	2657	2462	2009	16885	19616	7543
107	19030	12482	13206	23113	3248	4927	5939	18298	17919	17745	2507	2280	1995	2137	17047	19862	7687

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Project:
Aurora

Description:

Licensed user:
TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/14/2018 10:25 PM/3.0.654

DECIBEL - Main Result

Calculation: A031 AW125-3.15

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WTG	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
108	8984	11399	9327	13171	7763	5536	4191	10534	10531	11533	12379	12127	12030	10519	12777	13720	7677
109	2076	16167	12805	2372	18582	16354	14924	7182	7937	10182	23105	22853	22705	21325	13368	11072	15703
110	2201	16798	13438	2055	18900	16674	15275	7842	8598	10843	23469	23217	23081	21656	14030	11714	16239
111	2522	17302	13943	1806	19258	17035	15655	8318	9079	11322	23853	23600	23472	22021	14518	12158	16714
112	3789	15588	12228	2648	19451	17231	15716	5987	6780	8978	23806	23558	23368	22138	12241	9567	15756
113	3975	16118	12759	2178	19902	17680	16176	6474	7270	9452	24284	24035	23850	22599	12722	9973	16285
114	4065	16919	13557	1365	20375	18148	16674	7301	8096	10277	24816	24566	24395	23093	13548	10769	16985
115	4191	17547	14183	712	20718	18490	17041	7963	8758	10942	25206	24955	24795	23451	14212	11426	17522
116	10166	13391	10605	9054	21902	19864	18206	4734	5023	5722	25446	25220	24893	24246	8394	4547	15801
117	10564	12804	10107	9682	21688	19683	18023	4595	4767	5195	25130	24907	24569	23984	7729	3852	15392
118	12636	12617	10347	11818	22660	20750	19095	6061	5982	5578	25804	25592	25219	24815	7273	3557	15848
119	12717	10984	8857	12457	21447	19605	17962	5533	5242	4297	24421	24214	23825	23514	5619	2098	14401
120	12099	10994	8707	11848	21130	19256	17607	4971	4725	3991	24197	23987	23608	23242	5680	1912	14218
121	10293	9918	7208	10604	19167	17244	15588	2888	2582	2292	22409	22192	21835	21358	5012	1530	12560
122	11524	5448	2762	13307	15577	13883	12289	4762	3973	2265	18334	18130	17733	17504	2116	4038	8296
123	10974	6053	3206	12682	15751	13998	12383	4123	3333	1716	18646	18438	18053	17750	2525	3683	8658
124	12560	4444	2313	14435	15419	13842	12295	5898	5109	3291	17909	17714	17295	17205	1677	4752	7827
125	12024	4916	2441	13868	15443	13806	12234	5334	4546	2789	18071	17872	17464	17302	1862	4409	8003
126	13636	3734	2591	15523	15588	14130	12634	6964	6170	4245	17798	17614	17173	17227	1688	5408	7753
127	13142	3926	2289	15059	15377	13869	12352	6525	5735	3881	17709	17521	17089	17079	1723	5205	7638
128	14091	10016	9572	18152	3596	2165	1448	13683	13393	13560	7378	7130	6940	5874	13520	15765	4940
129	17862	10048	10916	21799	4377	5046	5365	16353	15917	15575	4729	4543	4111	4492	14701	17645	5357
130	18461	10119	11182	22373	4881	5681	6024	16781	16324	15907	4577	4417	3938	4657	14909	17946	5624
131	2797	18340	15021	3246	18993	16797	15532	9865	10593	12834	23708	23455	23370	21780	15956	13829	17259
132	2811	18281	14950	2870	19194	16992	15705	9669	10407	12652	23891	23638	23545	21979	15796	13599	17306
133	4503	19979	16718	5183	19280	17145	16033	11946	12650	14877	24089	23837	23803	22065	17934	15969	18444
134	4897	20299	17057	5678	19283	17167	16093	12389	13085	15307	24107	23856	23833	22064	18343	16428	18656
135	5281	20647	17414	6025	19434	17332	16285	12785	13480	15700	24266	24016	24001	22210	18730	16826	18946
136	5632	20807	17611	6703	19123	17049	16055	13198	13875	16080	23968	23719	23719	21889	19062	17274	18932
137	6346	21316	18159	7559	19099	17066	16142	13933	14595	16786	23954	23706	23727	21847	19728	18029	19265
138	6530	21199	18088	8102	18558	16553	15676	14111	14750	16916	23415	23168	23201	21294	19798	18234	18983
139	6918	21533	18434	8454	18698	16713	15867	14497	15135	17297	23555	23309	23351	21424	20171	18622	19263
140	7268	22744	19490	7077	21359	19293	18303	14615	15338	17576	26207	25958	25963	24121	20668	18573	21079
141	7801	23277	20024	7501	21781	19728	18759	15133	15858	18097	26633	26384	26395	24536	21195	19079	21593
142	8002	23434	20195	7828	21731	19694	18750	15381	16101	18337	26586	26338	26357	24480	21420	19346	21677
143	8332	23787	20541	8020	22097	20064	19124	15677	16402	18641	26953	26705	26725	24844	21735	19624	22049
144	8794	24249	21005	8405	22473	20450	19527	16127	16854	19093	27329	27082	27108	25213	22192	20064	22497
145	10813	26134	22931	10549	23536	21599	20799	18230	18948	21182	28385	28142	28205	26228	24251	22193	24140
146	11393	26663	23474	11177	23826	21917	21153	18832	19546	21778	28668	28426	28500	26501	24837	22805	24598
147	11778	27063	23871	11495	24196	22294	21538	19204	19921	22155	29036	28794	28871	26865	25220	23167	24999
148	8041	21195	17864	3801	24734	22507	21081	11288	12075	14093	29259	29008	28855	27481	17351	14074	21515
149	7634	21042	17700	3423	24349	22123	20711	11182	11973	14027	28896	28645	28498	27102	17295	14087	21253
150	6974	20551	17200	2778	23695	21469	20062	10747	11542	13631	28250	27998	27853	26449	16906	13781	20668
151	7037	20866	17510	2932	23773	21550	20162	11104	11901	14007	28357	28105	27969	26535	17284	14194	20893
152	7415	21251	17895	3329	24152	21929	20546	11471	12266	14362	28742	28490	28356	26916	17638	14517	21291
153	8202	22178	18823	4213	24928	22709	21347	12392	13188	15276	29547	29294	29169	27699	18550	15395	22191
154	8024	22165	18805	4122	24734	22518	21168	12424	13220	15328	29368	29116	28996	27508	18604	15495	22098
155	7970	22332	18968	4220	24639	22428	21100	12652	13449	15578	29298	29045	28934	27418	18856	15800	22159
156	5191	20732	17407	4189	20945	18782	17601	12055	12808	15053	25722	25469	25413	23735	18225	15898	19607
157	5384	20954	17641	4661	20860	18710	17561	12403	13148	15393	25654	25402	25356	23648	18546	16282	19715
158	5789	21357	18043	4912	21208	19065	17927	12772	13521	15767	26009	25757	25715	23996	18927	16632	20116
159	5940	21514	18210	5242	21151	19019	17904	13018	13761	16006	25962	25711	25676	23936	19154	16901	20195
160	6840	22368	19036	5314	22397	20255	19118	13560	14325	16567	27200	26948	26906	25184	19767	17315	21246
161	4966	20339	16990	3234	21204	19016	17773	11394	12163	14403	25938	25685	25607	23993	17612	15144	19463
162	4528	19914	16568	3024	20801	18610	17357	11020	11785	14027	25528	25275	25193	23589	17227	14805	19025
163	7291	21563	18516	9099	18259	16312	15525	14827	15442	17577	23112	22868	22924	20965	20388	18969	19123
164	7699	21921	18888	9464	18425	16501	15747	15234	15848	17980	23273	23030	23096	21117	20784	19376	19429
165	8722	22892	19882	10332	19004	17135	16452	16264	16879	19011	23837	23596	23682	21662	21810	20405	20306
166	9119	23138	20155	10793	18979	17142	16501	16642	17248	19369	23800	23561	23657	21616	22142	20788	20467
167	6492	21973	18716	6459	20784	18698	17674	13855	14574	16811	25625	25375	25369	23554	19896	17827	20349
168	6099	21666	18372	5561	21097	18976	17884	13256	13995	16239	25917	25666	25639	23879	19372	17162	20272

