

EAPC
WIND ENERGY

Summary Report:

Rolette Wind Farm Sound and Shadow Flicker Analysis Rolette, North Dakota

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June 28,

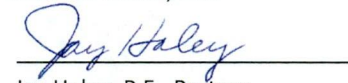
2015

Author:



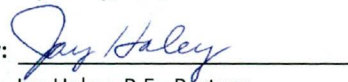
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Report Update

EAPC bears no responsibility to update this report for any changes occurring subsequent to the final issuance of this report.

Revision History

Revision No.	Revision Purpose	Date	Revised By
0	Original	12/08/2014	B. Storm
1	V117 Inclusion	01/20/2015	B. Storm
2	V117 Sound Increase	02/16/2015	B. Storm
3	Clarification	03/10/2015	B. Storm
4	G114 Inclusion	06/17/2015	B. Storm
5	Update of maps	06/17/2015	B. Storm
6	Update maps	06/19/2015	B. Storm
7	Clarification	06/22/2015	B. Storm
8	Turbine move and additional house	06/27/2015	B. Storm

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Table 3: Sound estimates from windPRO assuming various ground attenuation. Results presented for locations with no ground attenuation results above 35 dB(A) assuming V117-3.3 on 84 m HH. Values are reported at the center of the house. The distance required to travel from each receptor to reach the 50 dB(A) limit reported, all are beyond 100 ft. 5

Executive Summary

EAPC was hired by Rolette Power Development, LLC to provide a shadow flicker and sound analysis on residences within and surrounding the proposed wind farm of 59 wind turbines near Rolette, ND. The wind farm borders an existing wind farm to the south. Coordinates of the proposed turbines as well as occupied residences were determined by EAPC through aerial images and site-visits. A map of the turbine locations and assumed occupied residences are shown in the Appendices.

At the time this report was issued, a specific turbine had not been selected. This report outlines the impacts using a variety of machines that are representative of likely turbine candidates. In particular, turbines plausible for the site's wind regime from four of the larger turbine manufacturers (i.e., Vestas, Siemens, General Electric, and Gamesa) were evaluated (Table 1).

Existing turbines to the south of the project do exist. However, the turbines are far enough away (approximately 2 mile separation between the existing turbines and proposed new turbines) where the cumulative impact between the existing and proposed turbines are negligible. No more additional shadow flicker hours or significant increase in sound is observed at any of the house locations being evaluated when both projects are taken into consideration.

While the sound produced from turbines varies, a 108.5 dB(A) turbine mounted on a 84 m hub height (HH) (i.e., V117-3.3) produces the loudest sound level of the machines evaluated. The worst case flicker resulted from the V117-3.3 turbine on a 91.5 m HH. Details for the above stated results are presented in the rest of this report.

All analyzed locations resulted in final realistic shadow flicker results below 30 hours per year and sound levels below 50 dB(A) within 100 ft of the analyzed homes independent of which turbine was evaluated and ground attenuation assumed. Maps depicting the results can be found in Appendices A through D.

Table 1: Specifications of turbines evaluated within this report for the Rolette wind farm.

Manufacturer	Model	Name plate capacity (kW)	Rotor diameter (m)	Hub height* (m)	Sound level (dB(A))
Siemens	SWT-2.3-113	2,300	113	92.5	105.0
GE Wind Energy	GE 1.7-100	1,700	100	96	107.0
Vestas	V110-2.0	2,000	100	95	107.0
Vestas	V117-3.3	3,300	117	91.5	108.5
Gamesa	G114-2.0	2,000	114	93	106.0
Gameas	G114-2.5	2,500	114	93	106.0

* All turbines were also evaluated as 80 m HH except the V117-3.3 on 84 m HH

Shadow Flicker

For preliminary screening purposes, an absolute worst case shadow flicker scenario was analyzed using windPRO for the V117-3.3 on a 91.5 m HH. The worst case scenario assumes that the wind turbines are always operating, perpendicular to the sun, no cloud cover, all shadows within 1.5 km are visible, and that the sensors are "Greenhouses." Greenhouse sensor mode indicates that a shadow cast from any direction will be accumulated in the results. In reality, individual rooms and windows would need

to be modeled to determine the full impact on a house (i.e., if there are no windows on the side of a house where a shadow is cast, it would not be counted).

The worst case scenario resulted in nine locations being above 30 hours a year (an arbitrary value). House locations 14, 15, 16, 17, 18, 19, 21, 79, 80, and 81 are the locations that were above 30 hours per year (Table 2).

A refined analysis was performed to determine if any turbines should be moved or if other forms of mitigation are warranted. This revised analysis included sunshine probabilities and operational statistics (Appendix A and E). The refined analysis resulted in three home locations, location 15, 16, and 81, having more than 30 hours a year of shadow flicker anticipated, (Table 2).

To determine if this location was of high concern and if turbines were justified to be moved, a detailed shadow flicker analysis taking into consideration local obstacles (i.e., tree breaks) was performed. When taking into consideration local obstacles, and using a conservative estimate of the tree heights, house location 15 has approximately 22:00 hours per year of flicker predicted, location 16 has approximately 29:59 hours per year of flicker predicted, and location 81 is anticipated to have full blockage from the shadow flicker due to the dense trees. It is likely that no further analysis will be necessary with the current layout and home locations. Details regarding the refined shadow flicker analysis for homes 15, 16, and 81 can be found in Appendix F.

Table 2: WindPRO estimated shadow flicker hours for worst case and realistic scenarios assuming V117-3.3 on 91.5 m HH. Only receptors with reported shadow hours listed.

Receptor	Worst Case Shadow (hrs/yr)	Worst Case Shadow Days (days/yr)	Worst Case Max Shadow (hrs/yr)	Realistic Shadow* (hrs/yr)
H03	11:44	38	0:28	5:0
H04	8:33	32	0:25	3:46
H12	21:11	70	0:31	7:27
H14	47:58	153	0:45	19:47
H15	73:58	177	1:01	30:31/22:00
H16	83:00	255	0:42	33:40/29:59
H17	40:28	96	0:37	14:57
H18	62:09	158	0:41	19:07
H19	34:36:	119	0:29	13:32
H20	11:13	32	0:37	3:53
H21	50:17	115	1:01	16:39
H23	23:54	76	0:27	7:38
H78	17:24	34	0:38	4:41
H79	39:28	68	0:57	12:56
H80	57:13	100	1:10	21:29
H81	84:53	160	1:13	33:48/0:0

* No obstacles taken into consideration except for locations H15, H16, and H81 hours with obstacles reported second.

Sound

For preliminary screening purposes, a worst case sound scenario was analyzed using windPRO. The worst case scenario assumes that the wind turbines are operating at a wind speed that results in the loudest sound being emitted. According to information obtained within windPRO, the loudest normal

operating noise level emitted from the turbines in consideration was 108.5 dB(A) for the Vestas V117-3.3. Detailed information regarding the sound emission in terms of octave data was not available for the V117-3.3 turbine, therefore generic octave data for a sound level of 108.5 dB(A) was generated. The noise emission level of 108.5 dB(A) occurs for hub height wind speeds at 10 m/s. While it is very likely a hub height of greater than 84 m will be selected, the sound analysis of a hub height of 84 m resulted in the highest sound level at the modeled receptors. Therefore, all the results presented from here on are based on 84 m hub heights, and would only improve with higher hub heights.

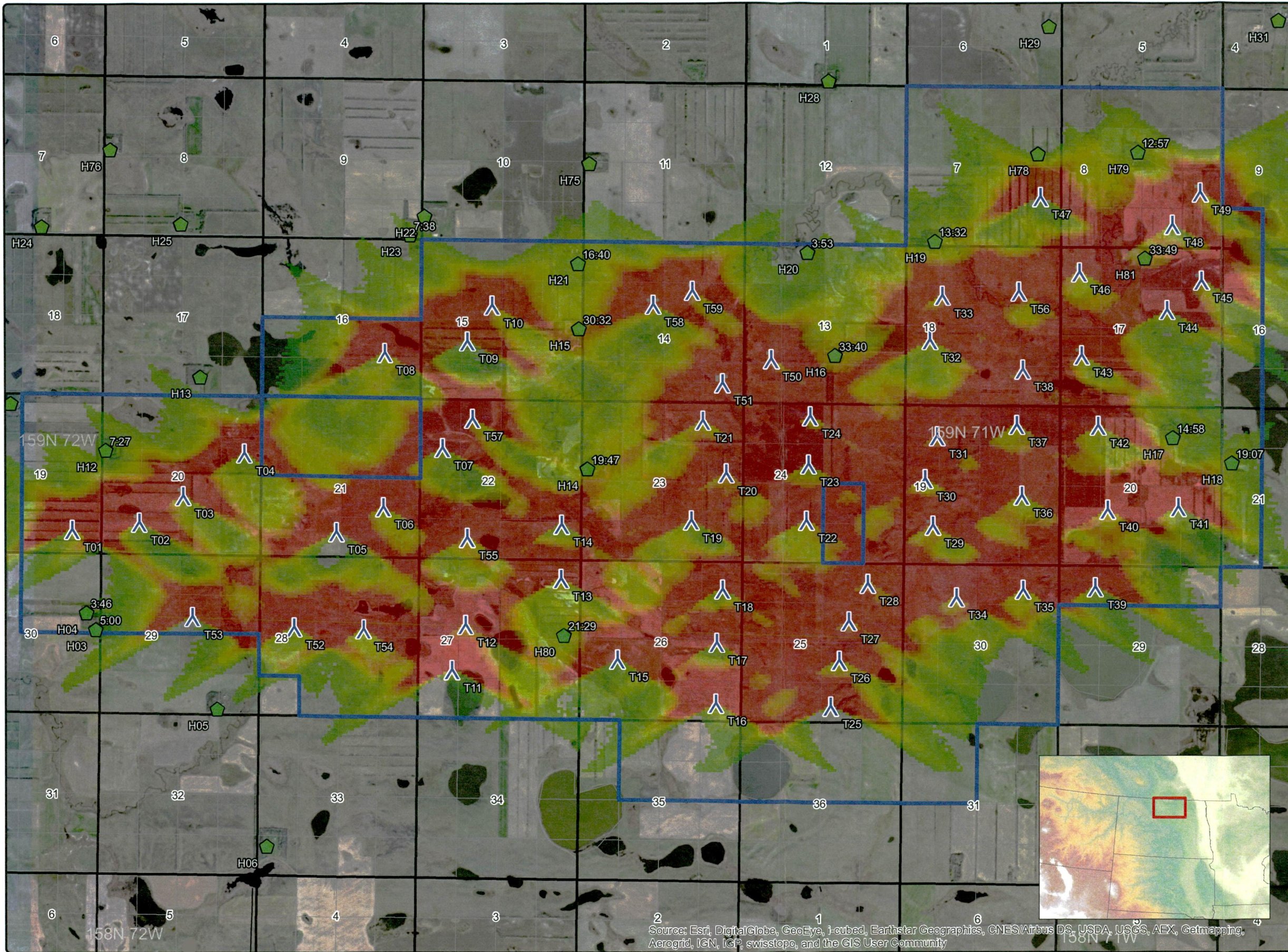
The windPRO analysis used the ISO 9613-2 General noise calculation model three different ways; with no ground attenuation, General attenuation (Ground Factor of 0.7), and Alternative attenuation. Noise levels were modeled 1.5 m above ground level (AGL) at the potential occupied residences and did not incorporate ambient noise. The worst case scenario (no ground attenuation) resulted in one location being above 50 dB(A) within 100 ft (Table 3). The results reported are at the center of the house. Distances required to travel to reach the 50 dB(A) limit are found within the windPRO reports and in the table below. Results and maps depicting the worst case sound scenario results are shown in Appendix B and Appendix G.

Due to the fact that one receptor exceeded the limit of 50 dB(A) within 100 ft of a residence assuming non-realistic assumptions, a more refined analysis was performed. The refined analyses included the same assumptions and calculations as the worst case scenario, except that the Alternative ground attenuation option and General ground attenuation option within windPRO were utilized. The Alternative ground attenuation option takes into account local terrain (e.g. hills and valleys) as well as a porous surface, while the General ground attenuation option assumes flat terrain or sloping terrain, and a porous surface. The Alternative method does take into account varying terrain. Most sound studies within the U.S apply the General ground attenuation model. The results from the refined study can be found in Appendices B, C, H, and I. With the more refined and realistic calculations, all locations had a predicted sound level below 49 dB(A) at the site center and below 50 dB(A) within 100 ft of the residence. It is anticipated that any turbine selected with equivalent or less sound and flicker characteristics for the turbine evaluated and for the layout evaluated would satisfy North Dakota State regulations regarding acceptable sound levels.

Table 3: Sound estimates from windPRO assuming various ground attenuation. Results presented for locations with no ground attenuation results above 35 dB(A) assuming V117-3.3 on 84 m HH. Values are reported at the center of the house. The distance required to travel from each receptor to reach the 50 dB(A) limit reported, all are beyond 100 ft.

Sensor	No Ground Atten. (dB(A))	Alt. Ground Atten. (dB(A))	General Ground Atten. (dB(A))	Distance to travel from receptor to reach 50 dB(A) for General Ground Atten. (m / ft)
H02	36.6	32.4	32.0	1462 / 4,796
H03	43.3	39.7	38.7	798 / 2,618
H04	43.9	40.5	39.3	664 / 2,178
H05	42.9	39.2	38.2	778 / 2,552
H06	37.3	33.1	32.7	2,040 / 6,692
H07	39.1	34.9	34.4	1,860 / 6,102
H08	36.6	32.2	32.1	2,260 / 7,414
H10	37.2	33.1	32.6	1,333 / 4,373
H11	38.7	34.7	34.1	1,232 / 4,041
H12	45.1	41.8	40.6	608 / 1,994
H13	43.3	39.6	38.6	709 / 2,326
H14	47.8	44.5	43.2	429 / 1,407
H15	46.6	43.2	42.0	576 / 1,889
H16	48.9	45.6	44.3	429 / 1,407
H17	47.4	44.2	42.9	510 / 1,673
H18	45.1	41.7	40.5	511 / 1,676
H19	47.6	44.6	43.0	355 / 1,164
H20	44.6	40.7	39.9	938 / 3,077
H21	45.3	41.7	40.6	652 / 2,139
H22	42.1	38.2	37.4	935 / 3,067
H23	42.8	39.0	38.2	887 / 2,910
H25	36.8	32.5	32.2	2,219 / 7,280
H28	38.6	34.3	34.0	2,228 / 7,309
H29	38.5	34.3	33.9	1,538 / 5,045
H30	36.4	32.1	31.9	2,171 / 7,122
H31	36.6	31.8	32.0	1,718 / 5,636
H32	35.2	30.8	30.8	2,534 / 8,313
H68	38.1	33.9	33.5	1,584 / 5,196
H75	40.7	36.6	36.0	1,352 / 4,435
H78	47.7	45.7	43.4	251 / 823
H79	46.0	42.7	41.4	540 / 1,771
H80	48.9	46.1	44.4	372 / 1,220
H81	51.0	48.8	46.7	224 / 734

Appendix A: Realistic Shadow Flicker Map




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**Rolette Power
Realistic Shadow Flicker**

Client
Rolette Power Development, LLC

Project Description
47 Primary WTG locations & 12 Alts (Rev. 9) for V117-3.3 on 91.5 m HH. Realistic shadow flicker map and data at receptors (hrs/yr). Assumes statistical reduction due to sunshine probability, turbine orientation and operation probability. Sensors in "greenhouse" mode. No obstacles assumed. H15, H16, and H81 reduced to 22:00, 29:59, and 0:0, respectfully with obstacles.


Location: Rolette, ND

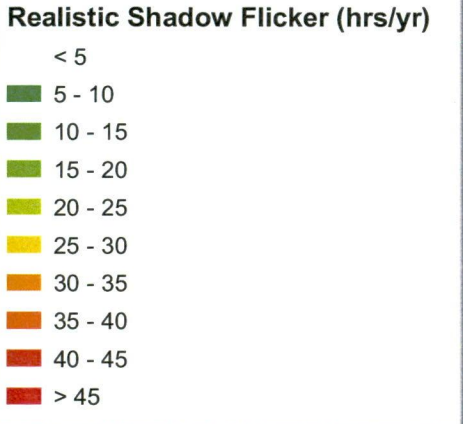
Project #: 20131290

Issue Dates


#	Description	Date
1	Original	2015.06.27

Drawn By: BS Checked By: JH

- Legend*
-  WTG Rev 9
 -  Occupied Res.
 -  Project Boundary



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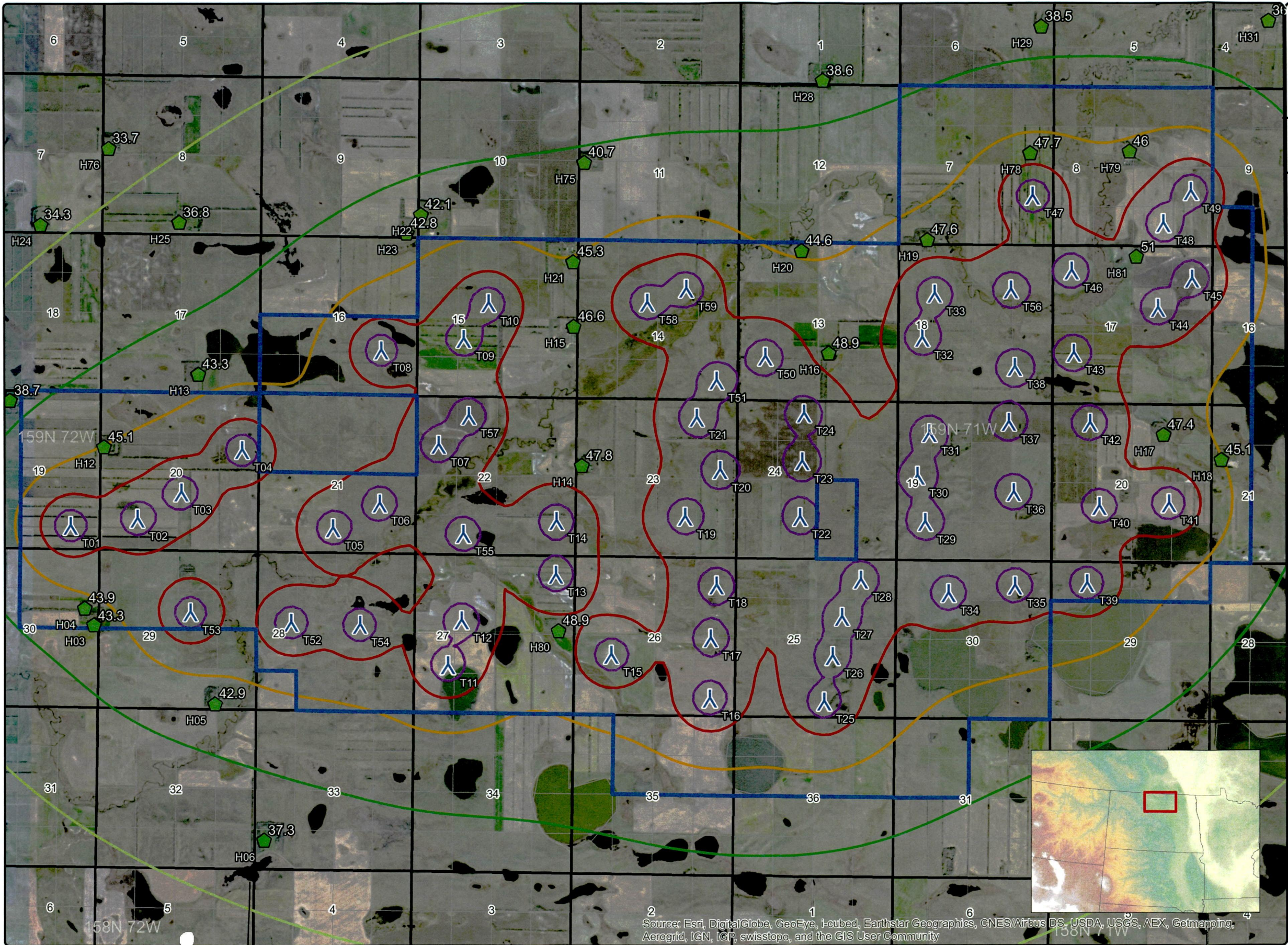


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Appendix B: No Ground Attenuation Sound Map




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**Rolette Power
Worst Case Sound**

Client
Rolette Power Development, LLC

Project Description
47 Primary WTG locations & 12 Alts (Rev. 9) for V117-3.3 on 84 m HH. Worst case sound map, sound data at receptors (dB(A)), Assumes WTGs at rated noise of 108.5 dB(A) for new WTGs. ISO-9613-2 General model. No ground attenuation.

Location: Rolette, ND




Project #: 20131290

Issue Dates






#	Description	Date
1	Original	2015.06.27

Drawn By: BS Checked By: JH


Legend

-  WTG Rev 9
-  Occupied Res.
-  Project Boundary

Sound Level (dB(A))

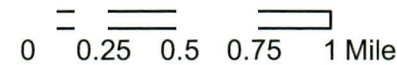
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-  45
-  50
-  55

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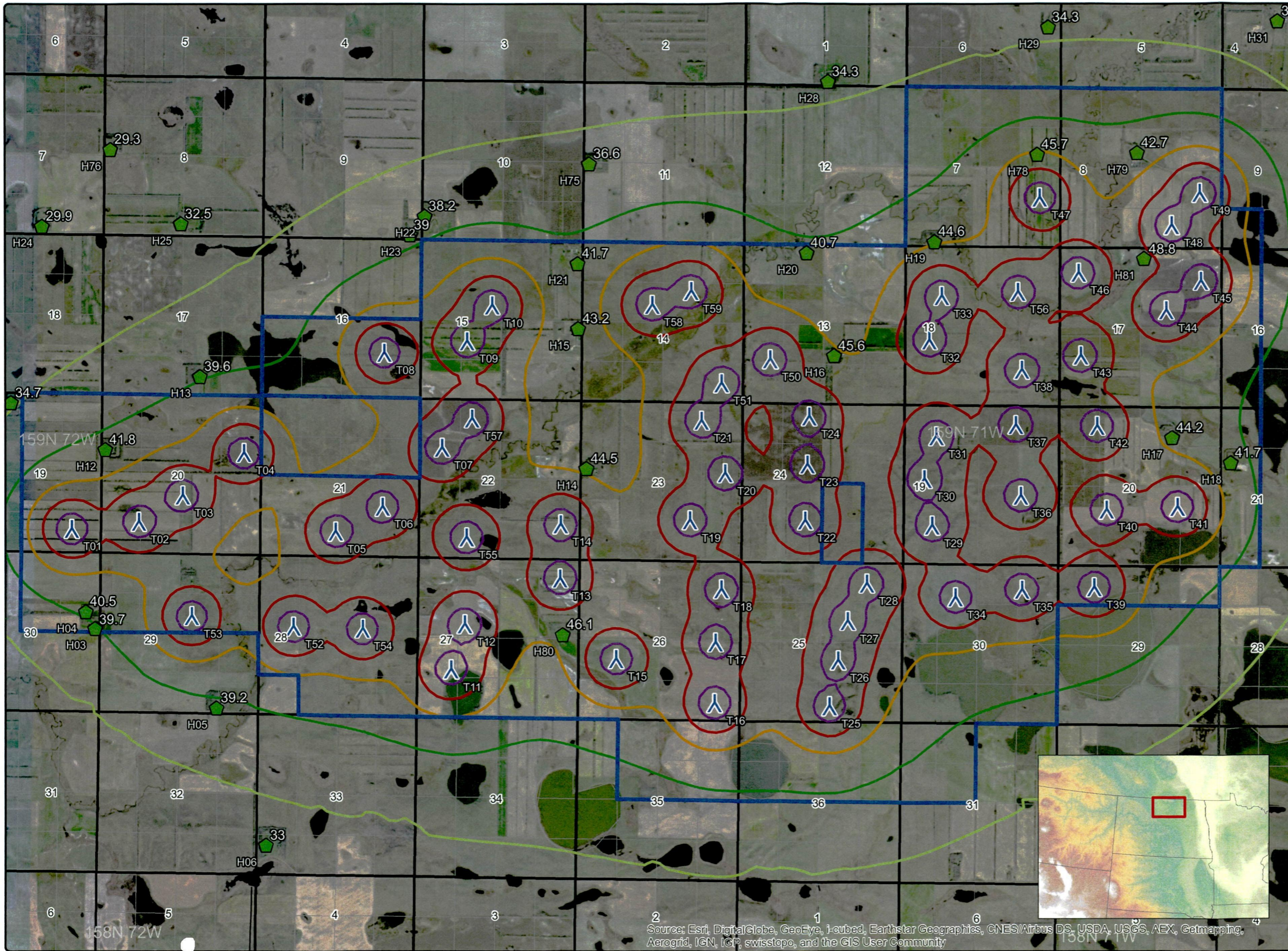


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Appendix C: Alternative Ground Attenuation Sound Map




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**Rolette Power
Realistic Case Sound 1**

Client
Rolette Power Development, LLC

Project Description
47 Primary WTG locations & 12 Alts (Rev. 9) for V117-3.3 on 84 m HH. Realistic case sound map, sound data at receptors (dB(A)), Assumes WTGs at rated noise of 108.5 dB(A) for new WTGs . ISO-9613-2 General model. Alternative ground attenuation.