To be continued on next page...

DECIBEL - Main Result

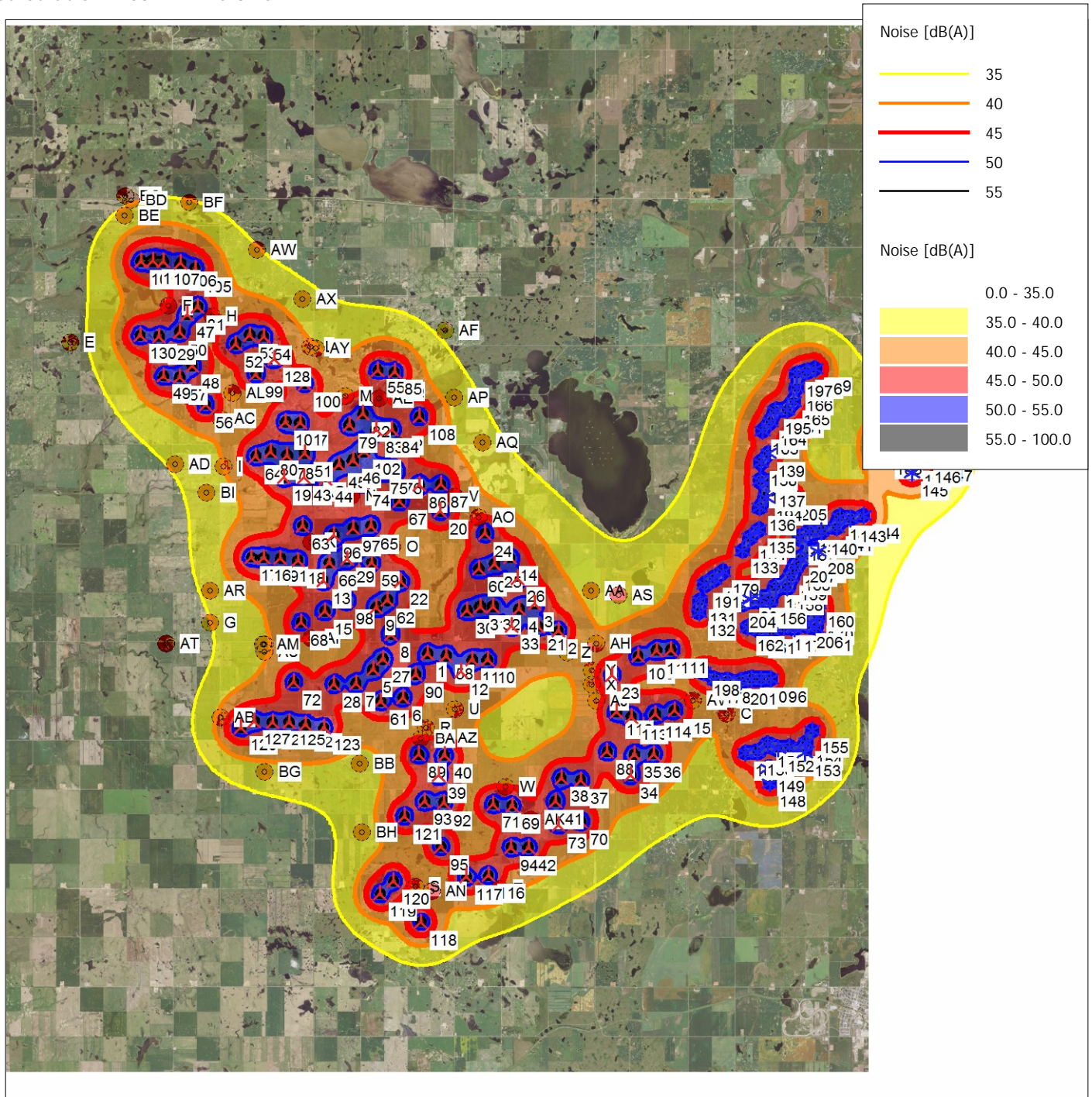
Calculation: A031 AW125-3.15

...continued from previous page

WTG	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
169	10035	23981	21022	11624	19473	17689	17112	17559	18164	20282	24269	24033	24147	22073	23045	21705	21222
170	6848	22328	18986	5062	22597	20445	19285	13411	14183	16421	27388	27136	27087	25386	19635	17121	21302
171	6848	22272	18924	4842	22749	20589	19409	13268	14044	16278	27529	27277	27221	25539	19503	16938	21329
172	6110	21523	18175	4199	22130	19959	18756	12546	13319	15556	26895	26642	26579	24920	18775	16248	20599
173	5355	20734	17385	3518	21532	19350	18118	11767	12538	14777	26277	26024	25950	24322	17991	15496	19851
174	5765	21180	17833	3943	21823	19649	18438	12229	15238	26582	26330	26263	24614	18452	15952	20255	
175	6666	22215	18933	6188	21350	19249	18196	13882	14617	16860	26184	25933	25918	24126	19984	17798	20230
176	5881	20750	17382	2762	22468	20262	18958	11384	12174	14379	27150	26898	26797	25251	17640	14883	20256
177	4627	19257	15888	1346	21343	19125	17771	9903	10691	12903	25971	25718	25598	24115	16158	13467	18846
178	4283	18835	15466	1012	21015	18795	17427	9493	10280	12495	25626	25374	25249	23783	15747	13083	18441
179	3660	19214	15927	4314	19082	16917	15737	11007	11720	13953	23857	23604	23548	21872	17035	15011	17862
180	3310	18877	15582	4026	18950	16774	15569	10623	11337	13572	23708	23456	23391	21740	16659	14624	17588
181	8365	22584	19561	9999	18857	16967	16256	15910	16527	18662	23697	23455	23533	21528	21468	20051	20041
182	6874	22338	19087	6818	20997	18924	17923	14248	14966	17202	25843	25593	25594	23762	20285	18220	20672
183	10298	25432	22270	10473	22480	20565	19799	17813	18510	20730	27324	27082	27153	25160	23743	21838	23283
184	10493	25535	22393	10798	22359	20466	19730	18034	18723	20936	27197	26956	27035	25026	23928	22076	23308
185	10877	25925	22784	11126	22681	20800	20078	18413	19105	21319	27515	27275	27359	25340	24315	22450	23687
186	11290	26325	23189	11511	22974	21108	20406	18826	19517	21732	27802	27563	27652	25622	24727	22861	24061
187	11607	26587	23464	11876	23070	21224	20547	19153	19841	22052	27891	27652	27749	25705	25036	23196	24271
188	11790	26687	23581	12157	22984	21158	20507	19351	20032	22238	27796	27558	27662	25605	25203	23407	24307
189	6734	20166	16817	2498	23431	21204	19785	10352	11147	13234	27967	27716	27566	26180	16509	13387	20321
190	7675	21618	18262	3650	24408	22187	20816	11848	12644	14742	29014	28762	28633	27176	18018	14895	21625
191	2973	18545	15245	3801	18798	16614	15386	10260	10975	13209	23541	23288	23216	21588	16300	14263	17309
192	11033	26302	23112	10860	23523	21604	20829	18479	19192	21423	28368	28126	28196	26205	24478	22457	24247
193	6147	21032	17886	7542	18772	16738	15813	13737	14391	16573	23627	23379	23399	21522	19496	17844	18950
194	5992	21091	17910	7092	19173	17118	16155	13568	14240	16439	24024	23775	23785	21932	19408	17650	19142
195	8074	22185	19173	9862	18457	16559	15841	15596	16204	18328	23299	23057	23132	21133	21114	19741	19623
196	9743	23645	20688	11413	19181	17386	16797	17254	17856	19969	23983	23747	23857	21790	22722	21402	20888
197	9468	23311	20359	11229	18878	17073	16474	16963	17560	19666	23685	23448	23555	21495	22408	21113	20551
198	3836	18431	15063	976	20572	18350	16979	9161	9944	12168	25177	24925	24799	23338	15410	12814	17996
199	5582	20406	17038	2425	22206	19997	18681	11041	11831	14037	26877	26624	26519	24987	17297	14553	19930
200	5286	20069	16701	2108	21941	19729	18403	10712	11501	13709	26600	26347	26238	24719	16967	14241	19607
201	5031	19730	16362	1762	21721	19506	18165	10362	11151	13359	26365	26112	25998	24496	16617	13896	19302
202	4858	20403	17079	4017	20648	18481	17291	11761	12511	14756	25419	25166	25107	23438	17920	15624	19274
203	4524	20070	16747	3837	20368	18197	16996	11454	12201	14446	25132	24880	24817	23159	17604	15334	18945
204	4184	19711	16384	3520	20178	17997	16775	11068	11815	14060	24927	24674	24604	22968	17220	14948	18635
205	6733	21924	18732	7453	19938	17900	16961	14279	14965	17176	24792	24544	24562	22689	20174	18337	19991
206	6520	21956	18610	4616	22432	20269	19085	12988	13762	15998	27209	26956	26899	25222	19218	16684	20998
207	6333	21888	18603	5896	21129	19019	17950	13546	14281	16523	25957	25706	25686	23907	19647	17466	20429
208	6996	22539	19260	6494	21559	19467	18432	14220	14955	17198	26397	26147	26138	24331	20322	18134	21023