Location: Rolette, ND


Project #: 20131290

Issue Dates


#	Description	Date
1	Original	2015.06.27

Drawn By: BS *Checked By:* JH

Legend

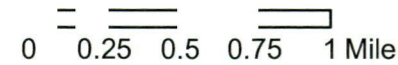
-  WTG Rev 9
 -  Occupied Res.
 -  Project Boundary
- Sound Level (dB(A))**
-  35
 -  40
 -  45
 -  50
 -  55

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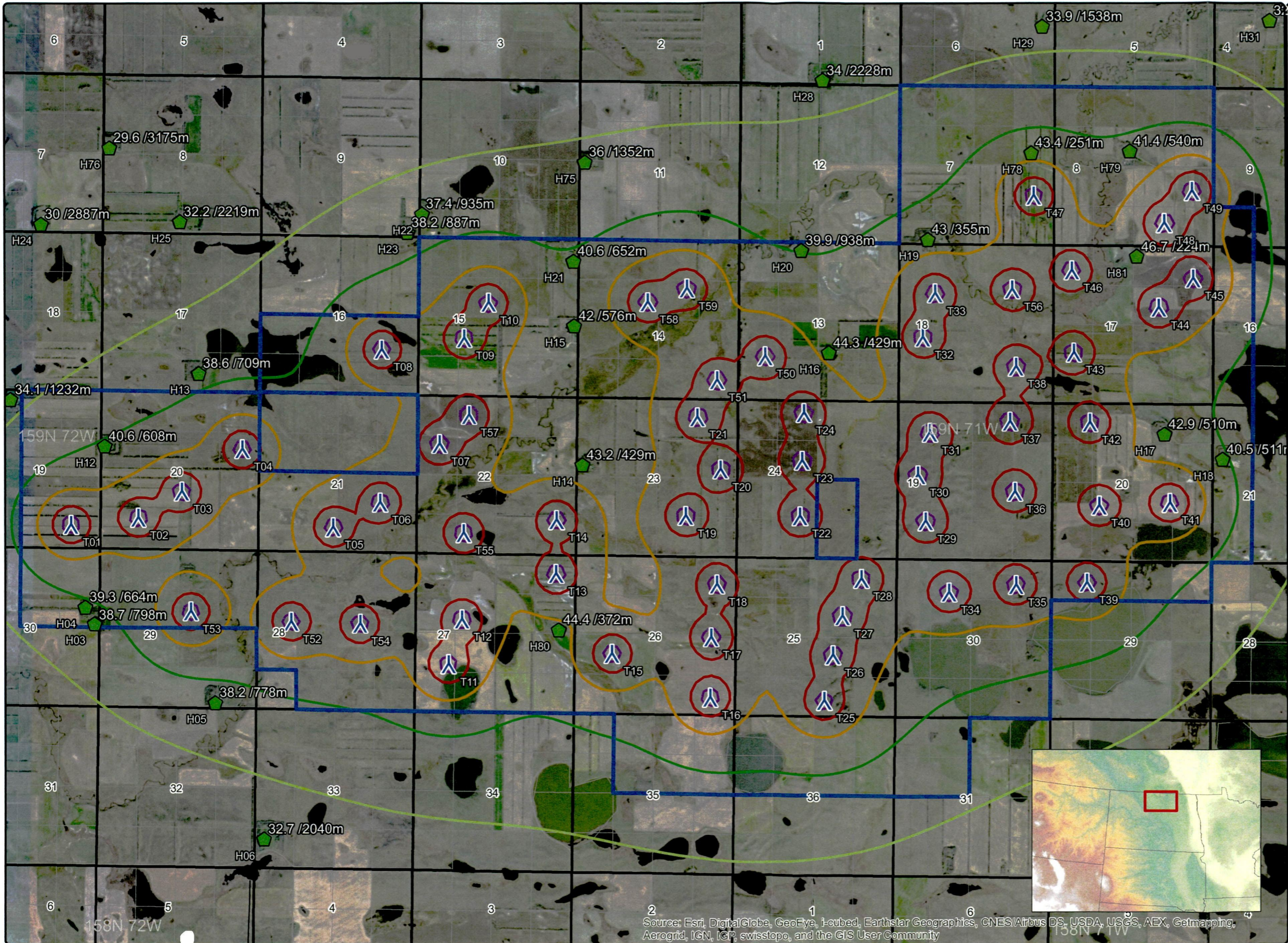


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Appendix D: General Ground Attenuation Sound Map




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**Rolette Power
Realistic Case Sound 2**

Client
Rolette Power Development, LLC

Project Description
47 Primary WTG locations & 12 Alts (Rev. 9) for V117-3.3 on 84 m HH. Realistic case sound map, sound data at receptors (dB(A)), and distance (m) to travel from receptor to reach 50 dB(A). Assumes WTGs at rated noise of 108.5 dB(A) for new WTGs. ISO-9613-2 General model. General ground attenuation.









Location: Rolette, ND
Project #: 20131290

Issue Dates

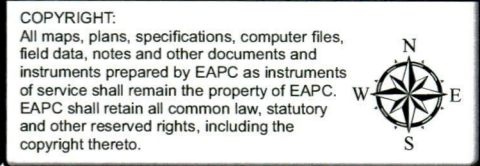
#	Description	Date
1	Original	2015.06.27

Drawn By: BS Checked By: JH

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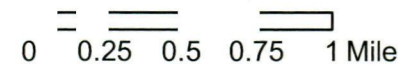
-  WTG Rev 9
-  Occupied Res.
-  Project Boundary
- Sound Level (dB(A))**
-  35
-  40
-  45
-  50
-  55

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Appendix E: windPRO Shadow Flicker Report

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:
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6/28/2015 12:28 AM / 1
Licensed user:
EAPC Wind Energy
3100 DeMers Avenue
US-GRAND FORKS, ND 58201
+1 701 775 3000
wind@eapc.net
Calculated:
6/26/2015 10:50 PM/2.9.285

SHADOW - Main Result

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles

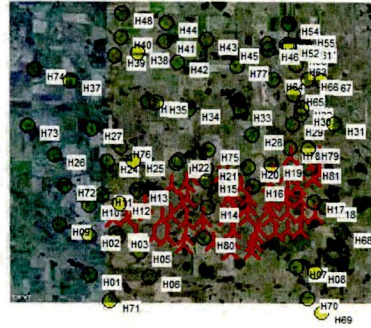
Assumptions for shadow calculations

Maximum distance for influence 1,500 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:
9146 (Short-term to MERRA)

Operational time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
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: 121203_10ftHCLs_7kmBuffer.wpo (3)
Obstacles not used in calculation
Eye height: 1.5 m
Grid resolution: 10.0 m

Scale 1:400,000
New WTG Shadow receptor

WTGs

	UTM (north)-WGS84 Zone: 14			Row data/Description	WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]
	East	North	Z [m]		Valid	Manufact. Type-generator				
T01	426,404	5,380,816	490.7	T01	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T02	427,088	5,380,888	490.7	T02	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T03	427,532	5,381,154	490.6	T03	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T04	428,153	5,381,587	484.6	T04	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T05	429,079	5,380,790	481.6	T05	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T06	429,560	5,381,041	481.6	T06	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T07	430,155	5,381,640	478.5	T07	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T08	429,579	5,382,607	487.7	T08	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T09	430,407	5,379,847	496.8	T09	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T10	430,657	5,383,084	491.0	T10	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T11	430,242	5,379,390	490.7	T11	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T12	430,379	5,379,847	480.0	T12	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T13	431,335	5,380,312	481.2	T13	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T14	431,340	5,380,862	481.6	T14	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T15	431,891	5,379,497	484.6	T15	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T16	432,876	5,379,052	496.9	T16	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T17	432,886	5,379,665	487.7	T17	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T18	432,945	5,380,204	489.6	T18	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T19	432,633	5,380,904	496.8	T19	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T20	432,985	5,381,379	499.9	T20	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T21	432,753	5,381,916	493.8	T21	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T22	433,787	5,380,903	516.3	T22	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T23	433,809	5,381,470	515.1	T23	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T24	433,830	5,381,961	512.1	T24	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T25	434,026	5,379,018	527.3	T25	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T26	434,112	5,379,482	520.4	T26	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T27	434,209	5,379,879	512.1	T27	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T28	434,398	5,380,261	515.1	T28	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T29	435,048	5,380,847	518.2	T29	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T30	434,970	5,381,321	525.3	T30	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T31	435,093	5,381,756	514.4	T31	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T32	435,029	5,382,733	490.7	T32	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T33	435,153	5,383,180	487.7	T33	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0
T34	435,280	5,380,120	499.9	T34	Yes	VESTAS V117-3.3 GridStream-3,300	3,300	117.0	91.5	0.0

To be continued on next page...

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20131290 Rolette Power Development
 Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
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 Finley, ND 58230

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SHADOW - Main Result

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles

...continued from previous page

UTM (north)-WGS84 Zone: 14			WTG type		Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]
East	North	Z	Row data/Description	Row data/Description							
			[m]								
T35	435,948	5,380,198	493.8	T35	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T36	435,940	5,381,153	497.4	T36	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T37	435,892	5,381,871	496.8	T37	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T38	435,956	5,382,432	496.8	T38	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T39	436,670	5,380,219	493.8	T39	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T40	436,795	5,381,008	493.6	T40	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T41	437,500	5,381,035	490.7	T41	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T42	436,705	5,381,860	496.8	T42	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T43	436,544	5,382,577	486.6	T43	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T44	437,401	5,383,031	484.6	T44	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T45	437,748	5,383,328	484.6	T45	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T46	436,528	5,383,414	491.2	T46	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T47	436,146	5,384,176	493.8	T47	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T48 Alt	437,462	5,383,893	484.9	T48 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T49 Alt	437,741	5,384,219	486.5	T49 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T50 Alt	433,440	5,382,540	491.0	T50 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T51 Alt	432,950	5,382,296	487.7	T51 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T52 Alt	428,647	5,379,825	484.6	T52 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T53 Alt	427,624	5,379,928	487.7	T53 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T54 Alt	429,351	5,379,803	481.6	T54 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T55 Alt	430,397	5,380,730	475.9	T55 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T56 Alt	435,924	5,383,222	484.6	T56 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T57 Alt	430,454	5,381,937	481.6	T57 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T58 Alt	432,258	5,383,093	481.6	T58 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T59 Alt	432,653	5,383,230	479.6	T59 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0

Shadow receptor-Input

UTM (north)-WGS84 Zone: 14			Width [m]	Height [m]	Height a.g.l. [m]	Degrees from south cw [°]	Slope of window [°]	Direction mode
No.	East	North						
H01	425,103	5,377,690	482.7	1.0	1.0	0.0	90.0	"Green house mode"
H02	425,068	5,379,854	474.1	1.0	1.0	0.0	90.0	"Green house mode"
H03	426,643	5,379,805	491.7	1.0	1.0	0.0	90.0	"Green house mode"
H04	426,549	5,379,974	491.0	1.0	1.0	0.0	90.0	"Green house mode"
H05	427,874	5,379,000	474.0	1.0	1.0	0.0	90.0	"Green house mode"
H06	428,371	5,377,613	488.9	1.0	1.0	0.0	90.0	"Green house mode"
H07	436,489	5,378,172	496.8	1.0	1.0	0.0	90.0	"Green house mode"
H08	437,470	5,377,901	494.2	1.0	1.0	0.0	90.0	"Green house mode"
H09	423,456	5,380,441	468.5	1.0	1.0	0.0	90.0	"Green house mode"
H10	425,063	5,381,519	490.7	1.0	1.0	0.0	90.0	"Green house mode"
H11	425,794	5,382,095	484.6	1.0	1.0	0.0	90.0	"Green house mode"
H12	426,747	5,381,621	488.2	1.0	1.0	0.0	90.0	"Green house mode"
H13	427,710	5,382,364	484.6	1.0	1.0	0.0	90.0	"Green house mode"
H14	431,600	5,381,428	480.6	1.0	1.0	0.0	90.0	"Green house mode"
H15	431,525	5,382,848	481.6	1.0	1.0	0.0	90.0	"Green house mode"
H16	434,082	5,382,575	494.6	1.0	1.0	0.0	90.0	"Green house mode"
H17	437,449	5,381,736	489.6	1.0	1.0	0.0	90.0	"Green house mode"
H18	438,036	5,381,480	487.7	1.0	1.0	0.0	90.0	"Green house mode"
H19	435,083	5,383,732	482.5	1.0	1.0	0.0	90.0	"Green house mode"
H20	433,814	5,383,618	481.3	1.0	1.0	0.0	90.0	"Green house mode"
H21	431,519	5,383,509	482.5	1.0	1.0	0.0	90.0	"Green house mode"
H22	429,988	5,383,991	485.4	1.0	1.0	0.0	90.0	"Green house mode"
H23	429,842	5,383,799	486.0	1.0	1.0	0.0	90.0	"Green house mode"
H24	426,110	5,383,888	484.6	1.0	1.0	0.0	90.0	"Green house mode"
H25	427,520	5,383,912	487.7	1.0	1.0	0.0	90.0	"Green house mode"
H26	423,216	5,384,199	475.5	1.0	1.0	0.0	90.0	"Green house mode"
H27	425,207	5,385,626	484.6	1.0	1.0	0.0	90.0	"Green house mode"
H28	434,037	5,385,350	487.7	1.0	1.0	0.0	90.0	"Green house mode"
H29	436,241	5,385,900	487.5	1.0	1.0	0.0	90.0	"Green house mode"

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

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Calculated:
 6/26/2015 10:50 PM/2.9.285

SHADOW - Main Result

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles

...continued from previous page

UTM (north)-WGS84 Zone: 14

No.	East	North	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
	[m]	[m]	[m]	[m]	[m]	[m]	[°]	[°]	
H30	436,720	5,386,461	487.7	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H31	438,532	5,385,959	492.7	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H32	436,777	5,386,821	487.7	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H33	433,417	5,386,642	489.8	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H34	430,581	5,386,696	484.6	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H35	428,790	5,387,073	487.7	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H36	428,339	5,387,121	487.8	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H37	424,038	5,388,227	476.1	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H38	427,771	5,389,763	485.6	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H39	426,492	5,389,606	486.3	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H40	426,881	5,390,596	478.5	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H41	429,239	5,390,383	484.6	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H42	429,976	5,389,256	485.3	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H43	431,513	5,390,474	486.5	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H44	429,367	5,391,413	484.6	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H45	432,691	5,390,026	492.8	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H46	434,940	5,389,948	488.7	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H47	434,910	5,390,254	489.5	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H48	426,887	5,391,926	484.6	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H49	436,271	5,390,194	493.4	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H50	436,212	5,390,180	493.3	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H51	436,128	5,390,182	493.0	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H52	436,045	5,390,169	492.7	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H53	435,952	5,390,222	492.0	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H54	436,061	5,391,348	494.3	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H55	436,924	5,390,748	494.9	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H56	436,493	5,390,085	493.8	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H57	436,955	5,390,062	494.2	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H58	436,487	5,389,750	493.8	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H59	436,695	5,390,178	493.8	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H60	436,792	5,390,176	493.9	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H61	436,761	5,390,069	493.8	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H62	436,848	5,390,074	494.0	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H63	436,447	5,389,149	491.4	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H64	435,203	5,388,342	487.7	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H65	436,340	5,387,513	487.7	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H66	437,143	5,388,366	492.2	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H67	437,850	5,388,298	492.1	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H68	438,962	5,380,033	490.7	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H69	437,832	5,375,631	496.6	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H70	437,063	5,376,441	493.8	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H71	426,198	5,376,299	477.3	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H72	423,740	5,382,611	473.1	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H73	421,712	5,385,818	484.6	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H74	422,066	5,388,846	472.5	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H75	431,638	5,384,520	487.7	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H76	426,805	5,384,667	485.2	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H77	433,190	5,389,038	493.8	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H78	436,125	5,384,612	492.2	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H79	437,120	5,384,628	484.8	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H80	431,362	5,379,742	479.8	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H81	437,191	5,383,551	484.6	1.0	1.0	1.0	0.0	90.0	"Green house mode"

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Calculated:
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SHADOW - Main Result

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles

Calculation Results

Shadow receptor

No.	Shadow, worst case		Max shadow hours per day [h/day]	Shadow, expected values
	Shadow hours per year [h/year]	Shadow days per year [days/year]		Shadow hours per year [h/year]
H01	0:00	0	0:00	0:00
H02	0:00	0	0:00	0:00
H03	11:44	38	0:28	5:00
H04	8:35	32	0:25	3:46
H05	0:00	0	0:00	0:00
H06	0:00	0	0:00	0:00
H07	0:00	0	0:00	0:00
H08	0:00	0	0:00	0:00
H09	0:00	0	0:00	0:00
H10	0:00	0	0:00	0:00
H11	0:00	0	0:00	0:00
H12	21:11	70	0:31	7:27
H13	0:00	0	0:00	0:00
H14	47:58	153	0:45	19:47
H15	73:58	177	1:01	30:31
H16	83:00	255	0:42	33:40
H17	40:28	96	0:37	14:57
H18	62:09	158	0:41	19:07
H19	34:36	119	0:29	13:32
H20	11:13	32	0:37	3:53
H21	50:17	115	1:01	16:39
H22	0:00	0	0:00	0:00
H23	23:54	76	0:27	7:38
H24	0:00	0	0:00	0:00
H25	0:00	0	0:00	0:00
H26	0:00	0	0:00	0:00
H27	0:00	0	0:00	0:00
H28	0:00	0	0:00	0:00
H29	0:00	0	0:00	0:00
H30	0:00	0	0:00	0:00
H31	0:00	0	0:00	0:00
H32	0:00	0	0:00	0:00
H33	0:00	0	0:00	0:00
H34	0:00	0	0:00	0:00
H35	0:00	0	0:00	0:00
H36	0:00	0	0:00	0:00
H37	0:00	0	0:00	0:00
H38	0:00	0	0:00	0:00
H39	0:00	0	0:00	0:00
H40	0:00	0	0:00	0:00
H41	0:00	0	0:00	0:00
H42	0:00	0	0:00	0:00
H43	0:00	0	0:00	0:00
H44	0:00	0	0:00	0:00
H45	0:00	0	0:00	0:00
H46	0:00	0	0:00	0:00
H47	0:00	0	0:00	0:00
H48	0:00	0	0:00	0:00
H49	0:00	0	0:00	0:00
H50	0:00	0	0:00	0:00
H51	0:00	0	0:00	0:00
H52	0:00	0	0:00	0:00
H53	0:00	0	0:00	0:00
H54	0:00	0	0:00	0:00
H55	0:00	0	0:00	0:00
H56	0:00	0	0:00	0:00
H57	0:00	0	0:00	0:00
H58	0:00	0	0:00	0:00
H59	0:00	0	0:00	0:00

To be continued on next page...