DECIBEL - Map 95% rated power

Calculation: A031 AW125-3.15



0 2.5 5 7.5 10km

Map: US Naval Research Laboratory , Print scale 1:200,000, Map center UTM WGS84 Zone: 13 East: 641,190 North: 5,375,412

▲ New WTG * Existing WTG ■ Noise sensitive area

Noise calculation model: ISO 9613-2 General. Wind speed: 95% rated power
Height above sea level from active line object

Project: Description:

Aurora

Licensed user:

TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/17/2018 10:43 AM/3.0.654

DECIBEL - Main Result

Calculation: GE2.5-127

...continued from previous page

Table with columns: X(East), Y(North), Z, Row data/Description, WTG type Valid, Manufact., Type-generator, Power, rated [kW], Rotor diameter [m], Hub height [m], Noise data Creator, Name, Wind speed [m/s], LwA_ref [dB(A)], Pure tones. Contains 134 rows of data for various turbine models and configurations.

To be continued on next page...

Project:
Aurora

Description:

Licensed user:

TradeWind Energy, Inc
16105 W. 113th Street, Suite 105
US-LENEXA, KS 66219
+1 913 424 5308
Kevin Walter / kwalter@tradewindenergy.com
Calculated:
9/17/2018 10:43 AM/3.0.654

DECIBEL - Main Result

Calculation: GE2.5-127

...continued from previous page

	X(East)	Y(North)	Z	Row data/Description	WTG type		Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Noise data		Wind speed [m/s]	LwA_ref [dB(A)]	Pure tones	
					Valid	Manufact.					Creator	Name				
			[m]													
135	648,872	5,377,853	752.9	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
136	648,872	5,378,572	753.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
137	649,189	5,379,368	749.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
138	648,868	5,380,034	743.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
139	649,124	5,380,328	729.4	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
140	651,007	5,377,868	748.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
141	651,525	5,378,000	750.5	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
142	651,616	5,378,348	758.5	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
143	651,987	5,378,290	755.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
144	652,436	5,378,405	749.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
145	654,047	5,379,834	743.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
146	654,478	5,380,290	740.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
147	654,876	5,380,346	731.4	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
148	649,468	5,369,552	735.9	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
149	649,403	5,370,046	745.1	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
150	648,989	5,370,563	740.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
151	649,348	5,370,846	749.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
152	649,714	5,370,690	746.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
153	650,635	5,370,574	746.1	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
154	650,667	5,370,918	744.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
155	650,882	5,371,340	743.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
156	649,309	5,375,532	733.1	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
157	649,484	5,375,990	732.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
158	649,889	5,375,994	741.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
159	650,008	5,376,322	740.0	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
160	650,956	5,375,465	750.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
161	648,982	5,374,557	737.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
162	648,553	5,374,643	733.0	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
163	648,903	5,381,054	722.4	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
164	649,170	5,381,363	721.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
165	649,950	5,382,038	713.3	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
166	650,030	5,382,496	712.9	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
167	650,267	5,377,632	746.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
168	650,119	5,376,640	740.5	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
169	650,663	5,383,159	707.1	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
170	650,947	5,375,049	753.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
171	650,911	5,374,694	758.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
172	650,163	5,374,664	746.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
173	649,378	5,374,555	741.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
174	649,818	5,374,694	743.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
175	650,613	5,377,049	737.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
176	649,406	5,372,982	725.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
177	647,909	5,372,903	716.3	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
178	647,487	5,372,910	715.5	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
179	647,672	5,376,428	744.3	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
180	647,365	5,376,192	740.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
181	649,728	5,381,758	721.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
182	650,599	5,377,842	746.4	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
183	653,143	5,380,511	713.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
184	653,130	5,380,927	710.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
185	653,497	5,381,062	704.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
186	653,850	5,381,276	700.8	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
187	654,022	5,381,604	696.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
188	654,011	5,381,966	694.9	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
189	648,594	5,370,523	731.5	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
190	650,092	5,370,737	743.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
191	647,056	5,376,002	741.1	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
192	654,134	5,380,179	733.9	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
193	648,870	5,379,452	759.0	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
194	649,079	5,378,913	759.0	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
195	649,308	5,381,738	716.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
196	650,346	5,383,045	709.6	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
197	650,021	5,382,956	710.0	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
198	647,090	5,373,129	713.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
199	649,061	5,372,960	722.4	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
200	648,724	5,372,961	720.7	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
201	648,383	5,372,886	719.3	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
202	648,975	5,375,560	735.2	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		
203	648,641	5,375,554	726.1	VESTAS V100 2000 100.0 IO! ...Yes	VESTAS	V100-2,000	2,000	100.0	80.0	USER	Mode 0 (105) + 2dB	(95%)	107.0	No		