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SHADOW - Main Result
Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles

...continued from previous page

No.	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]
H60	0:00	0	0:00	0:00
H61	0:00	0	0:00	0:00
H62	0:00	0	0:00	0:00
H63	0:00	0	0:00	0:00
H64	0:00	0	0:00	0:00
H65	0:00	0	0:00	0:00
H66	0:00	0	0:00	0:00
H67	0:00	0	0:00	0:00
H68	0:00	0	0:00	0:00
H69	0:00	0	0:00	0:00
H70	0:00	0	0:00	0:00
H71	0:00	0	0:00	0:00
H72	0:00	0	0:00	0:00
H73	0:00	0	0:00	0:00
H74	0:00	0	0:00	0:00
H75	0:00	0	0:00	0:00
H76	0:00	0	0:00	0:00
H77	0:00	0	0:00	0:00
H78	17:24	34	0:38	4:41
H79	39:28	68	0:57	12:56
H80	57:13	100	1:10	21:29
H81	84:53	160	1:13	33:48

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

No.	Name	Worst case [h/year]	Expected [h/year]
T01	T01	0:00	0:00
T02	T02	0:00	0:00
T03	T03	17:11	5:41
T04	T04	4:00	1:45
T05	T05	0:00	0:00
T06	T06	0:00	0:00
T07	T07	3:44	1:37
T08	T08	0:00	0:00
T09	T09	18:19	6:42
T10	T10	57:45	20:53
T11	T11	8:12	2:57
T12	T12	11:40	5:03
T13	T13	0:00	0:00
T14	T14	0:00	0:00
T15	T15	37:21	13:28
T16	T16	0:00	0:00
T17	T17	0:00	0:00
T18	T18	0:00	0:00
T19	T19	10:03	3:25
T20	T20	5:34	2:26
T21	T21	17:05	7:13
T22	T22	0:00	0:00
T23	T23	0:00	0:00
T24	T24	0:00	0:00
T25	T25	0:00	0:00
T26	T26	0:00	0:00
T27	T27	0:00	0:00
T28	T28	0:00	0:00
T29	T29	0:00	0:00
T30	T30	0:00	0:00
T31	T31	13:15	4:21
T32	T32	13:04	5:33
T33	T33	22:04	9:22

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SHADOW - Main Result

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
T34	T34	0:00	0:00
T35	T35	0:00	0:00
T36	T36	0:00	0:00
T37	T37	0:00	0:00
T38	T38	0:00	0:00
T39	T39	0:00	0:00
T40	T40	21:36	6:11
T41	T41	50:15	14:37
T42	T42	30:46	13:30
T43	T43	0:00	0:00
T44	T44	4:09	1:07
T45	T45	34:41	12:45
T46	T46	30:05	12:11
T47	T47	62:06	23:57
T48	Alt T48 Alt	0:00	0:00
T49	Alt T49 Alt	28:25	9:16
T50	Alt T50 Alt	28:38	12:22
T51	Alt T51 Alt	6:36	2:23
T52	Alt T52 Alt	0:00	0:00
T53	Alt T53 Alt	20:19	8:46
T54	Alt T54 Alt	0:00	0:00
T55	Alt T55 Alt	5:25	1:37
T56	Alt T56 Alt	19:54	6:46
T57	Alt T57 Alt	23:36	8:34
T58	Alt T58 Alt	51:44	20:47
T59	Alt T59 Alt	22:57	9:07

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SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H03 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (330)

Assumptions for shadow calculations

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 time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:33 16:55	08:11 17:38	07:23 18:22	07:20 20:09	06:22 20:53	05:43 21:33	05:42 21:46	06:14 21:20	06:57 20:26	07:20 (T53 Alt) 23 07:43 (T53 Alt)	07:39 19:23	07:26 17:22
2	08:33 16:56	08:09 17:40	07:22 18:23	07:18 20:10	06:20 20:54	05:43 21:34	05:43 21:46	06:15 21:19	06:58 20:24	07:22 (T53 Alt) 21 07:43 (T53 Alt)	07:40 19:21	07:27 17:20
3	08:33 16:57	08:08 17:41	07:20 18:25	07:16 20:12	06:19 20:56	05:42 21:35	05:43 21:46	06:16 21:18	06:59 20:22	07:23 (T53 Alt) 18 07:41 (T53 Alt)	07:42 19:19	07:29 17:19
4	08:33 16:58	08:07 17:43	07:18 18:26	07:14 20:13	06:17 20:57	05:41 21:36	05:44 21:46	06:18 21:16	07:01 20:20	07:24 (T53 Alt) 16 07:40 (T53 Alt)	07:43 19:17	07:30 17:17
5	08:32 16:59	08:05 17:45	07:16 18:28	07:12 20:15	06:15 20:59	05:41 21:37	05:45 21:45	06:19 21:15	07:02 20:18	07:26 (T53 Alt) 13 07:39 (T53 Alt)	07:45 19:15	07:32 17:16
6	08:32 17:00	08:04 17:46	07:14 18:30	07:10 20:16	06:14 21:00	05:40 21:37	05:45 21:45	06:21 21:13	07:04 20:15	07:27 (T53 Alt) 10 07:37 (T53 Alt)	07:46 19:13	07:34 17:14
7	08:32 17:02	08:02 17:48	07:12 18:31	07:08 20:18	06:12 21:01	05:40 21:38	05:46 21:45	06:22 21:11	07:05 20:13	07:28 (T53 Alt) 6 07:34 (T53 Alt)	07:48 19:11	07:35 17:13
8	08:32 17:03	08:01 17:50	07:10 18:33	07:05 20:19	06:11 21:03	05:39 21:39	05:47 21:44	06:23 21:10	07:06 20:11	07:30 (T53 Alt) 2 07:32 (T53 Alt)	07:49 19:09	07:37 17:11
9	08:31 17:04	07:59 17:51	08:08 19:34	07:03 20:21	06:09 21:04	05:39 21:40	05:48 21:44	06:25 21:08	07:08 20:09	07:51 19:06	07:38 17:10	08:20 16:45
10	08:31 17:05	07:57 17:53	08:05 19:36	07:01 20:22	06:08 21:06	05:39 21:41	05:49 21:43	06:26 21:07	07:09 20:07	07:52 19:04	07:40 17:08	08:21 16:45
11	08:30 17:07	07:56 17:54	08:03 19:37	06:59 20:24	06:06 21:07	05:38 21:41	05:50 21:42	06:27 21:05	07:11 20:05	07:54 19:02	07:41 17:07	08:22 16:45
12	08:30 17:08	07:54 17:56	08:01 19:39	06:57 20:25	06:05 21:08	05:38 21:42	05:51 21:42	06:29 21:03	07:12 20:03	07:55 19:00	07:43 17:06	08:23 16:45
13	08:29 17:09	07:53 17:58	08:00 19:40	06:55 20:26	06:03 21:10	05:38 21:43	05:52 21:41	06:30 21:02	07:13 20:01	07:57 18:56	07:45 17:04	08:24 16:45
14	08:29 17:11	07:51 17:59	08:00 19:42	06:53 20:28	06:02 21:11	05:38 21:43	05:53 21:40	06:32 21:00	07:15 19:59	07:58 18:54	07:46 17:03	08:25 16:45
15	08:28 17:12	07:49 18:01	08:00 19:43	06:51 20:29	06:01 21:13	05:38 21:44	05:54 21:39	06:33 20:58	07:16 19:57	08:00 18:53	07:48 17:02	08:26 16:45
16	08:27 17:13	07:48 18:01	08:00 19:45	06:50 20:31	06:00 21:14	05:38 21:44	05:55 21:39	06:34 20:56	07:18 19:55	08:01 18:51	07:49 17:01	08:26 16:45
17	08:27 17:15	07:46 18:03	08:00 19:46	06:48 20:32	05:58 21:15	05:38 21:45	05:56 21:38	06:36 20:54	07:19 19:52	08:03 18:49	07:51 17:00	08:27 16:46
18	08:26 17:16	07:44 18:04	08:00 19:48	06:46 20:34	05:57 21:16	05:38 21:45	05:57 21:37	06:37 20:53	07:20 19:50	08:04 18:47	07:52 16:58	08:28 16:46
19	08:25 17:18	07:42 18:06	08:00 19:49	06:44 20:35	05:56 21:18	05:38 21:45	05:58 21:36	06:38 20:51	07:22 19:48	08:06 18:45	07:54 16:57	08:28 16:46
20	08:24 17:19	07:40 18:07	08:00 19:51	06:42 20:37	05:54 21:19	05:38 21:46	05:59 21:35	06:40 20:49	07:23 19:46	08:07 18:43	07:55 16:56	08:29 16:47
21	08:23 17:21	07:39 18:09	08:00 19:52	06:40 20:38	05:53 21:20	05:38 21:46	06:00 21:34	06:41 20:47	07:25 19:44	08:09 18:41	07:57 16:55	08:30 16:47
22	08:22 17:22	07:37 18:11	08:00 19:54	06:38 20:40	05:52 21:22	05:38 21:46	06:01 21:33	06:43 20:45	07:26 19:42	08:10 18:39	07:58 16:54	08:30 16:48
23	08:21 17:24	07:35 18:12	08:00 19:55	06:36 20:41	05:51 21:23	05:38 21:46	06:02 21:32	06:44 20:43	07:27 19:40	08:12 18:37	07:55 16:53	08:31 16:48
24	08:20 17:25	07:33 18:14	08:00 19:57	06:34 20:43	05:50 21:24	05:39 21:47	06:04 21:31	06:45 20:41	07:29 19:38	08:13 18:36	08:01 16:53	08:31 16:49
25	08:19 17:27	07:31 18:15	08:00 19:58	06:33 20:44	05:49 21:25	05:39 21:47	06:05 21:29	06:47 20:40	07:30 19:36	08:15 18:34	08:03 16:52	08:32 16:49
26	08:18 17:28	07:29 18:17	08:00 20:00	06:31 20:46	05:48 21:26	05:39 21:47	06:06 21:28	06:48 20:38	07:32 19:33	08:16 18:32	08:04 16:51	08:32 16:50
27	08:17 17:30	07:27 18:19	08:00 20:01	06:29 20:47	05:47 21:27	05:40 21:47	06:07 21:27	06:50 20:36	07:33 19:31	08:18 18:30	08:05 16:50	08:32 16:51
28	08:16 17:32	07:25 18:20	08:00 20:03	06:27 20:48	05:46 21:29	05:40 21:47	06:09 21:26	06:51 20:34	07:35 19:29	08:19 18:29	08:07 16:50	08:32 16:51
29	08:15 17:33	07:24 18:20	08:00 20:04	06:25 20:50	05:45 21:30	05:41 21:47	06:10 21:24	06:52 20:32	07:36 19:27	08:21 18:27	08:08 16:49	08:33 16:52
30	08:13 17:35	07:24 20:06	08:00 20:51	06:24	05:45	05:41	06:11	06:54	07:37	08:23	08:09	08:33
31	08:12 17:36	07:22 20:07	08:00	06:22	05:44	21:31	21:47	20:30	19:25	08:24	18:25	08:33
Potential sun hours	273	285	368	410	472	482	486	445	379	336	277	260
Total, worst case				349				246	109			
Sun reduction				0.59				0.72	0.69			
Oper. time red.				0.98				0.98	0.98			
Wind dir. red.				0.67				0.67	0.67			
Total reduction				0.39				0.47	0.45			
Total, real				135				116	49			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker
			(WTG causing flicker last time)

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SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H04 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (331)

Assumptions for shadow calculations

Table with 12 columns (Jan-Dec) showing sunrise probability S (Average daily sunshine hours) [BISMARCK] with values ranging from 3.69 to 5.13.

Operational time table with columns: N, NNE, ENE, E, ESE, SSE, S, SSW, WSW, W, WNW, NNW, Sum. Values range from 474 to 8,552.

Main shadow calculation table with columns for months (January-December) and rows for time intervals (08:33-17:36). Includes a summary section at the bottom with rows: Potential sun hours, Total, worst case, Sun reduction, Oper. time red., Wind dir. red., Total reduction, Total, real.

Table layout: For each day in each month the following matrix apply

Matrix layout table with columns: Day in month, Sun rise (hh:mm), Sun set (hh:mm), Minutes with flicker, First time (hh:mm) with flicker, Last time (hh:mm) with flicker, (WTG causing flicker first time), (WTG causing flicker last time).

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SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H12 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (339)

Assumptions for shadow calculations

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 time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552

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

	January	February	March	April	May	June				
1	08:33	08:11	08:35 (T03)	07:23	07:20	07:52 (T04)	06:22	05:43		
	16:55	17:38	17	08:52 (T03)	18:22	20:09	5	07:57 (T04)	20:53	21:33
2	08:33	08:09	08:33 (T03)	07:22	07:18	07:18	06:20	05:42		
	16:56	17:40	20	08:53 (T03)	18:23	20:10	20:54	21:34		
3	08:33	08:08	08:32 (T03)	07:20	07:16	07:16	06:19	05:42		
	16:57	17:41	22	08:54 (T03)	18:25	20:12	20:56	21:35		
4	08:33	08:07	08:31 (T03)	07:18	07:14	07:14	06:17	05:41		
	16:58	17:43	25	08:56 (T03)	18:26	20:13	20:57	21:36		
5	08:33	08:05	08:29 (T03)	07:16	07:12	07:12	06:15	05:41		
	16:59	17:45	27	08:56 (T03)	18:28	20:15	20:59	21:37		
6	08:32	08:04	08:27 (T03)	07:14	07:10	07:10	06:14	05:40		
	17:00	17:46	29	08:56 (T03)	18:30	20:16	21:00	21:38		
7	08:32	08:02	08:27 (T03)	07:12	07:07	07:07	06:12	05:40		
	17:02	17:48	30	08:57 (T03)	18:31	20:18	21:01	21:38		
8	08:32	08:01	08:26 (T03)	08:10	07:05	07:05	06:11	05:39		
	17:03	17:49	31	08:57 (T03)	18:33	20:19	21:03	21:39		
9	08:31	07:59	08:27 (T03)	08:08	07:03	07:03	06:09	05:39		
	17:04	17:51	30	08:57 (T03)	19:34	20:21	21:04	21:40		
10	08:31	07:58	08:27 (T03)	08:05	07:01	07:01	06:08	05:39		
	17:05	17:53	30	08:57 (T03)	19:36	20:22	21:06	21:41		
11	08:30	07:56	08:27 (T03)	08:03	06:59	06:59	06:06	05:38		
	17:07	17:54	29	08:56 (T03)	19:37	20:24	21:07	21:41		
12	08:30	07:54	08:28 (T03)	08:01	06:57	06:57	06:05	05:38		
	17:08	17:56	29	08:57 (T03)	19:39	20:25	21:08	21:42		
13	08:29	07:53	08:28 (T03)	07:59	06:55	06:55	06:03	05:38		
	17:09	17:58	28	08:56 (T03)	19:40	20:26	21:10	21:43		
14	08:29	07:51	08:28 (T03)	07:57	06:53	06:53	06:02	05:38		
	17:11	17:59	27	08:55 (T03)	19:42	20:28	21:11	21:43		
15	08:28	07:49	08:29 (T03)	07:55	06:51	06:51	06:01	05:38		
	17:12	18:01	25	08:54 (T03)	19:43	20:29	21:13	21:44		
16	08:27	07:48	08:31 (T03)	07:53	06:49	06:49	05:59	05:38		
	17:13	18:01	23	08:54 (T03)	19:45	20:31	21:14	21:44		
17	08:27	07:46	08:32 (T03)	07:51	06:48	06:48	05:58	05:38		
	17:15	18:03	20	08:52 (T03)	19:46	20:32	21:15	21:45		
18	08:26	07:44	08:33 (T03)	07:49	06:46	06:46	05:57	05:38		
	17:16	18:04	17	08:50 (T03)	19:48	20:34	21:17	21:45		
19	08:25	07:42	08:36 (T03)	07:47	06:44	06:44	05:56	05:38		
	17:18	18:06	11	08:47 (T03)	19:49	20:35	21:18	21:45		
20	08:24	07:40	07:45	06:42	06:42	06:42	05:54	05:38		
	17:19	18:07	19:51	20:37	20:37	20:37	21:19	21:46		
21	08:23	07:39	07:43	06:40	06:40	06:40	05:53	05:38		
	17:21	18:09	19:52	20:38	20:38	20:38	21:20	21:46		
22	08:22	07:37	07:41	08:02 (T04)	06:38	06:38	05:52	05:38		
	17:22	18:11	19:54	3	08:05 (T04)	20:40	21:22	21:46		
23	08:21	07:35	07:39	08:00 (T04)	06:36	06:36	05:51	05:38		
	17:24	18:12	19:55	6	08:06 (T04)	20:41	21:23	21:47		
24	08:20	07:33	07:36	07:58 (T04)	06:34	06:34	05:50	05:39		
	17:25	18:14	19:57	9	08:07 (T04)	20:43	21:24	21:47		
25	08:19	07:31	07:34	07:56 (T04)	06:33	06:33	05:49	05:39		
	17:27	18:15	19:58	11	08:07 (T04)	20:44	21:25	21:47		
26	08:18	07:29	07:32	07:54 (T04)	06:31	06:31	05:48	05:39		
	17:28	18:17	20:00	13	08:07 (T04)	20:46	21:26	21:47		
27	08:17	07:27	07:30	07:52 (T04)	06:29	06:29	05:47	05:40		
	17:30	18:19	20:01	14	08:06 (T04)	20:47	21:28	21:47		
28	08:16	08:40 (T03)	07:25	07:28	07:50 (T04)	06:27	05:46	05:40		
	17:32	4	08:44 (T03)	18:20	20:03	16	08:06 (T04)	20:49	21:29	21:47
29	08:15	08:39 (T03)	07:26	07:48 (T04)	06:25	06:25	05:45	05:41		
	17:33	9	08:48 (T03)	20:04	17	08:05 (T04)	20:50	21:30	21:47	
30	08:13	08:38 (T03)	07:24	07:49 (T04)	06:24	06:24	05:45	05:41		
	17:35	12	08:50 (T03)	20:06	14	08:03 (T04)	20:51	21:31	21:47	
31	08:12	08:36 (T03)	07:22	07:50 (T04)	06:22	06:22	05:44	05:44		
	17:36	15	08:51 (T03)	20:07	12	08:02 (T04)	20:51	21:32	21:47	
Potential sun hours	273	285	368	410	472	482				
Total, worst case	40	470	115	5						
Sun reduction	0.56	0.50	0.63	0.59						
Oper. time red.	0.98	0.98	0.98	0.98						
Wind dir. red.	0.69	0.69	0.69	0.69						
Total reduction	0.38	0.34	0.42	0.39						
Total, real	15	160	48	2						

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:
20131290 Rolette Power Development
 Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
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Calculated:
 6/26/2015 10:50 PM/2.9.285

SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles **Shadow receptor:** H12 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (339)

Assumptions for shadow calculations

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 time
 N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
 524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
 Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	05:42	06:14	06:57	07:39	07:26	07:56 (T03) 08:11
	21:47	21:20	20:26	19:23	17:22	31 08:27 (T03) 16:48
2	05:42	06:15	06:58	07:40	07:27	07:56 (T03) 08:12
	21:46	21:19	20:24	19:21	17:20	30 08:26 (T03) 16:47
3	05:43	06:16	06:59	07:42	07:29	07:56 (T03) 08:13
	21:46	21:18	20:22	19:19	17:19	30 08:26 (T03) 16:47
4	05:44	06:18	07:01	07:43	07:31	07:56 (T03) 08:14
	21:46	21:16	20:20	19:17	17:17	31 08:27 (T03) 16:46
5	05:45	06:19	07:02	07:45	07:32	07:57 (T03) 08:16
	21:45	21:15	20:18	19:15	17:16	29 08:26 (T03) 16:46
6	05:45	06:20	07:04	07:46	07:34	07:59 (T03) 08:17
	21:45	21:13	20:16	19:13	17:14	27 08:26 (T03) 16:46
7	05:46	06:22	07:05	07:48	07:35	08:01 (T03) 08:18
	21:45	21:11	20:13	19:11	17:13	24 08:25 (T03) 16:45
8	05:47	06:23	07:06	07:49	07:37	08:03 (T03) 08:19
	21:44	21:10	20:11	19:08	17:11	22 08:25 (T03) 16:45
9	05:48	06:25	07:08	07:51	07:38	08:04 (T03) 08:20
	21:44	21:08	20:09	19:06	17:10	20 08:24 (T03) 16:45
10	05:49	06:26	07:09	07:52	07:40	08:06 (T03) 08:21
	21:43	21:07	20:07	19:04	17:08	17 08:23 (T03) 16:45
11	05:50	06:27	07:11	07:54 (T04) 07:54	07:42	08:08 (T03) 08:22
	21:42	21:05	20:05	3 07:49 (T04) 19:02	17:07	15 08:23 (T03) 16:45
12	05:50	06:29	07:12	07:55 (T04) 07:55	07:43	08:09 (T03) 08:23
	21:42	21:03	20:03	10 07:52 (T04) 19:00	17:06	12 08:21 (T03) 16:45
13	05:51	06:30	07:13	07:56 (T04) 07:57	07:45	08:11 (T03) 08:24
	21:41	21:02	20:01	14 07:54 (T04) 18:56	17:04	8 08:19 (T03) 16:45
14	05:52	06:31	07:15	07:58 (T04) 07:58	07:46	08:13 (T03) 08:25
	21:40	21:00	19:59	17 07:55 (T04) 18:54	17:03	4 08:17 (T03) 16:45
15	05:53	06:33	07:16	07:59 (T04) 08:00	07:48	08:26
	21:40	20:58	19:57	16 07:55 (T04) 18:53	17:02	16:45
16	05:55	06:34	07:18	07:41 (T04) 08:01	07:49	08:26
	21:39	20:56	19:55	15 07:56 (T04) 18:51	17:01	16:45
17	05:56	06:36	07:19	07:42 (T04) 08:03	07:51	08:27
	21:38	20:55	19:52	13 07:55 (T04) 18:49	16:59	16:45
18	05:57	06:37	07:20	07:43 (T04) 08:04	07:52	08:28
	21:37	20:53	19:50	11 07:54 (T04) 18:47	16:58	16:46
19	05:58	06:38	07:22	07:45 (T04) 08:06	07:54	08:29
	21:36	20:51	19:48	9 07:54 (T04) 18:45	16:57	16:46
20	05:59	06:40	07:23	07:46 (T04) 08:07	07:55	08:29
	21:35	20:49	19:46	7 07:53 (T04) 18:43	16:56	16:47
21	06:00	06:41	07:25	07:48 (T04) 08:09	07:57	08:30
	21:34	20:47	19:44	4 07:52 (T04) 18:41	16:55	16:47
22	06:01	06:43	07:26	07:49 (T04) 08:10	07:58	08:30
	21:33	20:45	19:42	1 07:50 (T04) 18:39	3 09:10 (T03) 07:58	08:30
23	06:02	06:44	07:27	08:12	3 09:13 (T03) 16:54	08:31
	21:32	20:43	19:40	18:37	13 09:05 (T03) 08:00	16:48
24	06:04	06:45	07:29	08:13	18 09:18 (T03) 16:53	08:31
	21:31	20:41	19:38	18:36	18 09:02 (T03) 08:01	16:49
25	06:05	06:47	07:30	08:15	21 09:20 (T03) 16:53	08:32
	21:30	20:40	19:36	18:34	21 09:01 (T03) 08:03	16:49
26	06:06	06:48	07:32	08:16	24 09:22 (T03) 16:52	08:32
	21:28	20:38	19:33	18:32	24 09:00 (T03) 08:04	16:50
27	06:07	06:50	07:33	08:18	26 09:24 (T03) 16:51	08:32
	21:27	20:36	19:31	18:30	26 09:24 (T03) 16:51	16:51
28	06:09	06:51	07:35	08:19	27 08:58 (T03) 08:07	08:32
	21:26	20:34	19:29	18:29	27 09:25 (T03) 16:50	16:51
29	06:10	06:52	07:36	08:21	29 09:26 (T03) 16:50	08:33
	21:25	20:32	19:27	18:27	29 08:57 (T03) 08:08	16:52
30	06:11	06:54	07:37	08:23	30 09:26 (T03) 16:49	08:33
	21:23	20:30	19:25	18:25	30 08:56 (T03) 08:09	16:53
31	06:12	06:55		08:24	30 09:26 (T03) 16:48	08:33
	21:22	20:28		18:23	30 08:56 (T03) 08:09	16:54
Potential sun hours	487	445	379	336	277	260
Total, worst case			120	221	300	
Sun reduction			0.69	0.52	0.44	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.69	0.69	0.69	
Total reduction			0.46	0.35	0.29	
Total, real			55	78	88	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
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Calculated:
6/26/2015 10:50 PM/2.9.285

SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H14 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (341)