DECIBEL - Main Result

Calculation: GE2.5-127

Sound Level

No.	Name	X(East)	Y(North)	Z	Imission height	Demands	Sound Level	Distance to noise demand	Demands fulfilled ?
				[m]	[m]	Noise	From WTGs		Noise
						[dB(A)]	[dB(A)]	[m]	
A 1	- Non-Participating	644,116	5,375,554	701.3	1.5	50.0	39.2	1,719	Yes
B 39	- Participating	643,400	5,373,971	711.5	1.5	50.0	42.6	817	Yes
C 2	- Non-Participating	647,930	5,371,801	718.0	1.5	50.0	41.8	884	Yes
D 40	- Participating	643,453	5,372,099	716.3	1.5	50.0	45.1	410	Yes
E 41	- Participating	625,162	5,383,364	711.9	1.5	50.0	35.0	2,058	Yes
F 42	- Participating	628,500	5,384,644	704.1	1.5	50.0	47.2	274	Yes
G 43	- Participating	630,148	5,374,327	691.9	1.5	50.0	37.1	2,211	Yes
H 44	- Participating	629,997	5,384,325	711.4	1.5	50.0	47.3	212	Yes
I 3	- Non-Participating	630,488	5,379,437	722.7	1.5	50.0	41.7	804	Yes
J 4	- Non-Participating	632,031	5,373,676	696.3	1.5	50.0	41.1	1,100	Yes
K 45	- Participating	633,554	5,377,057	735.4	1.5	50.0	49.0	190	Yes
L 46	- Participating	633,395	5,383,413	715.7	1.5	50.0	42.3	885	Yes
M 47	- Participating	634,615	5,381,825	716.9	1.5	50.0	45.9	415	Yes
N 48	- Participating	634,891	5,378,584	728.5	1.5	50.0	48.7	155	Yes
O 5	- Non-Participating	636,328	5,376,974	731.5	1.5	50.0	46.1	498	Yes
P 49	- Participating	636,455	5,380,259	709.9	1.5	50.0	48.8	152	Yes
Q 50	- Participating	636,416	5,382,006	707.4	1.5	50.0	46.4	323	Yes
R 51	- Participating	637,621	5,371,070	716.6	1.5	50.0	44.8	553	Yes
S 6	- Non-Participating	637,411	5,365,868	713.2	1.5	50.0	44.2	451	Yes
T 52	- Participating	640,276	5,365,862	710.2	1.5	50.0	45.5	254	Yes
U 7	- Non-Participating	638,615	5,371,717	720.3	1.5	50.0	43.3	871	Yes
V 8	- Non-Participating	638,435	5,378,666	709.4	1.5	50.0	47.1	251	Yes
W 9	- Non-Participating	640,413	5,369,191	728.5	1.5	50.0	46.8	246	Yes
X 10	- Non-Participating	643,279	5,372,615	722.4	1.5	50.0	44.3	436	Yes
Y 11	- Non-Participating	643,282	5,373,088	726.9	1.5	50.0	44.6	362	Yes
Z 53	- Participating	642,413	5,373,644	734.1	1.5	50.0	44.1	445	Yes
AA 54	- Participating	643,167	5,375,685	714.9	1.5	50.0	40.0	1,362	Yes
AB 12	- Non-Participating	630,584	5,371,240	682.8	1.5	50.0	43.4	416	Yes
AC 13	- Non-Participating	630,347	5,380,996	717.6	1.5	50.0	44.8	348	Yes
AD 14	- Non-Participating	628,838	5,379,465	705.2	1.5	50.0	37.7	1,883	Yes
AE 55	- Participating	635,760	5,381,775	711.0	1.5	50.0	47.1	332	Yes
AF 15	- Non-Participating	637,972	5,384,054	715.8	1.5	50.0	36.2	1,848	Yes
AG 57	- Participating	633,480	5,378,691	739.8	1.5	50.0	49.2	77	Yes
AH 59	- Participating	643,400	5,373,968	711.4	1.5	50.0	42.6	814	Yes
AI 61	- Participating	633,645	5,373,895	713.7	1.5	50.0	46.2	297	Yes
AJ 62	- Participating	643,453	5,372,097	716.3	1.5	50.0	45.1	409	Yes
AK 63	- Participating	641,300	5,368,154	725.4	1.5	50.0	46.7	435	Yes
AL 16	- Non-Participating	630,734	5,381,835	710.2	1.5	50.0	44.5	646	Yes
AM 17	- Non-Participating	631,989	5,373,670	695.8	1.5	50.0	40.9	1,139	Yes
AN 18	- Non-Participating	637,954	5,365,740	710.2	1.5	50.0	42.8	751	Yes
AO 64	- Participating	639,268	5,377,996	720.6	1.5	50.0	46.5	209	Yes
AP 19	- Non-Participating	638,331	5,381,857	701.5	1.5	50.0	39.8	1,009	Yes
AQ 20	- Non-Participating	639,333	5,380,415	707.1	1.5	50.0	38.8	1,606	Yes
AR 21	- Non-Participating	630,142	5,375,377	701.9	1.5	50.0	38.3	1,422	Yes
AS 22	- Non-Participating	644,117	5,375,554	701.3	1.5	50.0	39.2	1,718	Yes
AT 23	- Non-Participating	628,666	5,373,611	682.8	1.5	50.0	34.3	3,381	Yes
AU 24	- Non-Participating	632,030	5,373,428	696.5	1.5	50.0	41.2	1,068	Yes
AV 27	- Non-Participating	646,754	5,372,213	713.2	1.5	50.0	45.1	368	Yes
AW 29	- Non-Participating	631,486	5,386,533	696.9	1.5	50.0	37.2	1,864	Yes
AX 30	- Non-Participating	633,067	5,384,963	707.0	1.5	50.0	38.7	1,428	Yes
AY 31	- Non-Participating	633,553	5,383,375	714.8	1.5	50.0	42.0	883	Yes
AZ 66	- Participating	638,244	5,370,747	710.8	1.5	50.0	46.8	203	Yes
BA 67	- Participating	637,448	5,370,698	712.2	1.5	50.0	47.4	160	Yes
BB 68	- Participating	635,378	5,369,828	692.6	1.5	50.0	40.6	1,373	Yes
BC 32	- Non-Participating	626,925	5,388,203	701.4	1.5	50.0	35.4	1,817	Yes
BD 33	- Non-Participating	627,137	5,388,066	701.0	1.5	50.0	36.3	1,627	Yes
BE 34	- Non-Participating	626,921	5,387,556	704.1	1.5	50.0	38.0	1,213	Yes
BF 35	- Non-Participating	629,137	5,388,039	693.3	1.5	50.0	37.2	1,614	Yes

To be continued on next page...

DECIBEL - Main Result

Calculation: GE2.5-127

...continued from previous page

Table with columns: No., Name, X(East), Y(North), Z [m], Emission height [m], Demands Noise [dB(A)], Sound Level From WTGs [dB(A)], Distance to noise demand [m], Demands fulfilled? Noise. Rows include BG 36 - Non-Participating, BH 37 - Non-Participating, BI 38 - Non-Participating.

Distances (m)

Large table with columns WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V. Contains distance data for various wind turbine locations.

To be continued on next page...

DECIBEL - Main Result

Calculation: GE2.5-127

...continued from previous page

Table with columns WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V. Contains numerical data for wind turbine performance across various parameters.

To be continued on next page...

DECIBEL - Main Result

Calculation: GE2.5-127

...continued from previous page

Table with columns WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V. It contains a grid of numerical data representing decibel values for various wind turbine configurations.

To be continued on next page...

DECIBEL - Main Result

Calculation: GE2.5-127

...continued from previous page

Table with columns WTG, A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V and rows 197-208. Second table with columns WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR and rows 1-55.

To be continued on next page...

DECIBEL - Main Result

Calculation: GE2.5-127

...continued from previous page

Table with columns WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR. Rows 56-124 containing numerical data.

To be continued on next page...

DECIBEL - Main Result

Calculation: GE2.5-127

...continued from previous page

Table with columns WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR. Contains numerical data for each column across 193 rows.

To be continued on next page...

DECIBEL - Main Result

Calculation: GE2.5-127

...continued from previous page

Table with columns WTG, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR. Rows 194-208.

Table with columns WTG, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI. Rows 1-46.

To be continued on next page...

DECIBEL - Main Result

Calculation: GE2.5-127

...continued from previous page

Table with columns WTG, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI. Rows 47-107 containing numerical data for various wind turbine models.

To be continued on next page...

DECIBEL - Main Result

Calculation: GE2.5-127

...continued from previous page

Table with 18 columns (WTG, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI) and 18 rows of numerical data.

To be continued on next page...

DECIBEL - Main Result

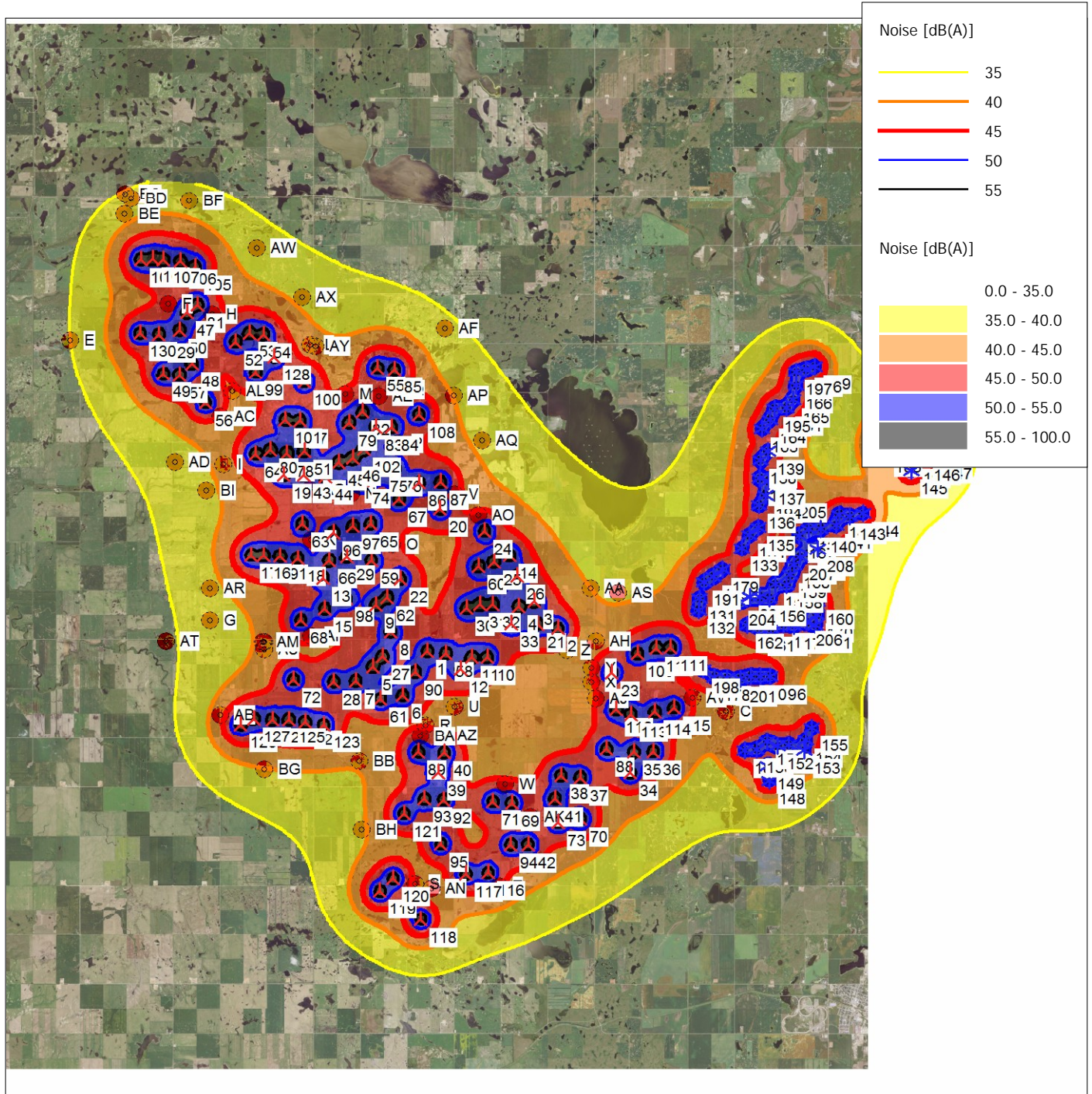
Calculation: GE2.5-127

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WTG	AS	AT	AU	AV	AW	AX	AY	AZ	BA	BB	BC	BD	BE	BF	BG	BH	BI
169	10035	23981	21022	11624	19473	17689	17112	17559	18164	20282	24269	24033	24147	22073	23045	21705	21222
170	6848	22328	18986	5062	22597	20445	19285	13411	14183	16421	27388	27136	27087	25386	19635	17121	21302
171	6848	22272	18924	4842	22749	20589	19409	13268	14044	16278	27529	27277	27221	25539	19503	16938	21329
172	6110	21523	18175	4199	22130	19959	18756	12546	13319	15556	26895	26642	26579	24920	18775	16248	20599
173	5355	20734	17385	3518	21532	19350	18118	11767	12538	14777	26277	26024	25950	24322	17991	15496	19851
174	5765	21180	17833	3943	21823	19649	18438	12229	15238	26582	26330	26263	24614	18452	15952	20255	
175	6666	22215	18933	6188	21350	19249	18196	13882	14617	16860	26184	25933	25918	24126	19984	17798	20230
176	5881	20750	17382	2762	22468	20262	18958	11384	12174	14379	27150	26898	26797	25251	17640	14883	20256
177	4627	19257	15888	1346	21343	19125	17771	9903	10691	12903	25971	25718	25598	24115	16158	13467	18846
178	4283	18835	15466	1012	21015	18795	17427	9493	10280	12495	25626	25374	25249	23783	15747	13083	18441
179	3660	19214	15927	4314	19082	16917	15737	11007	11720	13953	23857	23604	23548	21872	17035	15011	17862
180	3310	18877	15582	4026	18950	16774	15569	10623	11337	13572	23708	23456	23391	21740	16659	14624	17588
181	8365	22584	19561	9999	18857	16967	16256	15910	16527	18662	23697	23455	23533	21528	21468	20051	20041
182	6874	22338	19087	6818	20997	18924	17923	14248	14966	17202	25843	25593	25594	23762	20285	18220	20672
183	10298	25432	22270	10473	22480	20565	19799	17813	18510	20730	27324	27082	27153	25160	23743	21838	23283
184	10493	25535	22393	10798	22359	20466	19730	18034	18723	20936	27197	26956	27035	25026	23928	22076	23308
185	10877	25925	22784	11126	22681	20800	20078	18413	19105	21319	27515	27275	27359	25340	24315	22450	23687
186	11290	26325	23189	11511	22974	21108	20406	18826	19517	21732	27802	27563	27652	25622	24727	22861	24061