Assumptions for shadow calculations

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 time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:33	08:10	16:57 (T55 Alt) 07:23	07:20	07:54 (T20) 06:22	05:43
	16:55	17:38 13	17:10 (T55 Alt) 18:21	20:09 11	08:05 (T20) 20:53	21:33
2	08:33	08:09	16:57 (T55 Alt) 07:21	07:17	07:57 (T20) 06:20	05:42
	16:56	17:39 14	17:11 (T55 Alt) 18:23	20:10 3	08:00 (T20) 20:54	21:34
3	08:33	08:08	16:58 (T55 Alt) 07:19	07:15	06:18	05:42
	16:57	17:41 15	17:13 (T55 Alt) 18:25	20:11	20:55	21:35
4	08:32	08:06	16:58 (T55 Alt) 07:17	07:13	06:17	05:41
	16:58	17:43 17	17:15 (T55 Alt) 18:26	20:13	20:57	21:35
5	08:32	08:05	16:59 (T55 Alt) 07:15	07:11	06:15	05:40
	16:59	17:44 18	17:17 (T55 Alt) 18:28	20:14 2	19:51 (T07) 20:58 3	20:32 (T57 Alt) 21:36
6	08:32	08:03	08:27 (T19) 07:13	07:09	19:48 (T07) 06:13	06:37 (T21) 05:40
	17:00	17:46 21	17:16 (T55 Alt) 18:29	20:16 5	19:53 (T07) 21:00 9	20:34 (T57 Alt) 21:37
7	08:32	08:02	08:26 (T19) 07:11	07:07	19:47 (T07) 06:12	06:35 (T21) 05:39
	17:01	17:48 23	17:16 (T55 Alt) 18:31	20:17 7	19:54 (T07) 21:01 16	20:35 (T57 Alt) 21:38
8	08:31	08:00	08:24 (T19) 08:09	07:05	19:46 (T07) 06:10	06:34 (T21) 05:39
	17:03	17:49 24	17:14 (T55 Alt) 18:32	20:19 10	19:56 (T07) 21:03 20	20:37 (T57 Alt) 21:39
9	08:31	07:59	08:22 (T19) 08:07	07:03	19:46 (T07) 06:09	06:32 (T21) 05:39
	17:04	17:51 21	17:11 (T55 Alt) 19:34	20:20 11	19:57 (T07) 21:04 24	20:37 (T57 Alt) 21:40
10	08:31	07:57	08:21 (T19) 08:05	07:01	19:46 (T07) 06:07	06:31 (T21) 05:38
	17:05	17:52 17	08:38 (T19) 19:36	20:22 12	19:58 (T07) 21:05 28	20:39 (T57 Alt) 21:40
11	08:30	07:56	08:19 (T19) 08:03	06:59	19:46 (T07) 06:06	06:30 (T21) 05:38
	17:06	17:54 20	08:39 (T19) 19:37	20:23 14	20:00 (T07) 21:07 32	20:41 (T57 Alt) 21:41
12	08:30	07:54	08:17 (T19) 08:01	06:57	19:46 (T07) 06:04	06:28 (T21) 05:38
	17:08	17:56 22	08:39 (T19) 19:39	20:25 15	20:01 (T07) 21:08 35	20:41 (T57 Alt) 21:42
13	08:29	07:52	08:16 (T19) 07:59	06:55	19:46 (T07) 06:03	06:27 (T21) 05:38
	17:09	17:57 24	08:40 (T19) 19:40	20:26 15	20:01 (T07) 21:10 38	20:43 (T57 Alt) 21:42
14	08:29	07:51	08:16 (T19) 07:57	06:53	19:48 (T07) 06:02	06:26 (T21) 05:37
	17:10	17:59 24	08:40 (T19) 19:42	20:28 12	20:00 (T07) 21:11 40	20:44 (T57 Alt) 21:43
15	08:28	07:49	08:16 (T19) 07:55	06:51	19:49 (T07) 06:00	06:25 (T21) 05:37
	17:12	18:01 24	08:40 (T19) 19:43	20:29 8	19:57 (T07) 21:12 43	20:46 (T57 Alt) 21:43
16	08:27	07:47	08:16 (T19) 07:53	06:49	05:59	06:23 (T21) 05:37
	17:13	18:01 23	08:39 (T19) 19:45	20:31	21:14 45	20:46 (T57 Alt) 21:44
17	08:26	07:46	08:16 (T19) 07:51	06:47	05:58	06:24 (T21) 05:37
	17:15	18:02 23	08:39 (T19) 19:46	20:32	21:15 43	20:46 (T57 Alt) 21:44
18	08:26	07:44	08:17 (T19) 07:49	06:45	05:57	06:24 (T21) 05:37
	17:16	18:04 22	08:39 (T19) 19:48	20:34	21:16 42	20:46 (T57 Alt) 21:45
19	08:25	07:42	08:18 (T19) 07:47	06:43	05:55	06:24 (T21) 05:37
	17:17	18:06 20	08:38 (T19) 19:49	20:35	21:18 42	20:46 (T57 Alt) 21:45
20	08:24	07:40	08:19 (T19) 07:45	06:42	05:54	06:25 (T21) 05:38
	17:19	18:07 17	08:36 (T19) 19:51	20:37	21:19 39	20:45 (T57 Alt) 21:46
21	08:23	07:38	08:20 (T19) 07:42	06:40	05:53	06:25 (T21) 05:38
	17:20	18:09 15	08:35 (T19) 19:52	2 08:06 (T20) 20:38	21:20 37	20:44 (T57 Alt) 21:46
22	08:22	07:37	08:22 (T19) 07:40	06:38	05:52	06:26 (T21) 05:38
	17:22	18:10 10	08:32 (T19) 19:54	7 08:09 (T20) 20:39	21:21 34	20:44 (T57 Alt) 21:46
23	08:21	07:35	07:38	08:00 (T20) 06:36	05:51	06:26 (T21) 05:38
	17:23	18:12	19:55	10 08:10 (T20) 20:41	21:23 32	20:43 (T57 Alt) 21:46
24	08:20	07:33	07:36	07:58 (T20) 06:34	05:50	06:27 (T21) 05:38
	17:25	18:14	19:57	13 08:11 (T20) 20:42	21:24 27	20:41 (T57 Alt) 21:46
25	08:19	07:31	07:34	07:56 (T20) 06:32	05:49	06:28 (T21) 05:39
	17:27	18:15	19:58	15 08:11 (T20) 20:44	21:25 21	20:39 (T57 Alt) 21:47
26	08:18	07:29	07:32	07:54 (T20) 06:30	05:48	06:28 (T21) 05:39
	17:28	18:17	20:00	17 08:11 (T20) 20:45	21:26 15	06:43 (T21) 21:47
27	08:17	16:58 (T55 Alt) 07:27	07:30	07:52 (T20) 06:29	05:47	06:29 (T21) 05:40
	17:30	2 17:00 (T55 Alt) 18:18	20:01 19	08:11 (T20) 20:47	21:27 12	06:41 (T21) 21:47
28	08:16	16:57 (T55 Alt) 07:25	07:28	07:52 (T20) 06:27	05:46	06:31 (T21) 05:40
	17:31	5 17:02 (T55 Alt) 18:20	20:03 19	08:11 (T20) 20:48	21:28 10	06:41 (T21) 21:47
29	08:14	16:57 (T55 Alt) 07:24	07:26	07:51 (T20) 06:25	05:45	06:33 (T21) 05:41
	17:33	7 17:04 (T55 Alt) 18:21	20:04 18	08:09 (T20) 20:50	21:29 6	06:39 (T21) 21:47
30	08:13	16:56 (T55 Alt) 07:23	07:24	07:51 (T20) 06:23	05:44	06:34 (T21) 05:41
	17:35	10 17:06 (T55 Alt) 18:22	20:06 17	08:08 (T20) 20:51	21:31	21:46
31	08:12	16:57 (T55 Alt) 07:22	07:22	07:52 (T20) 06:21	05:44	06:34 (T21) 05:41
	17:36	11 17:08 (T55 Alt) 18:23	20:07 15	08:07 (T20) 20:52	21:32	21:46
Potential sun hours	273	285	368	410	472	482
Total, worst case	35	427	152	125	693	
Sun reduction	0.56	0.50	0.63	0.59	0.67	
Oper. time red.	0.98	0.98	0.98	0.98	0.98	
Wind dir. red.	0.64	0.68	0.69	0.69	0.67	
Total reduction	0.35	0.33	0.42	0.39	0.44	
Total, real	12	142	64	49	303	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project: 20131290 Rolette Power Development Rolette Power Development, LLC Warren Enyart and Merle Boucher 602 Lincoln Ave S Finley, ND 58230	Description: EAPC does not warrant, guarantee, or make any such representations regarding the contents of this report. EAPC cannot be held liable for erroneous results caused by errors or omissions in the delivered data, or inaccuracy, limitations, or malfunctioning of models or software used. For any claim whatsoever related to the subject matter of this report, the liability of EAPC for actual damages, regardless of the form of action, shall be limited to the total amount paid to EAPC for the services provided as part of this consultancy service.	Printed/Page: 6/28/2015 12:28 AM / 12 Licensed user: EAPC Wind Energy 3100 DeMers Avenue US-GRAND FORKS, ND 58201 +1 701 775 3000 wind@eapc.net Calculated: 6/26/2015 10:50 PM/2.9.285
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SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles **Shadow receptor:** H14 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (341)

Assumptions for shadow calculations

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 time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
524	474	586	541	606	835	754	637	557	1,091	1,182	765	8,552

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

	July	August	September	October	November	December
1	05:42 21:46	06:14 21:20	06:39 (T21) 06:56 20:51 (T57 Alt) 20:25	19:44 (T07) 07:39 19:59 (T07) 19:23	07:26 17:22	07:50 (T19) 08:10 08:07 (T19) 16:47
2	05:42 21:46	06:15 21:19	06:41 (T21) 06:58 20:51 (T57 Alt) 20:23	19:44 (T07) 07:40 19:56 (T07) 19:21	07:27 17:20	07:52 (T19) 08:12 16:41 (T55 Alt) 16:47
3	05:43 21:46	06:16 21:17	06:42 (T21) 06:59 20:49 (T57 Alt) 20:21	19:44 (T07) 07:42 19:55 (T07) 19:19	07:29 17:18	07:54 (T19) 08:13 16:44 (T55 Alt) 16:46
4	05:44 21:45	06:18 21:16	06:43 (T21) 07:01 20:47 (T57 Alt) 20:19	19:43 (T07) 07:43 19:53 (T07) 19:16	07:30 17:17	07:56 (T19) 08:14 16:46 (T55 Alt) 16:46
5	05:44 21:45	06:19 21:14	06:44 (T21) 07:02 20:46 (T57 Alt) 20:17	19:43 (T07) 07:44 19:50 (T07) 19:14	07:32 17:15	07:57 (T19) 08:15 16:46 (T55 Alt) 16:46
6	05:45 21:45	06:20 21:13	06:46 (T21) 07:03 20:45 (T57 Alt) 20:15	19:44 (T07) 07:46 19:49 (T07) 19:12	07:33 17:14	16:29 (T55 Alt) 08:17 16:47 (T55 Alt) 16:45
7	05:46 21:44	06:22 21:11	06:47 (T21) 07:05 20:43 (T57 Alt) 20:13	19:44 (T07) 07:47 19:46 (T07) 19:10	07:35 17:12	16:28 (T55 Alt) 08:18 16:45 (T55 Alt) 16:45
8	05:47 21:44	06:23 21:10	20:39 (T57 Alt) 07:06 20:41 (T57 Alt) 20:11	07:49 19:08	07:37 17:11	16:27 (T55 Alt) 08:19 16:43 (T55 Alt) 16:45
9	05:48 21:43	06:24 21:08	07:08 20:09	07:50 19:06	07:38 17:09	16:28 (T55 Alt) 08:20 16:42 (T55 Alt) 16:45
10	05:48 21:43	06:26 21:06	07:09 20:07	07:52 19:04	07:40 17:08	16:28 (T55 Alt) 08:21 16:41 (T55 Alt) 16:45
11	05:49 21:42	06:27 21:05	07:10 20:05	07:53 19:02	07:41 17:07	16:28 (T55 Alt) 08:22 16:39 (T55 Alt) 16:45
12	05:50 21:41	06:28 21:03	07:12 20:03	07:55 19:00	07:43 17:05	16:28 (T55 Alt) 08:23 16:37 (T55 Alt) 16:45
13	05:51 21:41	06:30 21:01	07:13 20:01	07:56 18:56	07:44 17:04	16:29 (T55 Alt) 08:24 16:36 (T55 Alt) 16:45
14	05:52 21:40	06:31 21:00	07:15 19:59	07:58 18:54	07:46 17:03	16:29 (T55 Alt) 08:25 16:34 (T55 Alt) 16:45
15	05:53 21:39	06:33 20:58	07:16 19:56	07:59 18:52	07:47 17:02	16:31 (T55 Alt) 08:25 16:33 (T55 Alt) 16:45
16	05:54 21:38	06:34 20:56	07:17 19:54	08:00 18:50	07:49 17:00	16:33 (T55 Alt) 08:26 16:45 (T55 Alt) 16:45
17	05:55 21:38	06:35 20:54	07:19 19:52	08:02 18:48	07:51 16:59	16:45 (T55 Alt) 08:27 16:59 (T55 Alt) 16:45
18	05:56 21:37	06:37 20:52	07:20 19:50	08:04 18:46	07:52 16:58	16:45 (T55 Alt) 08:28 16:58 (T55 Alt) 16:46
19	05:58 21:36	06:38 20:51	07:22 19:48	08:05 18:45	07:54 16:57	16:46 (T55 Alt) 08:28 08:57 (T19) 07:54
20	05:59 21:35	06:40 20:49	07:23 19:46	08:07 18:43	07:55 16:56	16:46 (T55 Alt) 08:29 08:53 (T19) 07:55
21	06:00 21:34	06:41 20:47	07:24 19:44	08:08 18:41	07:56 16:55	16:46 (T55 Alt) 08:29 09:04 (T19) 16:56
22	06:01 21:33	06:42 20:45	07:26 19:42	08:10 18:39	07:57 16:54	16:47 (T55 Alt) 08:29 08:50 (T19) 07:57
23	06:02 21:32	06:44 20:43	07:27 19:40	08:11 18:37	07:58 16:53	16:47 (T55 Alt) 08:30 09:06 (T19) 16:55
24	06:03 21:30	06:45 20:41	07:29 19:37	08:13 18:35	07:59 16:52	16:48 (T55 Alt) 08:30 08:47 (T19) 07:59
25	06:05 21:29	06:46 20:39	07:30 19:35	08:15 18:34	08:00 16:51	16:48 (T55 Alt) 08:31 09:08 (T19) 16:53
26	06:06 21:28	06:48 20:37	07:31 19:33	08:16 18:32	08:01 16:51	16:49 (T55 Alt) 08:31 08:46 (T19) 08:02
27	06:07 21:27	06:49 20:35	07:33 19:31	08:18 18:30	08:02 16:50	16:50 (T55 Alt) 08:32 09:09 (T19) 16:51
28	06:08 21:26	06:51 20:33	07:34 19:29	08:19 18:28	08:03 16:49	16:50 (T55 Alt) 08:32 08:45 (T19) 08:05
29	06:10 21:24	06:52 20:31	07:36 19:27	08:21 18:27	08:04 16:49	16:51 (T55 Alt) 08:32 09:10 (T19) 16:49
30	06:11 21:23	06:54 20:29	07:37 19:25	08:22 18:25	08:05 16:48	16:52 (T55 Alt) 08:32 09:09 (T19) 16:49
31	06:12 21:22	06:55 20:27	07:38 19:23	08:24 18:23	08:06 16:47	16:53 (T55 Alt) 08:32 09:10 (T19) 16:49
Potential sun hours	486	445	379	336	277	260
Total, worst case	547	203	230	250	216	
Sun reduction	0.74	0.72	0.69	0.52	0.44	
Oper. time red.	0.98	0.98	0.98	0.98	0.98	
Wind dir. red.	0.67	0.68	0.69	0.69	0.65	
Total reduction	0.48	0.48	0.46	0.35	0.28	
Total, real	265	97	106	89	60	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

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Calculated:
6/26/2015 10:50 PM/2.9.285

SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H15 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (342)

Assumptions for shadow calculations

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 time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
524	474	586	541	606	835	754	637	557	1,091	1,182	765	8,552

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

	January	February	March	April	May	June
1	08:33	16:10 (T57 Alt)	08:11	07:23	06:22	06:45 (T58 Alt)
1	16:55	13 16:23 (T57 Alt)	17:38	18:21	20:09	20:19 (T10)
2	08:33	16:10 (T57 Alt)	08:09	07:21	06:20	06:43 (T58 Alt)
2	16:56	14 16:24 (T57 Alt)	17:39	18:23	20:10	20:18 (T10)
3	08:33	16:11 (T57 Alt)	08:08	07:19	06:18	06:41 (T58 Alt)
3	16:57	14 16:25 (T57 Alt)	17:41	18:25	20:11	20:17 (T10)
4	08:33	16:12 (T57 Alt)	08:06	07:17	06:17	06:40 (T58 Alt)
4	16:58	15 16:27 (T57 Alt)	17:43	18:26	20:13	20:17 (T10)
5	08:32	16:12 (T57 Alt)	08:05	07:15	06:15	06:38 (T58 Alt)
5	16:59	16 16:28 (T57 Alt)	17:44	18:28	20:14	20:16 (T10)
6	08:32	16:12 (T57 Alt)	08:03	07:13	06:13	06:37 (T58 Alt)
6	17:00	17 16:29 (T57 Alt)	17:46	18:29	20:16	20:15 (T10)
7	08:32	16:13 (T57 Alt)	08:02	07:11	06:12	06:36 (T58 Alt)
7	17:01	17 16:30 (T57 Alt)	17:48	18:31	20:17	20:14 (T10)
8	08:32	16:13 (T57 Alt)	08:00	08:09	06:10	06:37 (T58 Alt)
8	17:02	18 16:31 (T57 Alt)	17:49	18:32	20:19	20:13 (T10)
9	08:31	16:14 (T57 Alt)	07:59	08:07	06:09	06:36 (T58 Alt)
9	17:04	19 16:33 (T57 Alt)	17:51	19:34	20:20	20:11 (T10)
10	08:31	16:14 (T57 Alt)	07:57	08:05	06:07	06:36 (T58 Alt)
10	17:05	20 16:34 (T57 Alt)	17:52	19:35	20:22	20:10 (T10)
11	08:30	16:15 (T57 Alt)	07:56	08:03	06:06	06:37 (T58 Alt)
11	17:06	20 16:35 (T57 Alt)	17:54	19:37	20:23	20:07 (T10)
12	08:30	16:16 (T57 Alt)	07:54	08:01	06:04	06:36 (T58 Alt)
12	17:08	18 16:34 (T57 Alt)	17:56	19:39	8 19:08 (T09)	20:05
13	08:29	16:17 (T57 Alt)	07:52	07:59	06:03	06:37 (T58 Alt)
13	17:09	18 16:35 (T57 Alt)	17:57	19:40	11 19:17 (T09)	20:26
14	08:29	16:18 (T57 Alt)	07:51	07:57	06:02	06:37 (T58 Alt)
14	17:10	17 16:35 (T57 Alt)	17:59	19:42	15 19:19 (T09)	20:28
15	08:28	16:19 (T57 Alt)	07:49	07:55	06:00	06:37 (T58 Alt)
15	17:12	15 16:34 (T57 Alt)	18:01	19:43	18 19:21 (T09)	20:29
16	08:27	16:19 (T57 Alt)	07:47	07:53	05:59	06:37 (T58 Alt)
16	17:13	15 16:34 (T57 Alt)	18:01	19:45	20 19:22 (T09)	20:31
17	08:27	16:21 (T57 Alt)	07:46	07:51	05:58	06:38 (T58 Alt)
17	17:14	12 16:33 (T57 Alt)	18:02	19:46	23 19:24 (T09)	20:32
18	08:26	16:22 (T57 Alt)	07:44	07:49	05:56	06:38 (T58 Alt)
18	17:16	10 16:32 (T57 Alt)	18:04	19:48	24 19:25 (T09)	20:34
19	08:25	16:25 (T57 Alt)	07:42	07:47	05:55	06:39 (T58 Alt)
19	17:17	4 16:29 (T57 Alt)	18:05	19:49	24 19:24 (T09)	20:35
20	08:24	16:26 (T57 Alt)	07:40	07:45	05:54	06:39 (T58 Alt)
20	17:19	18:07	19:51	23 19:23 (T09)	18 20:13 (T10)	21:19
21	08:23	16:27 (T57 Alt)	07:38	07:42	05:53	06:40 (T58 Alt)
21	17:20	18:09	19:52	23 19:23 (T09)	20 20:14 (T10)	21:20
22	08:22	16:28 (T57 Alt)	07:36	07:40	05:52	06:41 (T58 Alt)
22	17:22	18:10	19:54	22 19:22 (T09)	23 20:15 (T10)	21:21
23	08:21	16:29 (T57 Alt)	07:34	07:38	05:51	06:42 (T58 Alt)
23	17:23	18:12	19:55	20 19:21 (T09)	25 20:16 (T10)	21:23
24	08:20	16:30 (T57 Alt)	07:32	07:36	05:50	06:42 (T58 Alt)
24	17:25	18:14	19:57	17 19:19 (T09)	27 20:17 (T10)	21:24
25	08:19	16:31 (T57 Alt)	07:30	07:34	05:49	06:43 (T58 Alt)
25	17:27	18:15	19:58	13 19:17 (T09)	29 20:19 (T10)	21:25
26	08:18	16:32 (T57 Alt)	07:28	07:32	05:48	06:44 (T58 Alt)
26	17:28	18:17	20:00	7 19:14 (T09)	39 20:19 (T10)	21:26
27	08:17	16:33 (T57 Alt)	07:26	07:30	05:47	06:45 (T58 Alt)
27	17:30	18:18	20:01	06:29	45 20:19 (T10)	21:27
28	08:16	16:34 (T57 Alt)	07:24	07:28	05:46	06:46 (T58 Alt)
28	17:31	18:20	20:03	06:27	48 20:20 (T10)	21:28
29	08:14	16:35 (T57 Alt)	07:22	07:26	05:45	06:49 (T58 Alt)
29	17:33	18:22	20:05	06:25	51 20:19 (T10)	21:30
30	08:13	16:36 (T57 Alt)	07:20	07:24	05:44	06:50 (T58 Alt)
30	17:34	18:24	20:07	06:23	54 20:19 (T10)	21:31
31	08:12	16:37 (T57 Alt)	07:18	07:22	05:43	06:53 (T58 Alt)
31	17:36	18:26	20:09	06:21	21:32	4 06:57 (T58 Alt)
Potential sun hours	273	285	368	410	472	482
Total, worst case	292		268	401		1139
Sun reduction	0.56		0.63	0.59		0.67
Oper. time red.	0.98		0.98	0.98		0.98
Wind dir. red.	0.61		0.67	0.67		0.66
Total reduction	0.33		0.41	0.38		0.43
Total, real	97		110	154		487

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
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Calculated:
6/26/2015 10:50 PM/2.9.285

SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H16 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (343)

Assumptions for shadow calculations

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 time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
524	474	586	541	606	835	754	637	557	1,091	1,182	765	8,552