187	11607	26587	23464	11876	23070	21224	20547	19153	19841	22052	27891	27652	27749	25705	25036	23196	24271
188	11790	26687	23581	12157	22984	21158	20507	19351	20032	22238	27796	27558	27662	25605	25203	23407	24307
189	6734	20166	16817	2498	23431	21204	19785	10352	11147	13234	27967	27716	27566	26180	16509	13387	20321
190	7675	21618	18262	3650	24408	22187	20816	11848	12644	14742	29014	28762	28633	27176	18018	14895	21625
191	2973	18545	15245	3801	18798	16614	15386	10260	10975	13209	23541	23288	23216	21588	16300	14263	17309
192	11033	26302	23112	10860	23523	21604	20829	18479	19192	21423	28368	28126	28196	26205	24478	22457	24247
193	6147	21032	17886	7542	18772	16738	15813	13737	14391	16573	23627	23379	23399	21522	19496	17844	18950
194	5992	21091	17910	7092	19173	17118	16155	13568	14240	16439	24024	23775	23785	21932	19408	17650	19142
195	8074	22185	19173	9862	18457	16559	15841	15596	16204	18328	23299	23057	23132	21133	21114	19741	19623
196	9743	23645	20688	11413	19181	17386	16797	17254	17856	19969	23983	23747	23857	21790	22722	21402	20888
197	9468	23311	20359	11229	18878	17073	16474	16963	17560	19666	23685	23448	23555	21495	22408	21113	20551
198	3836	18431	15063	976	20572	18350	16979	9161	9944	12168	25177	24925	24799	23338	15410	12814	17996
199	5582	20406	17038	2425	22206	19997	18681	11041	11831	14037	26877	26624	26519	24987	17297	14553	19930
200	5286	20069	16701	2108	21941	19729	18403	10712	11501	13709	26600	26347	26238	24719	16967	14241	19607
201	5031	19730	16362	1762	21721	19506	18165	10362	11151	13359	26365	26112	25998	24496	16617	13896	19302
202	4858	20403	17079	4017	20648	18481	17291	11761	12511	14756	25419	25166	25107	23438	17920	15624	19274
203	4524	20070	16747	3837	20368	18197	16996	11454	12201	14446	25132	24880	24817	23159	17604	15334	18945
204	4184	19711	16384	3520	20178	17997	16775	11068	11815	14060	24927	24674	24604	22968	17220	14948	18635
205	6733	21924	18732	7453	19938	17900	16961	14279	14965	17176	24792	24544	24562	22689	20174	18337	19991
206	6520	21956	18610	4616	22432	20269	19085	12988	13762	15998	27209	26956	26899	25222	19218	16684	20998
207	6333	21888	18603	5896	21129	19019	17950	13546	14281	16523	25957	25706	25686	23907	19647	17466	20429
208	6996	22539	19260	6494	21559	19467	18432	14220	14955	17198	26397	26147	26138	24331	20322	18134	21023

DECIBEL - Map 95% rated power

Calculation: GE2.5-127



Map: US Naval Research Laboratory , Print scale 1:200,000, Map center UTM WGS84 Zone: 13 East: 641,190 North: 5,375,412
 ▲ New WTG * Existing WTG ■ Noise sensitive area
 Noise calculation model: ISO 9613-2 General. Wind speed: 95% rated power
 Height above sea level from active line object