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

	January	February	March	April	May	June	
1	08:33	08:10	07:23	17:46 (T51 Alt)	07:19	18:52 (T50 Alt)	06:22
	16:55	17:38	18:21	12 17:58 (T51 Alt)	20:08	40 19:32 (T50 Alt)	20:53
2	08:33	08:09	07:21	17:45 (T51 Alt)	07:17	18:52 (T50 Alt)	06:20
	16:56	17:39	18:23	14 17:59 (T51 Alt)	20:10	39 19:31 (T50 Alt)	20:54
3	08:32	08:08	07:19	17:45 (T51 Alt)	07:15	18:52 (T50 Alt)	06:18
	16:57	17:41	18:24	16 18:01 (T51 Alt)	20:11	38 19:30 (T50 Alt)	20:55
4	08:32	09:00 (T31)	08:06	17:13 (T21)	07:17	17:45 (T51 Alt)	07:13
	16:58	1 09:01 (T31)	17:42	2 17:15 (T21)	18:26	18 18:03 (T51 Alt)	20:13
5	08:32	08:59 (T31)	08:05	17:12 (T21)	07:15	17:45 (T51 Alt)	07:11
	16:59	3 09:02 (T31)	17:44	5 17:17 (T21)	18:28	19 18:04 (T51 Alt)	20:14
6	08:32	08:59 (T31)	08:03	17:11 (T21)	07:13	17:45 (T51 Alt)	07:09
	17:00	5 09:04 (T31)	17:46	7 17:18 (T21)	18:29	21 18:06 (T51 Alt)	20:16
7	08:32	08:59 (T31)	08:02	17:11 (T21)	07:11	17:45 (T51 Alt)	07:07
	17:01	7 09:06 (T31)	17:47	9 17:20 (T21)	18:31	22 18:07 (T51 Alt)	20:17
8	08:31	08:58 (T31)	08:00	17:11 (T21)	08:09	18:46 (T51 Alt)	07:05
	17:02	8 09:06 (T31)	17:49	11 17:22 (T21)	18:32	20 19:06 (T51 Alt)	20:19
9	08:31	08:58 (T31)	07:59	17:11 (T21)	08:07	18:47 (T51 Alt)	07:03
	17:04	10 09:08 (T31)	17:51	12 17:23 (T21)	19:34	17 19:07 (T51 Alt)	20:20
10	08:31	08:57 (T31)	07:57	17:12 (T21)	08:05	18:49 (T51 Alt)	07:01
	17:05	11 09:08 (T31)	17:52	14 17:26 (T21)	19:35	13 19:02 (T51 Alt)	20:22
11	08:30	08:57 (T31)	07:56	17:12 (T21)	08:03	18:51 (T51 Alt)	06:59
	17:06	13 09:10 (T31)	17:54	15 17:27 (T21)	19:37	8 18:59 (T51 Alt)	20:23
12	08:30	08:56 (T31)	07:54	17:12 (T21)	08:01	18:52 (T51 Alt)	06:57
	17:07	14 09:10 (T31)	17:56	17 17:29 (T21)	19:38	20 20:25	16 07:35 (T32)
13	08:29	08:55 (T31)	07:52	17:13 (T21)	07:59	18:55	06:55
	17:09	16 09:11 (T31)	17:57	15 17:28 (T21)	19:40	20 20:26	19 07:36 (T32)
14	08:28	08:55 (T31)	07:51	17:15 (T21)	07:57	18:56	06:53
	17:10	17 09:12 (T31)	17:59	12 17:27 (T21)	19:41	20 20:28	21 07:36 (T32)
15	08:28	08:54 (T31)	07:49	17:17 (T21)	07:55	18:57	06:51
	17:12	19 09:13 (T31)	18:00	7 17:24 (T21)	19:43	20 20:29	23 07:36 (T32)
16	08:27	08:53 (T31)	07:47	17:17	07:53	19:11 (T50 Alt)	06:49
	17:13	20 09:13 (T31)	18:00	11 19:45	11 19:22 (T50 Alt)	20:31	25 07:36 (T32)
17	08:26	08:52 (T31)	07:45	17:17	07:51	19:07 (T50 Alt)	06:47
	17:14	22 09:14 (T31)	18:02	17 19:46	17 19:24 (T50 Alt)	20:32	27 07:36 (T32)
18	08:26	08:52 (T31)	07:44	17:17	07:49	19:03 (T50 Alt)	06:45
	17:16	22 09:14 (T31)	18:04	19 19:48	21 19:24 (T50 Alt)	20:33	29 07:36 (T32)
19	08:25	08:52 (T31)	07:42	17:17	07:47	19:01 (T50 Alt)	06:43
	17:17	22 09:14 (T31)	18:05	19 19:49	25 19:26 (T50 Alt)	20:35	28 07:35 (T32)
20	08:24	08:52 (T31)	07:40	17:17	07:44	19:00 (T50 Alt)	06:41
	17:19	23 09:15 (T31)	18:07	19 19:51	28 19:28 (T50 Alt)	20:36	27 07:35 (T32)
21	08:23	08:53 (T31)	07:38	17:17	07:42	18:58 (T50 Alt)	06:39
	17:20	22 09:15 (T31)	18:09	21 19:52	31 19:29 (T50 Alt)	20:38	26 07:34 (T32)
22	08:22	08:53 (T31)	07:36	17:17	07:40	18:57 (T50 Alt)	06:38
	17:22	22 09:15 (T31)	18:10	22 19:54	34 19:31 (T50 Alt)	20:39	25 07:33 (T32)
23	08:21	08:54 (T31)	07:35	17:17	07:38	18:56 (T50 Alt)	06:36
	17:23	21 09:15 (T31)	18:12	19 19:55	36 19:32 (T50 Alt)	20:41	23 07:32 (T32)
24	08:20	08:55 (T31)	07:33	17:17	07:36	18:55 (T50 Alt)	06:34
	17:25	20 09:15 (T31)	18:13	19 19:57	39 19:34 (T50 Alt)	20:42	22 07:31 (T32)
25	08:19	08:56 (T31)	07:31	17:17	07:34	18:54 (T50 Alt)	06:32
	17:26	19 09:15 (T31)	18:15	19 19:58	40 19:34 (T50 Alt)	20:44	19 07:30 (T32)
26	08:18	08:57 (T31)	07:29	17:17	07:32	18:54 (T50 Alt)	06:30
	17:28	18 09:15 (T31)	18:17	3 17:53 (T51 Alt)	19:59	41 19:35 (T50 Alt)	20:45
27	08:17	08:57 (T31)	07:27	17:17	07:30	18:52 (T50 Alt)	06:28
	17:30	16 09:13 (T31)	18:18	5 17:54 (T51 Alt)	20:01	42 19:34 (T50 Alt)	20:47
28	08:15	08:59 (T31)	07:25	17:17	07:28	18:52 (T50 Alt)	06:27
	17:31	14 09:13 (T31)	18:20	9 17:56 (T51 Alt)	20:02	42 19:34 (T50 Alt)	20:48
29	08:14	09:01 (T31)	07:24	17:17	07:26	18:52 (T50 Alt)	06:25
	17:33	10 09:11 (T31)	18:21	10 18:04	41 19:33 (T50 Alt)	20:50	13 21:29
30	08:13	09:05 (T31)	07:23	17:17	07:24	18:52 (T50 Alt)	06:23
	17:34	2 09:07 (T31)	18:22	11 18:05	41 19:33 (T50 Alt)	20:51	14 21:30
31	08:12	09:07 (T31)	07:22	17:17	07:21	18:52 (T50 Alt)	06:21
	17:36	09:07 (T31)	18:23	12 18:06	41 19:33 (T50 Alt)	20:52	15 21:31
Potential sun hours	273	285	368	410	472	482	631
Total, worst case	397	143	710	714	94	631	
Sun reduction	0.56	0.50	0.63	0.59	0.67	0.70	
Oper. time red.	0.98	0.98	0.98	0.98	0.98	0.98	
Wind dir. red.	0.68	0.65	0.67	0.67	0.64	0.64	
Total reduction	0.37	0.32	0.41	0.39	0.42	0.44	
Total, real	147	46	293	276	39	276	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

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wind@eapc.net
Calculated:
6/26/2015 10:50 PM/2.9.285

SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles **Shadow receptor:** H16 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (343)

Assumptions for shadow calculations

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 time

N	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
524	474	586	541	606	835	754	637	557	1,091	1,182	765 8,552

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

	July	August	September	October	November	December
1	05:41 21:46	06:09 (T33) 21:20	06:13 21:20	06:56 20:25	07:20 (T32) 19:23	07:39 17:21
2	05:42 21:46	06:09 (T33) 21:19	06:15 21:19	06:58 20:23	07:21 (T32) 19:20	07:27 17:20
3	05:43 21:46	06:10 (T33) 21:17	06:16 21:17	06:59 20:21	07:23 (T32) 19:18	07:29 17:18
4	05:43 21:45	06:11 (T33) 21:16	06:17 21:16	07:00 20:19	07:24 (T32) 19:14	07:30 17:17
5	05:44 21:45	06:11 (T33) 21:14	06:19 21:14	07:02 20:17	07:25 (T32) 19:14	07:32 17:15
6	05:45 21:45	06:12 (T33) 21:13	06:20 21:13	07:03 20:15	07:26 (T32) 19:12	07:33 17:14
7	05:46 21:44	06:13 (T33) 21:11	06:21 21:11	07:05 20:13	07:27 (T32) 19:10	07:35 17:12
8	05:46 21:44	06:14 (T33) 21:10	06:23 21:10	07:06 20:11	07:28 (T32) 19:08	07:36 17:11
9	05:47 21:43	06:14 (T33) 21:08	06:24 21:08	07:07 20:09	07:29 (T32) 19:06	07:38 17:09
10	05:48 21:43	06:15 (T33) 21:06	06:26 21:06	07:09 20:07	07:30 (T32) 19:04	07:40 17:08
11	05:49 21:42	06:16 (T33) 21:05	06:27 21:05	07:10 20:05	07:31 (T32) 19:02	07:41 17:06
12	05:50 21:41	06:17 (T33) 21:03	06:28 21:03	07:12 20:03	07:32 (T32) 19:00	07:43 17:05
13	05:51 21:41	06:18 (T33) 21:01	06:30 21:01	07:13 20:01	07:33 (T32) 18:58	07:44 17:04
14	05:52 21:40	06:19 (T33) 20:59	06:31 20:59	07:14 19:58	07:34 (T32) 18:54	07:46 17:03
15	05:53 21:39	06:20 (T33) 20:58	06:32 20:58	07:16 19:56	07:35 (T32) 18:52	07:47 17:01
16	05:54 21:38	06:21 (T33) 20:56	06:34 20:56	07:17 19:54	07:36 (T32) 18:50	07:49 17:00
17	05:55 21:37	06:22 (T33) 20:54	06:35 20:54	07:19 19:52	07:37 (T32) 18:48	07:50 17:00
18	05:56 21:37	06:23 (T33) 20:52	06:37 20:52	07:20 19:50	07:38 (T32) 18:46	07:52 17:00
19	05:57 21:36	06:24 (T33) 20:50	06:38 20:50	07:21 19:48	07:39 (T32) 18:44	07:53 17:00
20	05:58 21:35	06:25 (T33) 20:49	06:39 20:49	07:23 19:46	07:40 (T32) 18:43	07:55 17:00
21	06:00 21:34	06:26 (T33) 20:47	06:41 20:47	07:24 19:44	07:41 (T32) 18:41	07:56 17:00
22	06:01 21:33	06:27 (T33) 20:45	06:42 20:45	07:26 19:42	07:42 (T32) 18:39	07:58 17:00
23	06:02 21:31	06:28 (T33) 20:43	06:44 20:43	07:27 19:39	07:43 (T32) 18:37	07:59 17:00
24	06:03 21:30	06:29 (T33) 20:41	06:45 20:41	07:29 19:37	07:44 (T32) 18:35	08:01 17:00
25	06:04 21:29	06:30 (T33) 20:39	06:46 20:39	07:30 19:35	07:45 (T32) 18:33	08:02 17:00
26	06:06 21:28	06:31 (T33) 20:37	06:48 20:37	07:31 19:33	07:46 (T32) 18:32	08:04 17:00
27	06:07 21:27	06:32 (T33) 20:35	06:49 20:35	07:33 19:31	07:47 (T32) 18:30	08:05 17:00
28	06:08 21:25	06:33 (T33) 20:33	06:51 20:33	07:34 19:29	07:48 (T32) 18:28	08:06 17:00
29	06:09 21:24	06:34 (T33) 20:31	06:52 20:31	07:36 19:27	07:49 (T32) 18:26	08:08 17:00
30	06:11 21:23	06:35 (T33) 20:29	06:53 20:29	07:37 19:25	07:50 (T32) 18:25	08:10 17:00
31	06:12 21:21	06:36 (T33) 20:27	06:55 20:27	07:39 19:23	07:51 (T32) 18:23	08:11 17:00
Potential sun hours	487	445	379	336	277	260
Total, worst case	311	359	899	268	396	58
Sun reduction	0.74	0.72	0.69	0.52	0.44	0.44
Oper. time red.	0.98	0.98	0.98	0.98	0.98	0.98
Wind dir. red.	0.64	0.67	0.68	0.65	0.67	0.68
Total reduction	0.47	0.47	0.46	0.33	0.29	0.29
Total, real	145	168	410	89	113	17

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
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Calculated:
6/26/2015 10:50 PM/2.9.285

SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H17 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (344)

Assumptions for shadow calculations

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 time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:32	15:36 (T40)	08:10	07:23	07:19	06:21
	16:55	24 16:00 (T40)	17:37	18:21	20:08	19 19:33 (T42)
2	08:32	15:36 (T40)	08:09	07:21	07:17	06:20
	16:56	24 16:00 (T40)	17:39	18:23	20:10	15 19:51 (T42)
3	08:32	15:37 (T40)	08:07	07:19	07:15	06:18
	16:57	23 16:00 (T40)	17:41	18:24	20:11	7 19:46 (T42)
4	08:32	15:38 (T40)	08:06	07:17	07:13	06:16
	16:58	23 16:01 (T40)	17:42	18:26	20:13	20:57
5	08:32	15:39 (T40)	08:05	07:15	07:11	06:15
	16:59	21 16:00 (T40)	17:44	18:27	20:14	20:58
6	08:32	15:40 (T40)	08:03	07:13	07:09	06:13
	17:00	20 16:00 (T40)	17:46	18:29	20:16	20:59
7	08:31	15:40 (T40)	08:02	07:11	07:07	06:12
	17:01	19 15:59 (T40)	17:47	18:31	20:17	21:01
8	08:31	15:42 (T40)	08:00	08:09	07:05	06:10
	17:02	18 16:00 (T40)	17:49	18:32	20:19	13 19:55 (T42)
9	08:31	15:44 (T40)	07:59	08:07	07:03	06:09
	17:03	16 16:00 (T40)	17:51	19:34	20:20	19 19:57 (T42)
10	08:30	15:45 (T40)	07:57	08:05	07:01	06:07
	17:05	13 15:58 (T40)	17:52	19:35	20:21	22 19:58 (T42)
11	08:30	15:47 (T40)	07:55	08:03	06:59	06:06
	17:06	10 15:57 (T40)	17:54	19:37	20:23	26 20:00 (T42)
12	08:29	15:50 (T40)	07:54	08:01	06:57	06:04
	17:07	5 15:55 (T40)	17:55	19:38	20:24	28 20:01 (T42)
13	08:29	15:52 (T40)	07:52	07:59	06:55	06:03
	17:09	17:09	17:57	19:40	20:26	31 20:02 (T42)
14	08:28	15:54 (T40)	07:50	07:57	06:53	06:01
	17:10	17:10	17:59	19:41	20:27	33 20:03 (T42)
15	08:28	15:56 (T40)	07:49	07:55	06:51	06:00
	17:11	17:11	18:00	19:43	20:29	34 20:03 (T42)
16	08:27	15:58 (T40)	07:47	07:53	06:49	05:59
	17:13	17:13	18:00	19:44	20:30	35 20:03 (T42)
17	08:26	15:59 (T40)	07:45	07:51	06:47	05:57
	17:14	17:14	18:02	19:46	20:32	35 20:03 (T42)
18	08:25	16:01 (T40)	07:43	07:48	06:45	05:56
	17:16	17:16	18:04	19:47	20:33	36 20:03 (T42)
19	08:25	16:03 (T40)	07:42	07:46	06:43	05:55
	17:17	17:17	18:05	19:49	20:35	36 20:03 (T42)
20	08:24	16:05 (T40)	07:40	07:44	06:41	05:54
	17:19	17:19	18:07	19:50	20:36	37 20:03 (T42)
21	08:23	16:07 (T40)	07:38	07:42	06:39	05:53
	17:20	17:20	18:08	19:52	20:38	36 20:03 (T42)
22	08:22	16:09 (T40)	07:36	07:40	06:37	05:52
	17:22	17:22	18:10	19:53	20:39	35 20:02 (T42)
23	08:21	16:11 (T40)	07:34	07:38	06:36	05:50
	17:23	17:23	18:12	19:55	20:41	35 20:02 (T42)
24	08:20	16:13 (T40)	07:32	07:36	06:34	05:49
	17:25	17:25	18:13	19:56	20:42	34 20:01 (T42)
25	08:19	16:15 (T40)	07:31	07:34	06:32	05:48
	17:26	17:26	18:15	19:58	20:44	33 20:00 (T42)
26	08:18	16:17 (T40)	07:29	07:32	06:30	05:47
	17:28	17:28	18:16	19:59	20:45	32 20:00 (T42)
27	08:16	16:19 (T40)	07:27	07:30	06:28	05:47
	17:29	17:29	18:18	20:01	20:46	30 19:59 (T42)
28	08:15	16:21 (T40)	07:25	07:28	06:27	05:46
	17:31	17:31	18:20	20:02	20:48	28 19:57 (T42)
29	08:14	16:23 (T40)	07:23	07:26	06:25	05:45
	17:33	17:33	18:22	20:04	20:49	25 19:56 (T42)
30	08:13	16:25 (T40)	07:21	07:24	06:23	05:44
	17:34	17:34	18:24	20:05	20:51	23 19:55 (T42)
31	08:12	16:27 (T40)	07:19	07:22	06:21	05:43
	17:36	17:36	18:26	20:07	20:53	21:31
Potential sun hours	273	285	368	410	472	482
Total, worst case	216			696		41
Sun reduction	0.56			0.59		0.67
Oper. time red.	0.98			0.98		0.98
Wind dir. red.	0.60			0.69		0.69
Total reduction	0.32			0.39		0.44
Total, real	69			271		18

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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20131290 Rolette Power Development

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Calculated:
6/26/2015 10:50 PM/2.9.285

SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles **Shadow receptor:** H17 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (344)

Assumptions for shadow calculations

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 time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	05:41	06:13	06:56	19:33 (T42)	07:38	07:25
	21:46	21:20	20:25	26 19:59 (T42)	19:22	17:21
2	05:42	06:15	06:57	19:34 (T42)	07:40	07:27
	21:46	21:18	20:23	22 19:56 (T42)	19:20	17:20
3	05:43	06:16	06:59	19:35 (T42)	07:41	07:28
	21:45	21:17	20:21	19 19:54 (T42)	19:18	17:18
4	05:43	06:17	07:00	19:38 (T42)	07:43	07:30
	21:45	21:16	20:19	14 19:52 (T42)	19:16	17:16
5	05:44	06:19	07:02	07:44	07:32	08:15
	21:45	21:14	20:17	19:14	17:15	16:45
6	05:45	06:20	07:03	07:46	07:33	08:16
	21:44	21:12	20:15	19:12	17:13	16:45
7	05:46	06:21	07:04	07:47	07:35	08:17
	21:44	21:11	20:13	19:10	17:12	16:45
8	05:46	06:23	07:06	07:49	07:36	08:18
	21:44	21:09	20:11	19:08	17:10	16:45
9	05:47	06:24	07:07	07:50	07:38	08:20
	21:43	21:08	20:09	19:06	17:09	16:44
10	05:48	06:25	19:48 (T42)	07:09	07:51	07:39
	21:42	21:06	9 19:57 (T42)	20:07	19:04	17:08
11	05:49	06:27	19:44 (T42)	07:10	07:53	07:41
	21:42	21:04	16 20:00 (T42)	20:05	19:02	17:06
12	05:50	06:28	19:41 (T42)	07:11	07:54	07:42
	21:41	21:03	20 20:01 (T42)	20:02	19:00	17:05
13	05:51	06:29	19:39 (T42)	07:13	07:56	07:44
	21:40	21:01	24 20:03 (T42)	20:00	18:56	17:04
14	05:52	06:31	19:38 (T42)	07:14	07:57	07:46
	21:40	20:59	26 20:04 (T42)	19:58	18:54	17:02
15	05:53	06:32	19:37 (T42)	07:16	07:59	07:47
	21:39	20:58	28 20:05 (T42)	19:56	18:52	17:01
16	05:54	06:34	19:35 (T42)	07:17	08:00	07:49
	21:38	20:56	30 20:05 (T42)	19:54	18:50	17:00
17	05:55	06:35	19:35 (T42)	07:18	08:02	07:50
	21:37	20:54	32 20:07 (T42)	19:52	18:48	16:59
18	05:56	06:36	19:34 (T42)	07:20	08:03	07:52
	21:36	20:52	33 20:07 (T42)	19:50	18:46	16:58
19	05:57	06:38	19:33 (T42)	07:21	08:05	07:53
	21:35	20:50	34 20:07 (T42)	19:48	18:44	16:57
20	05:58	06:39	19:33 (T42)	07:23	08:07	07:55
	21:34	20:48	35 20:08 (T42)	19:46	18:42	16:56
21	05:59	06:41	19:32 (T42)	07:24	08:08	07:56
	21:33	20:47	35 20:07 (T42)	19:43	18:40	16:55
22	06:01	06:42	19:31 (T42)	07:25	08:10	07:58
	21:32	20:45	36 20:07 (T42)	19:41	18:39	16:54
23	06:02	06:43	19:31 (T42)	07:27	08:11	07:59
	21:31	20:43	36 20:07 (T42)	19:39	18:37	16:53
24	06:03	06:45	19:30 (T42)	07:28	08:13	08:01
	21:30	20:41	37 20:07 (T42)	19:37	18:35	16:52
25	06:04	06:46	19:30 (T42)	07:30	08:14	08:02
	21:29	20:39	36 20:06 (T42)	19:35	18:33	16:51
26	06:05	06:48	19:31 (T42)	07:31	08:16	08:03
	21:28	20:37	35 20:06 (T42)	19:33	18:31	16:50
27	06:07	06:49	19:30 (T42)	07:33	08:17	08:05
	21:27	20:35	35 20:05 (T42)	19:31	18:30	16:50
28	06:08	06:50	19:30 (T42)	07:34	08:19	08:06
	21:25	20:33	34 20:04 (T42)	19:29	18:28	16:49
29	06:09	06:52	19:31 (T42)	07:35	08:20	08:08
	21:24	20:31	33 20:04 (T42)	19:27	18:26	16:48
30	06:11	06:53	19:31 (T42)	07:37	08:22	08:09
	21:23	20:29	31 20:02 (T42)	19:24	18:25	16:48
31	06:12	06:55	19:32 (T42)		08:24	
	21:21	20:27	28 20:00 (T42)		18:23	
Potential sun hours	487	445	379	336	277	260
Total, worst case		663	81		4	727
Sun reduction		0.72	0.69		0.44	0.44
Oper. time red.		0.98	0.98		0.98	0.98
Wind dir. red.		0.69	0.69		0.60	0.60
Total reduction		0.48	0.46		0.25	0.25
Total, real		317	37		1	184

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

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Calculated:
6/26/2015 10:50 PM/2.9.285

SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts. No Obstacles Shadow receptor: H18 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (345)

Assumptions for shadow calculations

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 time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:32	16:03 (T41) 08:10	16:05 (T41) 07:23	07:19	06:21	20:05 (T42) 05:43
1	16:55	20 16:23 (T41) 17:37	38 16:43 (T41) 18:21	20:08	20:52	12 20:17 (T42) 21:32
2	08:32	16:03 (T41) 08:09	16:07 (T41) 07:21	07:17	06:20	20:07 (T42) 05:42
2	16:55	21 16:24 (T41) 17:39	36 16:43 (T41) 18:23	20:10	20:54	9 20:16 (T42) 21:33
3	08:32	16:03 (T41) 08:07	16:07 (T41) 07:19	07:15	06:18	05:41
3	16:57	22 16:25 (T41) 17:41	35 16:42 (T41) 18:24	20:11	20:55	21:34
4	08:32	16:02 (T41) 08:06	16:08 (T41) 07:17	07:13	06:16	05:41
4	16:58	24 16:26 (T41) 17:42	33 16:41 (T41) 18:26	20:13	20:57	21:35
5	08:32	16:02 (T41) 08:05	16:09 (T41) 07:15	07:11	06:15	05:40
5	16:59	25 16:27 (T41) 17:44	31 16:40 (T41) 18:27	20:14	20:58	21:36
6	08:32	16:02 (T41) 08:03	16:11 (T41) 07:13	07:09	06:13	05:40
6	17:00	27 16:29 (T41) 17:46	29 16:40 (T41) 18:29	20:16	20:59	21:37
7	08:31	16:01 (T41) 08:02	16:12 (T41) 07:11	07:07	06:12	05:39
7	17:01	28 16:29 (T41) 17:47	26 16:38 (T41) 18:31	20:17	21:01	21:38
8	08:31	16:02 (T41) 08:00	16:15 (T41) 08:09	07:05	06:10	05:39
8	17:02	29 16:31 (T41) 17:49	22 16:37 (T41) 18:32	20:19	21:02	21:39
9	08:31	16:02 (T41) 07:59	16:17 (T41) 08:07	07:03	06:09	05:38
9	17:03	31 16:33 (T41) 17:50	17 16:34 (T41) 19:34	20:20	21:04	21:39
10	08:30	16:02 (T41) 07:57	16:20 (T41) 08:05	07:01	06:07	05:38
10	17:05	32 16:34 (T41) 17:52	10 16:30 (T41) 19:35	20:21	21:05	21:40
11	08:30	16:01 (T41) 07:55	08:03	06:59	06:06	05:38
11	17:06	33 16:34 (T41) 17:54	19:37	20:23	21:06	21:41
12	08:29	16:02 (T41) 07:54	08:01	06:57	06:04	05:37
12	17:07	34 16:36 (T41) 17:55	19:38	20:24	21:08	21:41
13	08:29	16:01 (T41) 07:52	07:59	06:55	06:03	05:37
13	17:09	35 16:36 (T41) 17:57	19:40	20:26	21:09	21:42
14	08:28	16:01 (T41) 07:50	17:31 (T40) 07:57	06:53	06:01	05:37
14	17:10	36 16:37 (T41) 17:59	1 17:32 (T40) 19:41	20:27	21:11	21:43
15	08:28	16:02 (T41) 07:49	17:30 (T40) 07:55	06:51	06:00	05:37
15	17:11	36 16:38 (T41) 18:00	4 17:34 (T40) 19:43	20:29	21:12	21:43
16	08:27	16:02 (T41) 07:47	17:29 (T40) 07:53	06:49	05:59	05:37
16	17:13	37 16:39 (T41) 18:00	7 17:36 (T40) 19:44	20:30	21:13	21:44
17	08:26	16:01 (T41) 07:45	17:27 (T40) 07:50	06:47	05:57	05:37
17	17:14	39 16:40 (T41) 18:02	10 17:37 (T40) 19:46	20:32	21:15	21:44
18	08:25	16:01 (T41) 07:43	17:27 (T40) 07:48	06:45	05:56	05:37
18	17:16	39 16:40 (T41) 18:04	12 17:39 (T40) 19:47	20:33	21:16	21:44
19	08:24	16:01 (T41) 07:42	17:26 (T40) 07:46	06:43	20:08 (T42) 05:55	05:37
19	17:17	40 16:41 (T41) 18:05	15 17:41 (T40) 19:49	20:35	2 20:10 (T42) 21:17	21:45
20	08:24	16:01 (T41) 07:40	17:27 (T40) 07:44	06:41	20:06 (T42) 05:54	05:37
20	17:19	40 16:41 (T41) 18:07	16 17:43 (T40) 19:50	20:36	6 20:12 (T42) 21:18	21:45
21	08:23	16:02 (T41) 07:38	17:26 (T40) 07:42	06:39	20:05 (T42) 05:53	05:37
21	17:20	40 16:42 (T41) 18:08	19 17:45 (T40) 19:52	20:38	9 20:14 (T42) 21:20	21:45
22	08:22	16:02 (T41) 07:36	17:26 (T40) 07:40	06:37	20:04 (T42) 05:52	05:38
22	17:22	40 16:42 (T41) 18:10	20 17:46 (T40) 19:53	20:39	11 20:15 (T42) 21:21	21:46
23	08:21	16:02 (T41) 07:34	17:27 (T40) 07:38	06:36	20:03 (T42) 05:50	05:38
23	17:23	41 16:43 (T41) 18:12	19 17:46 (T40) 19:55	20:41	13 20:16 (T42) 21:22	21:46
24	08:20	16:02 (T41) 07:32	17:27 (T40) 07:36	06:34	20:02 (T42) 05:49	05:38
24	17:25	41 16:43 (T41) 18:13	18 17:45 (T40) 19:56	20:42	15 20:17 (T42) 21:23	21:46
25	08:19	16:03 (T41) 07:31	17:28 (T40) 07:34	06:32	20:02 (T42) 05:48	05:38
25	17:26	41 16:44 (T41) 18:15	16 17:44 (T40) 19:58	20:44	16 20:18 (T42) 21:25	21:46
26	08:18	16:02 (T41) 07:29	17:30 (T40) 07:32	06:30	20:03 (T42) 05:47	05:39
26	17:28	41 16:43 (T41) 18:16	12 17:42 (T40) 19:59	20:45	18 20:21 (T42) 21:26	21:46
27	08:16	16:03 (T41) 07:27	17:33 (T40) 07:30	06:28	20:02 (T42) 05:47	05:39
27	17:29	40 16:43 (T41) 18:18	6 17:39 (T40) 20:01	20:46	20 20:22 (T42) 21:27	21:46
28	08:15	16:04 (T41) 07:25	07:28	06:27	20:02 (T42) 05:46	05:40
28	17:31	40 16:44 (T41) 18:20	20:02	20:48	19 20:21 (T42) 21:28	21:46
29	08:14	16:03 (T41)	07:25	06:25	20:04 (T42) 05:45	05:40
29	17:33	40 16:43 (T41)	20:04	20:49	17 20:21 (T42) 21:29	21:46
30	08:13	16:04 (T41)	07:23	06:23	20:04 (T42) 05:44	05:41
30	17:34	39 16:43 (T41)	20:05	20:51	15 20:19 (T42) 21:30	21:46
31	08:11	16:05 (T41)	07:21			05:43
31	17:36	38 16:43 (T41)	20:07			21:31
Potential sun hours	273	285	368	410	472	482
Total, worst case	1069	452		161		21
Sun reduction	0.56	0.50		0.59		0.67
Oper. time red.	0.98	0.98		0.98		0.98
Wind dir. red.	0.61	0.63		0.68		0.68
Total reduction	0.33	0.31		0.39		0.44
Total, real	356	139		63		9

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project: 20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H18 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (345)

Assumptions for shadow calculations

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 time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
Idle start wind speed: Cut in wind speed from power curve

Table with columns for months (July, August, September, October, November, December) and rows for shadow calculations including sunrise/sunset times, potential sun hours, and reduction factors.

Table layout: For each day in each month the following matrix apply

Matrix with columns: Day in month, Sun rise (hh:mm), Sun set (hh:mm), Minutes with flicker, First time (hh:mm) with flicker, Last time (hh:mm) with flicker, (WTG causing flicker first time), (WTG causing flicker last time)

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SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H19 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (346)

Assumptions for shadow calculations

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 time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:33	08:10	08:35 (T56 Alt)	07:23	07:19	06:21
	16:55	17:38	19 08:54 (T56 Alt)	18:21	20:08	20:52
2	08:33	08:09	08:33 (T56 Alt)	07:21	07:17	06:20
	16:56	17:39	21 08:54 (T56 Alt)	18:23	20:10	20:54
3	08:32	08:08	08:32 (T56 Alt)	07:19	07:15	06:18
	16:57	17:41	23 08:55 (T56 Alt)	18:24	20:11	20:55
4	08:32	08:06	08:30 (T56 Alt)	07:17	07:39 (T46)	07:13
	16:58	17:42	25 08:55 (T56 Alt)	18:26	4 07:43 (T46)	20:13
5	08:32	08:05	08:29 (T56 Alt)	07:15	07:37 (T46)	07:11
	16:59	17:44	27 08:56 (T56 Alt)	18:28	7 07:44 (T46)	20:14
6	08:32	08:03	08:28 (T56 Alt)	07:13	07:35 (T46)	07:09
	17:00	17:46	28 08:56 (T56 Alt)	18:29	10 07:45 (T46)	20:16
7	08:32	08:02	08:27 (T56 Alt)	07:11	07:33 (T46)	07:07
	17:01	17:47	29 08:56 (T56 Alt)	18:31	12 07:45 (T46)	20:17
8	08:31	08:00	08:28 (T56 Alt)	08:09	08:31 (T46)	07:05
	17:02	17:49	28 08:56 (T56 Alt)	18:32	14 08:45 (T46)	20:19
9	08:31	07:59	08:28 (T56 Alt)	08:07	08:29 (T46)	07:03
	17:03	17:51	28 08:56 (T56 Alt)	19:34	16 08:45 (T46)	20:20
10	08:31	07:57	08:29 (T56 Alt)	08:05	08:27 (T46)	07:01
	17:05	17:52	27 08:56 (T56 Alt)	19:35	17 08:44 (T46)	20:22
11	08:30	07:56	08:29 (T56 Alt)	08:03	08:27 (T46)	06:59
	17:06	17:54	26 08:55 (T56 Alt)	19:37	16 08:43 (T46)	20:23
12	08:30	07:54	08:30 (T56 Alt)	08:01	08:28 (T46)	06:57
	17:07	17:56	24 08:54 (T56 Alt)	19:38	14 08:42 (T46)	20:25
13	08:29	07:52	08:30 (T56 Alt)	07:59	08:30 (T46)	06:55
	17:09	17:57	23 08:53 (T56 Alt)	19:40	10 08:40 (T46)	20:26
14	08:28	07:51	08:32 (T56 Alt)	07:57	06:53	06:01
	17:10	17:59	21 08:53 (T56 Alt)	19:41	20:28	21:11
15	08:28	07:49	08:34 (T56 Alt)	07:55	06:51	06:00
	17:11	18:00	17 08:51 (T56 Alt)	19:43	20:29	21:12
16	08:27	07:47	08:36 (T56 Alt)	07:53	06:49	05:59
	17:13	18:00	12 08:48 (T56 Alt)	19:44	20:30	21:14
17	08:26	07:45	08:40 (T56 Alt)	07:51	06:47	05:58
	17:14	18:02	4 08:44 (T56 Alt)	19:46	20:32	21:15
18	08:26	07:44	07:49	07:49	06:45	05:56
	17:16	18:04	19:47	19:47	20:33	21:16
19	08:25	07:42	07:46	07:46	06:43	05:55
	17:17	18:05	19:49	19:49	20:35	21:17
20	08:24	07:40	07:44	07:44	06:41	05:54
	17:19	18:07	19:50	19:50	20:36	21:19
21	08:23	07:38	07:42	07:42	06:39	05:53
	17:20	18:09	19:52	19:52	20:38	21:20
22	08:22	07:36	07:40	07:40	06:38	05:52
	17:22	18:10	19:53	19:53	20:39	21:21
23	08:21	07:34	07:38	07:38	06:36	05:51
	17:23	18:12	19:55	19:55	20:41	21:22
24	08:20	07:33	07:36	07:36	06:34	05:49
	17:25	18:13	19:56	19:56	20:42	21:24
25	08:19	07:31	07:34	07:34	06:32	05:48
	17:26	18:15	19:58	19:58	20:44	21:25
26	08:18	08:43 (T56 Alt)	07:29	07:32	06:30	05:48
	17:28	1 08:44 (T56 Alt)	18:17	19:59	20:45	21:26
27	08:17	08:41 (T56 Alt)	07:27	07:30	06:28	05:47
	17:29	5 08:46 (T56 Alt)	18:18	19:58	20:47	21:27
28	08:15	08:40 (T56 Alt)	07:25	07:28	06:27	05:46
	17:31	9 08:49 (T56 Alt)	18:20	20:02	20:48	21:28
29	08:14	08:39 (T56 Alt)	07:26	07:26	06:25	05:45
	17:33	11 08:50 (T56 Alt)	20:04	20:04	20:50	21:29
30	08:13	08:37 (T56 Alt)	07:24	07:24	06:23	05:44
	17:34	14 08:51 (T56 Alt)	20:05	20:05	20:51	21:30
31	08:12	08:36 (T56 Alt)	07:21	07:21	06:21	05:43
	17:36	17 08:53 (T56 Alt)	20:07	20:07	21:31	5 06:40 (T47)
Potential sun hours	273	285	368	410	472	482
Total, worst case	57	382	120		473	
Sun reduction	0.56	0.50	0.63		0.67	
Oper. time red.	0.98	0.98	0.98		0.98	
Wind dir. red.	0.69	0.69	0.68		0.65	
Total reduction	0.38	0.34	0.42		0.43	
Total, real	22	131	50		202	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles **Shadow receptor: H19 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (346)**

Assumptions for shadow calculations

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 time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	05:41 21:46	06:13 21:20	06:39 (T47) 20:25	07:38 19:23	08:08 (T46) 17:21	07:58 (T56 Alt) 16:47
2	05:42 21:46	06:15 21:19	06:40 (T47) 20:23	07:40 19:20	08:06 (T46) 17:20	07:58 (T56 Alt) 16:47
3	05:43 21:46	06:16 21:17	06:42 (T47) 20:21	07:41 19:18	08:05 (T46) 17:18	07:58 (T56 Alt) 16:46
4	05:43 21:45	06:17 21:16	06:43 (T47) 20:19	07:43 19:16	08:06 (T46) 17:17	07:57 (T56 Alt) 16:46
5	05:44 21:45	06:19 21:14	06:44 (T47) 20:17	07:44 19:14	08:07 (T46) 17:15	07:57 (T56 Alt) 16:45
6	05:45 21:45	06:20 21:13	06:45 (T47) 20:15	07:46 19:12	08:09 (T46) 17:13	07:59 (T56 Alt) 16:45
7	05:46 21:44	06:21 21:11	06:47 (T47) 20:13	07:47 19:10	08:10 (T46) 17:12	08:01 (T56 Alt) 16:45
8	05:46 21:44	06:23 21:09	07:06 20:11	07:49 19:08	08:12 (T46) 17:11	08:02 (T56 Alt) 16:45
9	05:47 21:43	06:24 21:08	07:07 20:09	07:50 19:06	08:13 (T46) 17:09	08:04 (T56 Alt) 16:44
10	05:48 21:43	06:25 21:06	07:09 20:07	07:52 19:04	08:15 (T46) 17:08	08:06 (T56 Alt) 16:44
11	05:49 21:42	06:27 21:05	07:10 20:05	07:53 19:02	08:17 (T46) 17:06	08:07 (T56 Alt) 16:44
12	05:50 21:41	06:28 21:03	07:12 20:03	07:55 19:00	08:19 (T46) 17:05	08:09 (T56 Alt) 16:44
13	05:51 21:41	06:42 (T47) 21:01	06:30 20:00	07:56 18:56	08:11 (T56 Alt) 17:04	08:23 (T56 Alt) 16:44
14	05:52 21:40	06:41 (T47) 20:59	06:31 19:58	07:58 18:54	08:12 (T56 Alt) 17:03	08:24 (T56 Alt) 16:44
15	05:53 21:39	06:40 (T47) 20:58	06:32 19:56	07:59 18:52	08:14 (T56 Alt) 17:01	08:25 (T56 Alt) 16:45
16	05:54 21:38	06:39 (T47) 20:56	06:34 19:54	07:57 18:50	08:15 (T56 Alt) 17:00	08:26 (T56 Alt) 16:45
17	05:55 21:37	06:38 (T47) 20:54	06:35 19:52	07:58 18:48	08:16 (T56 Alt) 16:59	08:27 (T56 Alt) 16:45
18	05:56 21:37	06:37 (T47) 20:52	06:36 19:50	07:59 18:46	08:17 (T56 Alt) 16:58	08:28 (T56 Alt) 16:45
19	05:57 21:36	06:36 (T47) 20:50	06:35 19:48	07:59 18:44	08:18 (T56 Alt) 16:57	08:29 (T56 Alt) 16:46
20	05:58 21:35	06:35 (T47) 20:49	06:34 19:46	07:59 18:42	08:19 (T56 Alt) 16:56	08:30 (T56 Alt) 16:46
21	06:00 21:34	06:34 (T47) 20:47	06:33 19:44	08:00 18:41	08:20 (T56 Alt) 16:55	08:31 (T56 Alt) 16:46
22	06:01 21:33	06:33 (T47) 20:45	06:32 19:42	08:01 18:40	08:21 (T56 Alt) 16:54	08:32 (T56 Alt) 16:47
23	06:02 21:31	06:32 (T47) 20:43	06:31 19:40	08:02 18:39	08:22 (T56 Alt) 16:53	08:33 (T56 Alt) 16:47
24	06:03 21:30	06:31 (T47) 20:41	06:30 19:37	08:03 18:37	08:23 (T56 Alt) 16:52	08:34 (T56 Alt) 16:48
25	06:04 21:29	06:30 (T47) 20:39	06:29 19:35	08:04 18:35	08:24 (T56 Alt) 16:51	08:35 (T56 Alt) 16:48
26	06:06 21:28	06:29 (T47) 20:37	06:28 19:33	08:05 18:33	08:25 (T56 Alt) 16:50	08:36 (T56 Alt) 16:49
27	06:07 21:27	06:28 (T47) 20:35	06:27 19:31	08:06 18:31	08:26 (T56 Alt) 16:49	08:37 (T56 Alt) 16:50
28	06:08 21:25	06:27 (T47) 20:33	06:26 19:29	08:07 18:29	08:27 (T56 Alt) 16:48	08:38 (T56 Alt) 16:51
29	06:09 21:24	06:26 (T47) 20:31	06:25 19:27	08:08 18:27	08:28 (T56 Alt) 16:47	08:39 (T56 Alt) 16:52
30	06:11 21:23	06:25 (T47) 20:29	06:24 19:25	08:09 18:25	08:29 (T56 Alt) 16:46	08:40 (T56 Alt) 16:52
31	06:12 21:21	06:24 (T47) 20:27	06:23 19:23	08:10 18:23	08:30 (T56 Alt) 16:45	08:41 (T56 Alt) 16:53
Potential sun hours	487	445	379	336	277	260
Total, worst case	381	95	7	251	310	
Sun reduction	0.74	0.72	0.69	0.52	0.44	
Oper. time red.	0.98	0.98	0.98	0.98	0.98	
Wind dir. red.	0.65	0.65	0.68	0.69	0.69	
Total reduction	0.47	0.46	0.46	0.35	0.29	
Total, real	181	44	3	89	91	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:
20131290 Rolette Power Development

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 6/26/2015 10:50 PM/2.9.285

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H20 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (347)

Assumptions for shadow calculations

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 time

N	NNE	ENE	E	ESE	SSE	S	SSW	WSW	W	WNW	NNW	Sum
524	474	586	541	606	835	754	637	557	1,091	1,182	765	8,552

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

	January	February	March	April	May	June	July	August	September	October	November	December
1	08:33	08:10	07:23									
	16:55	17:38	18:21	35	07:46 (T33)	07:19	06:22	05:43	05:41	06:13	06:56	07:39
2	08:33	08:09	07:21									
	16:56	17:39	18:23	31	17:49 (T59 Alt)	20:10	20:08	20:53	21:33	21:46	20:25	19:23
3	08:33	08:08	07:19									
	16:57	17:41	18:24	24	17:47 (T59 Alt)	20:11	20:55	21:36	21:46	21:17	20:21	19:18
4	08:32	08:06	07:17									
	16:58	17:42	18:26	11	08:00 (T33)	20:13	20:57	21:35	21:45	21:16	20:19	19:16
5	08:32	08:05	07:15									
	16:59	17:44	18:28	4	07:52 (T33)	20:14	20:58	21:36	21:45	21:14	20:17	19:14
6	08:32	08:03	07:13									
	17:00	17:46	18:29									
7	08:32	08:02	07:11									
	17:01	17:47	18:31									
8	08:31	08:00	08:09									
	17:02	17:49	18:32									
9	08:31	07:59	08:07									
	17:04	17:51	19:34								8	08:25 (T33)
10	08:31	07:57	08:05									
	17:05	17:52	19:35									
11	08:30	07:56	08:03									
	17:06	17:54	19:37									
12	08:30	07:54	08:01									
	17:07	17:56	19:38									
13	08:29	07:52	07:59									
	17:09	17:57	19:40									
14	08:28	07:51	07:57									
	17:10	17:59	19:41									
15	08:28	07:49	07:55									
	17:11	18:00	19:43									
16	08:27	07:47	07:53									
	17:13	18:00	19:45									
17	08:26	07:45	07:51									
	17:14	18:02	19:46									
18	08:26	07:44	07:49									
	17:16	18:04	19:48									
19	08:25	07:42	07:47									
	17:17	18:05	19:49									
20	08:24	07:40	07:44									
	17:19	18:07	19:51									
21	08:23	07:38	07:42									
	17:20	18:09	19:52									
22	08:22	07:36	07:40									
	17:22	18:10	19:54									
23	08:21	07:35	07:38									
	17:23	18:12	19:55									
24	08:20	07:33	07:36									
	17:25	18:13	19:57									
25	08:19	07:31	07:34									
	17:26	18:15	19:58									
26	08:18	07:29	07:32									
	17:28	18:17	20:00									
27	08:17	07:27	07:30									
	17:30	18:18	20:01									
28	08:16	07:25	07:28									
	17:31	18:20	20:02									
29	08:14		07:26									
	17:33		20:04									
30	08:13		07:24									
	17:34		20:05									
31	08:12		07:21									
	17:36		20:07									
Potential sun hours	273	285	368	410	472	482	487	445	379	336	277	260
Total, worst case		230	105								338	
Sun reduction		0.50	0.63								0.52	
Oper. time red.		0.98	0.98								0.98	
Wind dir. red.		0.66	0.67								0.66	
Total reduction		0.33	0.41								0.34	
Total, real		75	43								115	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	First time (hh:mm) with flicker	(WTG causing flicker first time)	
	Sun set (hh:mm)	Minutes with flicker	Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:
20131290 Rolette Power Development
 Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
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 Finley, ND 58230

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Calculated:
 6/26/2015 10:50 PM/2.9.285

SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles **Shadow receptor:** H21 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (348)

Assumptions for shadow calculations

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 time
 N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
 524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
 Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:33	08:11	08:35 (T58 Alt) 07:23	07:46 (T59 Alt) 07:20	06:22	05:43
	16:55	17:38	21 16:53 (T09) 18:21	5 07:51 (T59 Alt) 20:09	20:53	21:33
2	08:33	08:09	08:33 (T58 Alt) 07:21	07:44 (T59 Alt) 07:17	06:20	05:42
	16:56	17:39	16 16:48 (T09) 18:23	8 07:52 (T59 Alt) 20:10	20:54	21:34
3	08:33	08:08	08:32 (T58 Alt) 07:19	07:42 (T59 Alt) 07:15	06:18	05:41
	16:57	17:41	17 08:49 (T58 Alt) 18:25	11 07:53 (T59 Alt) 20:11	20:56	21:35
4	08:33	08:06	08:30 (T58 Alt) 07:17	07:40 (T59 Alt) 07:13	06:17	05:41
	16:58	17:43	24 17:15 (T10) 18:26	14 07:54 (T59 Alt) 20:13	20:57	21:36
5	08:32	08:05	08:29 (T58 Alt) 07:15	07:38 (T59 Alt) 07:11	06:15	05:40
	16:59	17:44	31 17:17 (T10) 18:28	16 07:54 (T59 Alt) 20:14	20:58	21:36
6	08:32	08:03	08:27 (T58 Alt) 07:13	07:35 (T59 Alt) 07:09	06:13	05:40
	17:00	17:46	37 17:18 (T10) 18:29	18 07:53 (T59 Alt) 20:16	21:00	21:37
7	08:32	08:02	08:26 (T58 Alt) 07:11	07:33 (T59 Alt) 07:07	06:12	05:39
	17:01	17:48	43 17:21 (T10) 18:31	20 07:53 (T59 Alt) 20:17	21:01	21:38
8	08:32	08:00	08:24 (T58 Alt) 08:09	08:31 (T59 Alt) 07:05	06:10	05:39
	17:02	17:49	47 17:22 (T10) 18:32	22 08:53 (T59 Alt) 20:19	21:03	21:39
9	08:31	07:59	08:22 (T58 Alt) 08:07	08:30 (T59 Alt) 07:03	06:09	05:39
	17:04	17:51	52 17:23 (T10) 19:34	22 08:52 (T59 Alt) 20:20	21:04	21:40
10	08:31	07:57	08:22 (T58 Alt) 08:05	08:30 (T59 Alt) 07:01	06:07	05:38
	17:05	17:52	56 17:26 (T10) 19:35	21 08:51 (T59 Alt) 20:22	21:06	21:40
11	08:30	07:56	08:21 (T58 Alt) 08:03	08:31 (T59 Alt) 06:59	06:06	05:38
	17:06	17:54	58 17:27 (T10) 19:37	19 08:50 (T59 Alt) 20:23	21:07	21:41
12	08:30	07:54	08:21 (T58 Alt) 08:01	08:32 (T59 Alt) 06:57	06:04	05:38
	17:08	17:56	61 17:29 (T10) 19:39	16 08:48 (T59 Alt) 20:25	21:08	21:42
13	08:29	16:38 (T09) 07:52	08:22 (T58 Alt) 07:59	08:34 (T59 Alt) 06:55	06:03	05:38
	17:09	1 16:39 (T09) 17:57	61 17:30 (T10) 19:40	12 08:46 (T59 Alt) 20:26	21:10	21:42
14	08:29	16:36 (T09) 07:51	08:22 (T58 Alt) 07:57	08:38 (T59 Alt) 06:53	06:02	05:37
	17:10	4 16:40 (T09) 17:59	61 17:30 (T10) 19:42	4 08:42 (T59 Alt) 20:28	21:11	21:43
15	08:28	16:36 (T09) 07:49	08:22 (T58 Alt) 07:55	06:51	06:00	05:37
	17:12	5 16:41 (T09) 18:01	59 17:29 (T10) 19:43	20:29	21:12	21:44
16	08:27	16:35 (T09) 07:47	08:22 (T58 Alt) 07:53	06:49	05:59	05:37
	17:13	7 16:42 (T09) 18:01	59 17:29 (T10) 19:45	20:31	21:14	21:44
17	08:27	16:35 (T09) 07:46	08:24 (T58 Alt) 07:51	06:47	05:58	05:37
	17:14	9 16:44 (T09) 18:02	57 17:30 (T10) 19:46	20:32	21:15	21:45
18	08:26	16:34 (T09) 07:44	08:24 (T58 Alt) 07:49	06:45	05:56	05:37
	17:16	11 16:45 (T09) 18:04	55 17:29 (T10) 19:48	20:34	21:16	21:45
19	08:25	16:34 (T09) 07:42	08:25 (T58 Alt) 07:47	06:43	05:55	05:37
	17:17	13 16:47 (T09) 18:05	51 17:28 (T10) 19:49	20:35	21:18	21:45
20	08:24	16:35 (T09) 07:40	08:26 (T58 Alt) 07:45	06:41	05:54	05:37
	17:19	15 16:50 (T09) 18:07	47 17:27 (T10) 19:51	20:37	21:19	21:46
21	08:23	16:34 (T09) 07:38	08:28 (T58 Alt) 07:42	06:40	05:53	05:38
	17:20	16 16:50 (T09) 18:09	41 17:26 (T10) 19:52	20:38	21:20	21:46
22	08:22	16:34 (T09) 07:37	08:30 (T58 Alt) 07:40	06:38	05:52	05:38
	17:22	18 16:52 (T09) 18:10	33 17:24 (T10) 19:54	20:40	21:21	21:46
23	08:21	16:34 (T09) 07:35	08:34 (T58 Alt) 07:38	06:36	05:51	05:38
	17:23	20 16:54 (T09) 18:12	20 17:22 (T10) 19:55	20:41	21:23	21:46
24	08:20	16:35 (T09) 07:33	17:10 (T10) 07:36	06:34	05:50	05:38
	17:25	20 16:55 (T09) 18:14	9 17:19 (T10) 19:57	20:42	21:24	21:47
25	08:19	16:35 (T09) 07:31	07:34	06:32	05:49	05:39
	17:27	21 16:56 (T09) 18:15	19:58	20:44	21:25	21:47
26	08:18	16:36 (T09) 07:29	07:32	06:30	05:48	05:39
	17:28	21 16:57 (T09) 18:17	20:00	20:45	21:26	21:47
27	08:17	16:37 (T09) 07:27	07:30	06:29	05:47	05:39
	17:30	20 16:57 (T09) 18:18	20:01	20:47	21:27	21:47
28	08:16	16:37 (T09) 07:25	07:48 (T59 Alt) 07:28	06:27	05:46	05:40
	17:31	19 16:56 (T09) 18:20	1 07:49 (T59 Alt) 20:03	20:48	21:28	21:47
29	08:14	16:38 (T09)	07:26	06:25	05:45	05:40
	17:33	18 16:56 (T09)	20:04	20:50	21:30	21:47
30	08:13	08:38 (T58 Alt)	07:24	06:23	05:44	05:41
	17:34	16 16:55 (T09)	20:06	20:51	21:31	21:46
31	08:12	08:36 (T58 Alt)	07:22	06:21	05:44	
	17:36	21 16:54 (T09)	20:07	20:52	21:32	
Potential sun hours	273	285	368	410	472	482
Total, worst case	275	1017	208			
Sun reduction	0.56	0.50	0.63			
Oper. time red.	0.98	0.98	0.98			
Wind dir. red.	0.63	0.67	0.68			
Total reduction	0.34	0.33	0.42			
Total, real	94	336	87			

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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Calculated:
6/26/2015 10:50 PM/2.9.285

SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H21 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (348)

Assumptions for shadow calculations

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 time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	05:42	06:13	06:56	07:39	08:12 (T59 Alt) 07:26	07:51 (T58 Alt) 08:11
	21:46	21:20	20:25	19:23	14 08:26 (T59 Alt) 17:22	56 16:55 (T10) 16:47
2	05:42	06:15	06:58	07:40	08:10 (T59 Alt) 07:27	07:52 (T58 Alt) 08:12
	21:46	21:19	20:23	19:21	18 08:28 (T59 Alt) 17:20	52 16:53 (T10) 16:47
3	05:43	06:16	06:59	07:42	08:09 (T59 Alt) 07:29	07:54 (T58 Alt) 08:13
	21:46	21:17	20:21	19:19	20 08:29 (T59 Alt) 17:18	46 16:51 (T10) 16:46
4	05:43	06:17	07:01	07:43	08:08 (T59 Alt) 07:30	07:56 (T58 Alt) 08:14
	21:46	21:16	20:19	19:16	22 08:30 (T59 Alt) 17:17	42 16:50 (T10) 16:46
5	05:44	06:19	07:02	07:44	08:07 (T59 Alt) 07:32	07:57 (T58 Alt) 08:15
	21:45	21:14	20:17	19:14	22 08:29 (T59 Alt) 17:15	36 16:48 (T10) 16:46
6	05:45	06:20	07:03	07:46	08:09 (T59 Alt) 07:33	07:59 (T58 Alt) 08:17
	21:45	21:13	20:15	19:12	21 08:30 (T59 Alt) 17:14	30 16:46 (T10) 16:45
7	05:46	06:22	07:05	07:47	08:10 (T59 Alt) 07:35	08:01 (T58 Alt) 08:18
	21:44	21:11	20:13	19:10	19 08:29 (T59 Alt) 17:12	21 16:45 (T10) 16:45
8	05:47	06:23	07:06	07:49	08:12 (T59 Alt) 07:37	08:02 (T58 Alt) 08:19
	21:44	21:10	20:11	19:08	17 08:29 (T59 Alt) 17:11	17 08:19 (T58 Alt) 16:45
9	05:47	06:24	07:08	07:50	08:13 (T59 Alt) 07:38	08:04 (T58 Alt) 08:20
	21:43	21:08	20:09	19:06	15 08:28 (T59 Alt) 17:09	18 16:20 (T09) 16:45
10	05:48	06:26	07:09	07:52	08:15 (T59 Alt) 07:40	08:06 (T58 Alt) 08:21
	21:43	21:06	20:07	19:04	13 08:28 (T59 Alt) 17:08	21 16:24 (T09) 16:45
11	05:49	06:27	07:10	07:53	08:16 (T59 Alt) 07:41	08:07 (T58 Alt) 08:22
	21:42	21:05	20:05	19:02	10 08:26 (T59 Alt) 17:07	21 16:25 (T09) 16:44
12	05:50	06:28	07:12	07:55	08:18 (T59 Alt) 07:43	08:09 (T58 Alt) 08:23
	21:42	21:03	20:03	19:00	7 08:25 (T59 Alt) 17:05	17 16:26 (T09) 16:44
13	05:51	06:30	07:13	07:56	08:20 (T59 Alt) 07:44	16:10 (T09) 08:24
	21:41	21:01	20:01	18:56	3 08:23 (T59 Alt) 17:04	18 16:28 (T09) 16:45
14	05:52	06:31	07:15	07:58	07:46	16:10 (T09) 08:25
	21:40	21:00	19:59	18:54	17:03	19 16:29 (T09) 16:45
15	05:53	06:33	07:16	07:59	07:48	16:09 (T09) 08:25
	21:39	20:58	19:56	18:52	17:01	20 16:29 (T09) 16:45
16	05:54	06:34	07:17	08:01	07:49	16:09 (T09) 08:26
	21:39	20:56	19:54	18:50	17:00	20 16:29 (T09) 16:45
17	05:55	06:35	07:19	08:02	07:51	16:08 (T09) 08:27
	21:38	20:54	19:52	18:48	16:59	21 16:29 (T09) 16:45
18	05:56	06:37	07:20	08:04	17:40 (T10) 07:52	16:09 (T09) 08:28
	21:37	20:52	19:50	18:46	11 17:51 (T10) 16:58	20 16:29 (T09) 16:45
19	05:57	06:38	07:22	08:05	09:03 (T58 Alt) 07:54	16:09 (T09) 08:28
	21:36	20:51	19:48	18:45	26 17:54 (T10) 16:57	20 16:29 (T09) 16:46
20	05:59	06:40	07:23	08:07	09:00 (T58 Alt) 07:55	16:09 (T09) 08:29
	21:35	20:49	19:46	18:43	36 17:56 (T10) 16:56	18 16:27 (T09) 16:46
21	06:00	06:41	07:24	08:08	08:57 (T58 Alt) 07:57	16:10 (T09) 08:30
	21:34	20:47	19:44	18:41	44 17:57 (T10) 16:55	16 16:26 (T09) 16:47
22	06:01	06:42	07:26	08:10	08:56 (T58 Alt) 07:58	16:11 (T09) 08:30
	21:33	20:45	19:42	18:39	49 17:58 (T10) 16:54	15 16:26 (T09) 16:47
23	06:02	06:44	07:27	08:11	08:54 (T58 Alt) 08:00	16:11 (T09) 08:31
	21:32	20:43	19:40	18:37	52 17:58 (T10) 16:53	13 16:24 (T09) 16:48
24	06:03	06:45	07:29	08:13	08:53 (T58 Alt) 08:01	16:12 (T09) 08:31
	21:31	20:41	19:37	18:35	56 17:59 (T10) 16:52	11 16:23 (T09) 16:48
25	06:05	06:47	07:30	08:15	08:53 (T58 Alt) 08:02	16:13 (T09) 08:31
	21:29	20:39	19:35	18:33	57 17:59 (T10) 16:51	9 16:22 (T09) 16:49
26	06:06	06:48	07:31	08:16	08:52 (T58 Alt) 08:04	16:14 (T09) 08:32
	21:28	20:37	19:33	18:32	59 17:59 (T10) 16:51	8 16:22 (T09) 16:50
27	06:07	06:49	07:33	08:18	08:51 (T58 Alt) 08:05	16:15 (T09) 08:32
	21:27	20:35	19:31	18:30	61 17:59 (T10) 16:50	5 16:20 (T09) 16:50
28	06:08	06:51	07:34	08:19	08:51 (T58 Alt) 08:07	16:16 (T09) 08:32
	21:26	20:33	19:29	18:28	61 17:59 (T10) 16:49	4 16:20 (T09) 16:51
29	06:10	06:52	07:36	08:21	08:50 (T58 Alt) 08:08	16:18 (T09) 08:32
	21:24	20:31	19:27	18:27	61 17:58 (T10) 16:49	1 16:19 (T09) 16:52
30	06:11	06:54	07:37	08:22	08:51 (T58 Alt) 08:09	08:33
	21:23	20:29	19:25	10 08:25 (T59 Alt) 18:25	59 17:58 (T10) 16:48	16:53
31	06:12	06:55		08:24	08:51 (T58 Alt)	08:33
	21:22	20:27		18:23	59 17:57 (T10)	16:54
Potential sun hours	487	445	379	336	277	260
Total, worst case			10	892	615	
Sun reduction			0.69	0.52	0.44	
Oper. time red.			0.98	0.98	0.98	
Wind dir. red.			0.68	0.67	0.65	
Total reduction			0.46	0.34	0.28	
Total, real			5	307	171	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

Project:

20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:

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SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H23 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (350)

Assumptions for shadow calculations

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

Table with 12 columns (Jan-Dec) and 2 rows of sunshine probability data.

Operational time

Table showing operational time in hours for various wind directions (N, NNE, etc.) and a total sum.

Main shadow calculation table with columns for months (January-December) and rows for specific dates and times. Includes summary rows at the bottom for 'Potential sun hours' and 'Total, real'.

Table layout: For each day in each month the following matrix apply

Matrix showing parameters: Day in month, Sun rise (hh:mm), Sun set (hh:mm), Minutes with flicker, First time (hh:mm) with flicker, Last time (hh:mm) with flicker, (WTG causing flicker first time), (WTG causing flicker last time).

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SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H79 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (406)

Assumptions for shadow calculations

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 time
N NNE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
Idle start wind speed: Cut in wind speed from power curve

Table with columns for months (January to December) and rows for specific times of day, showing shadow impact data and summary statistics like Potential sun hours, Total, worst case, Sun reduction, etc.

Table layout: For each day in each month the following matrix apply

Matrix with columns: Day in month, Sun rise (hh:mm), Sun set (hh:mm), Minutes with flicker, First time (hh:mm) with flicker, Last time (hh:mm) with flicker, (WTG causing flicker first time), (WTG causing flicker last time)

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SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H80 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (407)

Assumptions for shadow calculations

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 time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
Idle start wind speed: Cut in wind speed from power curve

Table with 12 columns for months (January to December) and multiple rows of shadow calculation data including sun hours, reduction, and total real values.

Table layout: For each day in each month the following matrix apply

Matrix table with 4 columns: Day in month, Sun rise (hh:mm), Sun set (hh:mm), Minutes with flicker, First time (hh:mm) with flicker, Last time (hh:mm) with flicker, (WTG causing flicker first time), (WTG causing flicker last time)

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SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H81 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (408)

Assumptions for shadow calculations

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 time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
Idle start wind speed: Cut in wind speed from power curve

Table with columns for months (January to June) and rows for daily shadow calculations including sun rise/set times, shadow length, and total reduction percentages.

Table layout: For each day in each month the following matrix apply

Matrix with columns: Day in month, Sun rise (hh:mm), Sun set (hh:mm), Minutes with flicker, First time (hh:mm) with flicker, Last time (hh:mm) with flicker, (WTG causing flicker first time), (WTG causing flicker last time)

Project:
20131290 Rolette Power Development

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Calculated:
6/26/2015 10:50 PM/2.9.285

SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles Shadow receptor: H81 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (408)

Assumptions for shadow calculations

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 time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December		
1	05:41	20:53 (T47)	06:13	06:56	07:38	08:39 (T45) 07:25	08:10	
	21:46	23 21:16 (T47)	21:20	20:25	19:22	69 18:49 (T46) 17:21	16:47	
2	05:42	20:53 (T47)	06:14	06:57	07:40	08:38 (T45) 07:27	08:12	
	21:46	22 21:15 (T47)	21:19	20:23	19:20	70 18:49 (T46) 17:20	16:47	
3	05:42	20:53 (T47)	06:16	06:59	07:41	08:36 (T45) 07:28	08:13	
	21:46	22 21:15 (T47)	21:17	20:21	19:18	73 18:48 (T46) 17:18	16:46	
4	05:43	20:53 (T47)	06:17	07:00	07:43	08:35 (T45) 07:30	08:14	
	21:45	22 21:15 (T47)	21:16	20:19	19:16	73 18:47 (T46) 17:16	16:46	
5	05:44	20:53 (T47)	06:18	07:02	07:44	08:33 (T45) 07:32	08:15	
	21:45	22 21:15 (T47)	21:14	20:17	19:14	72 18:45 (T46) 17:15	16:45	
6	05:45	20:54 (T47)	06:20	07:03	07:46	08:33 (T45) 07:33	08:16	
	21:45	20 21:14 (T47)	21:13	20:15	19:12	71 18:44 (T46) 17:13	16:45	
7	05:45	20:54 (T47)	06:21	07:04	07:47	08:32 (T45) 07:35	08:17	
	21:44	20 21:14 (T47)	21:11	20:13	19:10	69 18:42 (T46) 17:12	16:45	
8	05:46	20:54 (T47)	06:23	07:06	07:49	08:31 (T45) 07:36	08:19	
	21:44	19 21:13 (T47)	21:09	20:11	19:08	67 18:40 (T46) 17:10	16:45	
9	05:47	20:54 (T47)	06:24	07:07	07:50	08:30 (T45) 07:38	08:20	
	21:43	19 21:13 (T47)	21:08	20:09	19:06	64 18:38 (T56 Alt) 17:09	16:44	
10	05:48	20:55 (T47)	06:25	07:09	07:52	08:30 (T45) 07:39	08:21	
	21:43	17 21:12 (T47)	21:06	20:07	19:04	62 18:37 (T56 Alt) 17:08	16:44	
11	05:49	20:55 (T47)	06:27	07:10	07:53	08:29 (T45) 07:41	08:22	
	21:42	17 21:12 (T47)	21:04	20:05	19:02	60 18:34 (T56 Alt) 17:06	16:44	
12	05:50	20:56 (T47)	06:28	07:11	07:54	08:30 (T45) 07:43	08:23	
	21:41	15 21:11 (T47)	21:03	20:02	19:00	59 18:33 (T56 Alt) 17:05	16:44	
13	05:51	20:56 (T47)	06:29	07:13	07:56	08:29 (T45) 07:44	08:23	
	21:41	15 21:11 (T47)	21:01	20:00	18:56	56 18:30 (T56 Alt) 17:04	16:44	
14	05:52	20:57 (T47)	06:31	07:14	07:57	08:29 (T45) 07:46	08:24	
	21:40	13 21:10 (T47)	20:59	19:58	18:54	54 18:28 (T56 Alt) 17:02	16:44	
15	05:53	20:58 (T47)	06:32	07:16	07:59	08:29 (T45) 07:47	08:25	
	21:39	12 21:10 (T47)	20:58	19:56	18:52	51 18:26 (T56 Alt) 17:01	16:44	
16	05:54	20:58 (T47)	06:34	07:17	08:00	08:29 (T45) 07:49	08:26	
	21:38	11 21:09 (T47)	20:56	19:54	18:43 (T46) 18:50	46 18:24 (T56 Alt) 17:00	16:45	
17	05:55	20:59 (T47)	06:35	07:18	08:02	08:30 (T45) 07:50	08:27	
	21:37	9 21:08 (T47)	20:54	19:52	18:46 (T46) 18:48	42 09:12 (T45) 16:59	16:45	
18	05:56	21:00 (T47)	06:36	07:20	08:04	08:30 (T45) 07:52	08:27	
	21:36	7 21:07 (T47)	20:52	19:50	18:48 (T46) 18:46	41 09:11 (T45) 16:58	16:45	
19	05:57	21:01 (T47)	06:38	07:21	08:05	08:31 (T45) 07:53	08:28	
	21:35	5 21:06 (T47)	20:50	19:48	18:49 (T46) 18:44	39 09:10 (T45) 16:57	16:45	
20	05:58	21:02 (T47)	06:39	07:23	08:07	08:31 (T45) 07:55	08:29	
	21:35	3 21:05 (T47)	20:49	19:46	18:50 (T46) 18:42	37 09:08 (T45) 16:56	16:46	
21	05:59		06:41	07:24	08:08	08:32 (T45) 07:56	08:29	
	21:33		20:47	19:43	18:18 (T46) 18:40	36 09:08 (T45) 16:55	16:46	
22	06:01		06:42	07:26	08:10	08:34 (T45) 07:58	08:30	
	21:32		20:45	19:41	18:16 (T46) 18:39	33 09:07 (T45) 16:54	16:47	
23	06:02		06:43	07:27	08:11	08:35 (T45) 07:59	08:30	
	21:31		20:43	19:39	18:15 (T46) 18:37	29 09:04 (T45) 16:53	16:47	
24	06:03		06:45	07:28	08:13	08:37 (T45) 08:01	08:31	
	21:30		20:41	19:37	18:14 (T46) 18:35	26 09:03 (T45) 16:52	16:48	
25	06:04		06:46	07:30	08:14	08:38 (T45) 08:02	08:31	
	21:29		20:39	19:35	18:14 (T46) 18:33	22 09:00 (T45) 16:51	16:49	
26	06:05		06:48	07:31	08:16	08:42 (T45) 08:03	08:31	
	21:28		20:37	19:33	18:13 (T46) 18:31	15 08:57 (T45) 16:50	16:49	
27	06:07		06:49	07:33	08:17		08:05	08:32
	21:27		20:35	19:31	18:12 (T46) 18:30		16:50	16:50
28	06:08		06:50	07:34	08:19		08:06	08:32
	21:25		20:33	19:29	18:11 (T46) 18:28		16:49	16:51
29	06:09		06:52	07:35	08:21		08:08	08:32
	21:24		20:31	19:27	18:10 (T46) 18:26		16:48	16:52
30	06:11		06:53	07:37	08:22		08:09	08:32
	21:23		20:29	19:24	18:09 (T46) 18:25		16:48	16:52
31	06:12		06:55		08:24			08:32
	21:21		20:27		18:23			16:53
Potential sun hours	487	445	379	336		277	260	
Total, worst case		313	557	1336			249	
Sun reduction		0.74	0.69	0.52			0.44	
Oper. time red.		0.98	0.98	0.98			0.98	
Wind dir. red.		0.69	0.66	0.68			0.63	
Total reduction		0.50	0.44	0.35			0.27	
Total, real	157		247	465			67	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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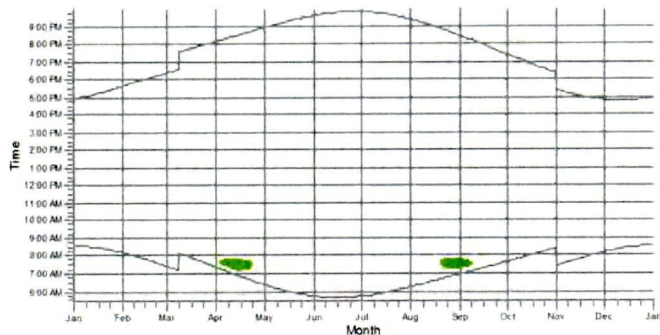
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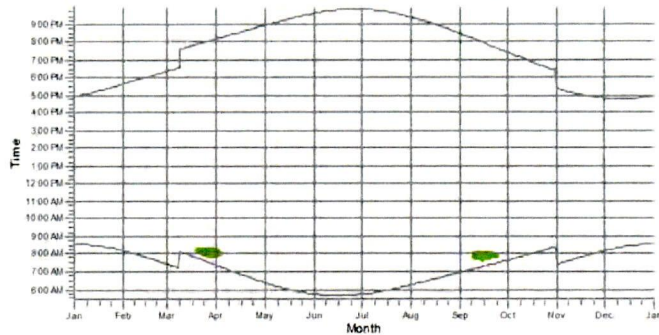
SHADOW - Calendar, graphical

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles

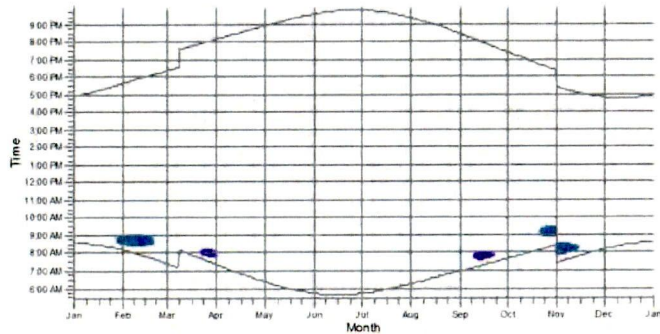
H03: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (330)



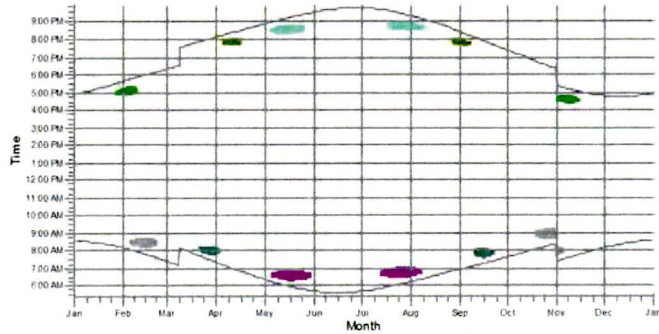
H04: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (331)



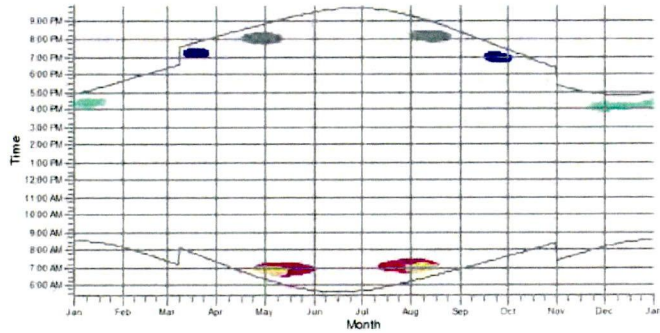
H12: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (339)



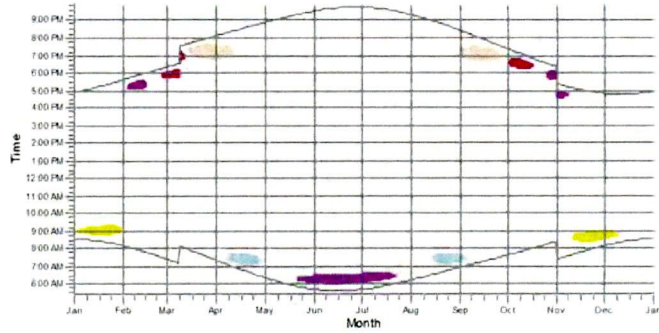
H14: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (341)



H15: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (342)



H16: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (343)



WTGs

- | | | | | | |
|----------|----------|----------|------------------|------------------|------------------|
| T31: T31 | T19: T19 | T33: T33 | T10: T10 | T51 Alt: T51 Alt | T57 Alt: T57 Alt |
| T21: T21 | T20: T20 | T09: T09 | T04: T04 | T53 Alt: T53 Alt | T58 Alt: T58 Alt |
| T07: T07 | T32: T32 | T03: T03 | T50 Alt: T50 Alt | T55 Alt: T55 Alt | T59 Alt: T59 Alt |

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
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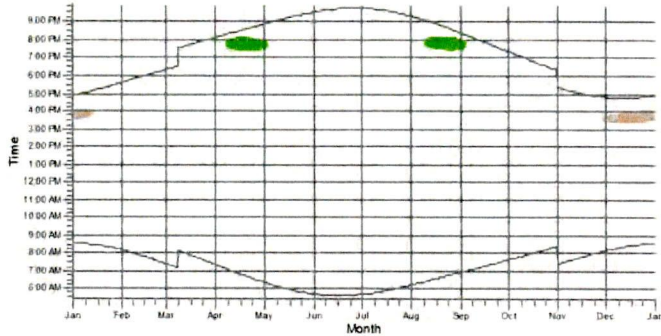
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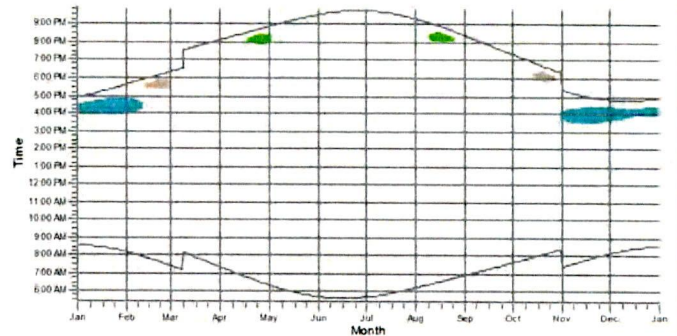
SHADOW - Calendar, graphical

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles

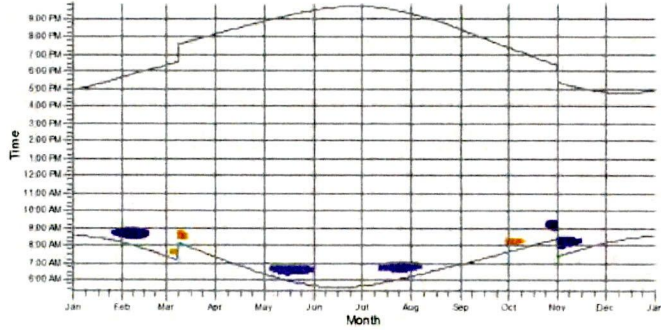
H17: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (344)



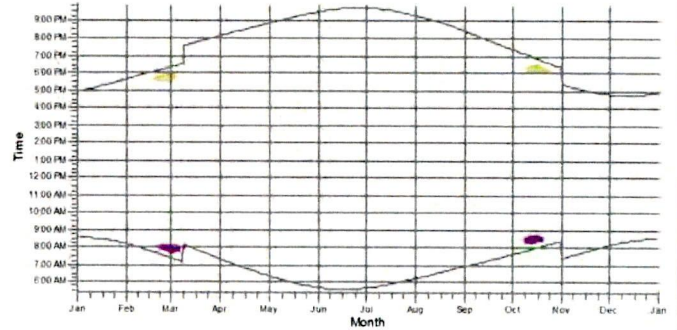
H18: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (345)



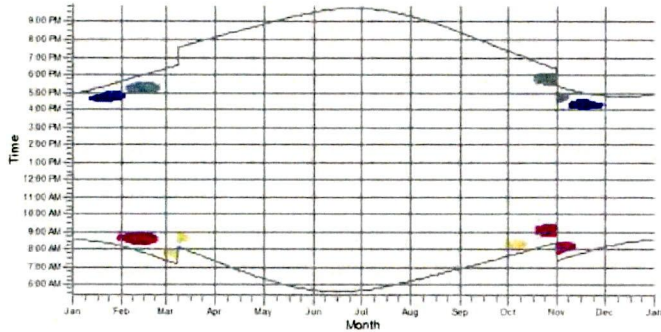
H19: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (346)



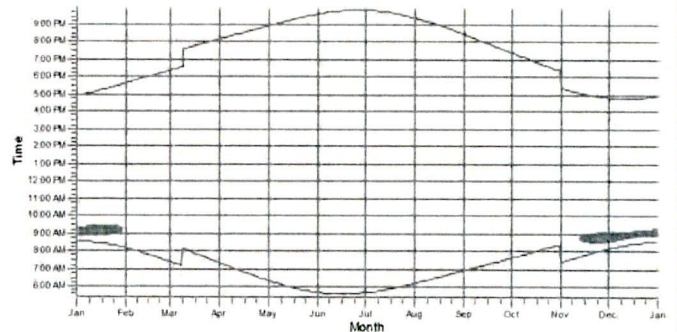
H20: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (347)



H21: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (348)



H23: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (350)



WTGs

- | | | | | | |
|----------|----------|----------|----------|------------------|------------------|
| T40: T40 | T41: T41 | T47: T47 | T09: T09 | T56 Alt: T56 Alt | T59 Alt: T59 Alt |
| T42: T42 | T46: T46 | T33: T33 | T10: T10 | T58 Alt: T58 Alt | |

Project:
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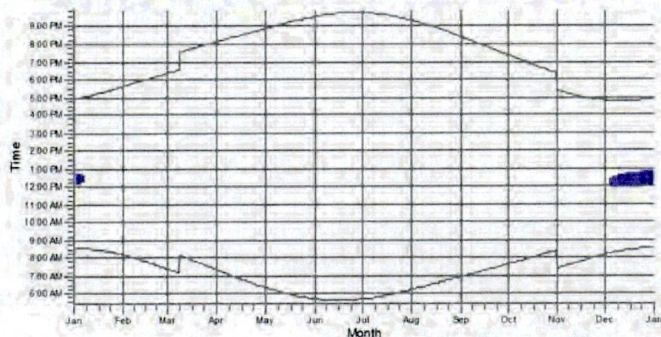
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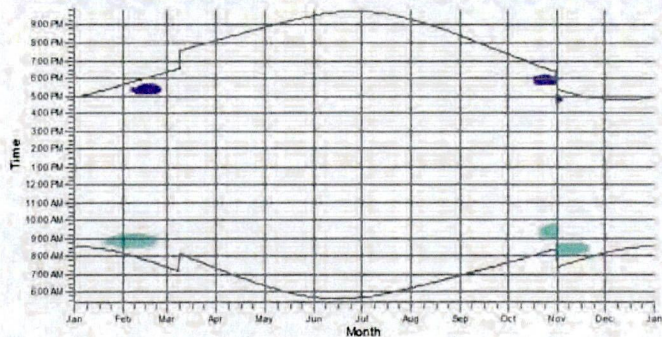
SHADOW - Calendar, graphical

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles

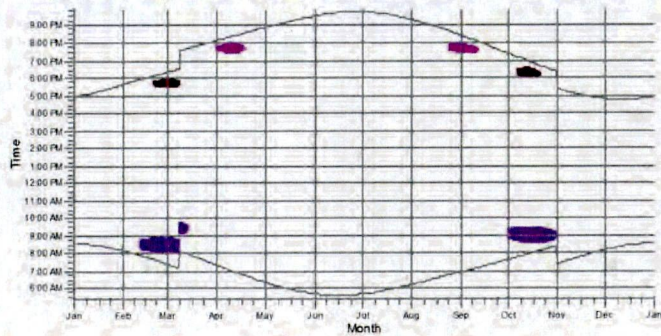
H78: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (405)



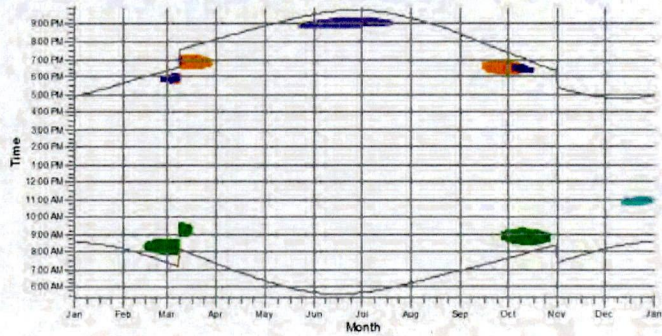
H79: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (406)



H80: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (407)



H81: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (408)



WTGs

- T44: T44
- T45: T45
- T11: T11
- T15: T15
- T56 Alt: T56 Alt
- T46: T46
- T12: T12
- T47: T47
- T49 Alt: T49 Alt

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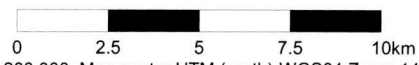
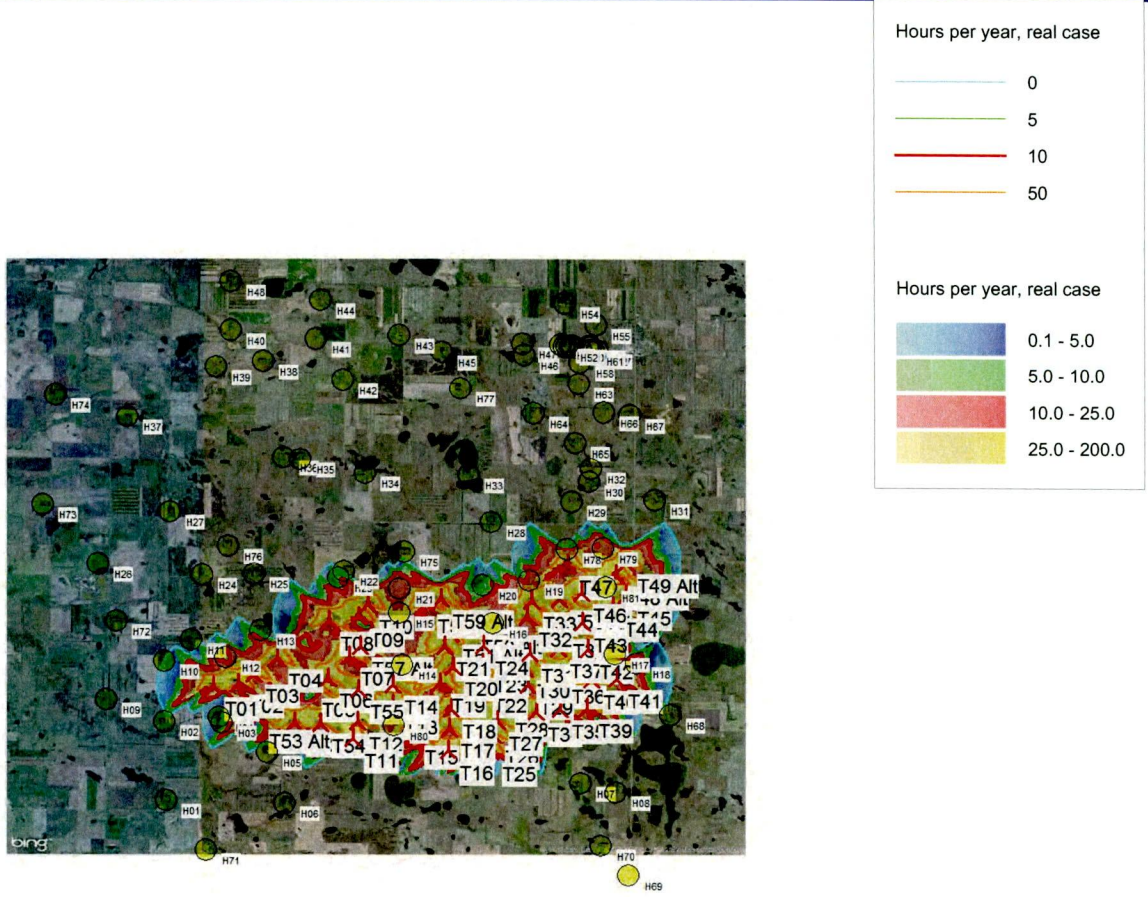
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SHADOW - Map

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, No Obstacles



Map: Overview Aerial , Print scale 1:200,000, Map center UTM (north)-WGS84 Zone: 14 East: 433,452 North: 5,381,458
 New WTG Shadow receptor
 Flicker map level: Height Contours: 121203_10ftHCLs_7kmBuffer.wpo (3)

Appendix F: windPRO Shadow Flicker Report H15, H16, and H81 with Obstacles

Project:
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SHADOW - Main Result

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, With obstacles H15, H16 & H81

Assumptions for shadow calculations

Maximum distance for influence 1,500 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:
9146 (Short-term to MERRA)

Operational time
N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
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: 121203_10ftHCLs_7kmBuffer.wpo (3)
Obstacles used in calculation
Eye height: 1.5 m
Grid resolution: 10.0 m



Scale 1:200,000
New WTG Shadow receptor

WTGs

UTM (north)-WGS84 Zone: 14				WTG type		Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]	
East	North	Z [m]	Row data/Description	Valid	Manufact. Type-generator					
T01	426,404	5,380,816	490.7	T01	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T02	427,088	5,380,888	490.7	T02	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T03	427,532	5,381,154	490.6	T03	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T04	428,153	5,381,587	484.6	T04	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T05	429,079	5,380,790	481.6	T05	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T06	429,560	5,381,041	481.6	T06	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T07	430,155	5,381,640	478.5	T07	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T08	429,579	5,382,607	487.7	T08	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T09	430,407	5,382,722	496.8	T09	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T10	430,657	5,383,084	491.0	T10	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T11	430,242	5,379,390	490.7	T11	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T12	430,379	5,379,847	480.0	T12	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T13	431,335	5,380,312	481.2	T13	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T14	431,340	5,380,862	481.6	T14	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T15	431,891	5,379,497	484.6	T15	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T16	432,876	5,379,052	496.9	T16	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T17	432,886	5,379,665	487.7	T17	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T18	432,945	5,380,204	489.6	T18	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T19	432,633	5,380,904	496.8	T19	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T20	432,985	5,381,379	499.9	T20	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T21	432,753	5,381,916	493.8	T21	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T22	433,787	5,380,903	516.3	T22	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T23	433,809	5,381,470	515.1	T23	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T24	433,830	5,381,961	512.1	T24	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T25	434,026	5,379,018	527.3	T25	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T26	434,112	5,379,482	520.4	T26	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T27	434,209	5,379,879	512.1	T27	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T28	434,398	5,380,261	515.1	T28	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T29	435,048	5,380,847	518.2	T29	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T30	434,970	5,381,321	525.3	T30	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T31	435,093	5,381,756	514.4	T31	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T32	435,029	5,382,733	490.7	T32	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T33	435,153	5,383,180	487.7	T33	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T34	435,280	5,380,120	499.9	T34	Yes	VESTAS V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0

To be continued on next page...

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SHADOW - Main Result

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, With obstacles H15, H16 & H81

...continued from previous page

UTM (north)-WGS84 Zone: 14			WTG type		Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	RPM [RPM]
East	North	Z	Row data/Description	Row data/Description							
			[m]								
T35	435,948	5,380,198	493.8	T35	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T36	435,940	5,381,153	497.4	T36	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T37	435,892	5,381,871	496.8	T37	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T38	435,956	5,382,432	496.8	T38	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T39	436,670	5,380,219	493.8	T39	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T40	436,795	5,381,008	493.6	T40	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T41	437,500	5,381,035	490.7	T41	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T42	436,705	5,381,860	496.8	T42	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T43	436,544	5,382,577	486.6	T43	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T44	437,401	5,383,031	484.6	T44	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T45	437,748	5,383,328	484.6	T45	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T46	436,528	5,383,414	491.2	T46	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T47	436,146	5,384,176	493.8	T47	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T48 Alt	437,462	5,383,893	484.9	T48 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T49 Alt	437,741	5,384,219	486.5	T49 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T50 Alt	433,440	5,382,540	491.0	T50 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T51 Alt	432,950	5,382,296	487.7	T51 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T52 Alt	428,647	5,379,825	484.6	T52 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T53 Alt	427,624	5,379,928	487.7	T53 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T54 Alt	429,351	5,379,803	481.6	T54 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T55 Alt	430,397	5,380,730	475.9	T55 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T56 Alt	435,924	5,383,222	484.6	T56 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T57 Alt	430,454	5,381,937	481.6	T57 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T58 Alt	432,258	5,383,093	481.6	T58 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0
T59 Alt	432,653	5,383,230	479.6	T59 Alt	Yes	VESTAS	V117-3.3 GridStreame-3,300	3,300	117.0	91.5	0.0

Shadow receptor-Input

UTM (north)-WGS84 Zone: 14									
No.	East	North	Z	Width	Height	Height a.g.l.	Degrees from south cw	Slope of window	Direction mode
			[m]	[m]	[m]	[m]	[°]	[°]	
H15	431,525	5,382,848	481.6	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H16	434,082	5,382,575	494.6	1.0	1.0	1.0	0.0	90.0	"Green house mode"
H81	437,194	5,383,583	484.6	1.0	1.0	1.0	0.0	90.0	"Green house mode"

Calculation Results

Shadow receptor

No.	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]	
H15	54:50	161	0:37	22:00	
H16	72:13	202	0:42	29:59	
H81	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]
T01	T01	0:00	0:00
T02	T02	0:00	0:00
T03	T03	0:00	0:00
T04	T04	0:00	0:00
T05	T05	0:00	0:00
T06	T06	0:00	0:00
T07	T07	0:00	0:00
T08	T08	0:00	0:00
T09	T09	8:57	3:50
T10	T10	0:00	0:00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
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SHADOW - Main Result

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, With obstacles H15, H16 & H81

...continued from previous page

No.	Name	Worst case [h/year]	Expected [h/year]
T11	T11	0:00	0:00
T12	T12	0:00	0:00
T13	T13	0:00	0:00
T14	T14	0:00	0:00
T15	T15	0:00	0:00
T16	T16	0:00	0:00
T17	T17	0:00	0:00
T18	T18	0:00	0:00
T19	T19	0:00	0:00
T20	T20	0:00	0:00
T21	T21	0:00	0:00
T22	T22	0:00	0:00
T23	T23	0:00	0:00
T24	T24	0:00	0:00
T25	T25	0:00	0:00
T26	T26	0:00	0:00
T27	T27	0:00	0:00
T28	T28	0:00	0:00
T29	T29	0:00	0:00
T30	T30	0:00	0:00
T31	T31	13:15	4:21
T32	T32	13:04	5:33
T33	T33	17:16	7:40
T34	T34	0:00	0:00
T35	T35	0:00	0:00
T36	T36	0:00	0:00
T37	T37	0:00	0:00
T38	T38	0:00	0:00
T39	T39	0:00	0:00
T40	T40	0:00	0:00
T41	T41	0:00	0:00
T42	T42	0:00	0:00
T43	T43	0:00	0:00
T44	T44	0:00	0:00
T45	T45	0:00	0:00
T46	T46	0:00	0:00
T47	T47	0:00	0:00
T48	Alt T48 Alt	0:00	0:00
T49	Alt T49 Alt	0:00	0:00
T50	Alt T50 Alt	28:38	12:22
T51	Alt T51 Alt	0:00	0:00
T52	Alt T52 Alt	0:00	0:00
T53	Alt T53 Alt	0:00	0:00
T54	Alt T54 Alt	0:00	0:00
T55	Alt T55 Alt	0:00	0:00
T56	Alt T56 Alt	0:00	0:00
T57	Alt T57 Alt	13:18	3:49
T58	Alt T58 Alt	32:32	14:23
T59	Alt T59 Alt	9:32	4:10

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SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, With obstacles H15, H16 & H81 **Shadow receptor:** H15 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (22)

Assumptions for shadow calculations

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 time
 N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
 524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
 Idle start wind speed: Cut in wind speed from power curve

	January	February	March	April	May	June
1	08:33	16:10 (T57 Alt)	08:11	07:23	07:20	06:22
	16:55	13 16:23 (T57 Alt)	17:38	18:21	20:09	06:45 (T58 Alt)
2	08:33	16:10 (T57 Alt)	08:09	07:21	07:17	20:53
	16:56	14 16:24 (T57 Alt)	17:39	18:23	20:10	26 07:11 (T58 Alt)
3	08:33	16:11 (T57 Alt)	08:08	07:19	07:15	06:20
	16:57	14 16:25 (T57 Alt)	17:41	18:25	20:11	28 07:11 (T58 Alt)
4	08:33	16:12 (T57 Alt)	08:06	07:17	07:13	06:18
	16:58	15 16:27 (T57 Alt)	17:43	18:26	20:13	30 07:11 (T58 Alt)
5	08:32	16:12 (T57 Alt)	08:05	07:15	07:11	06:17
	16:59	16 16:28 (T57 Alt)	17:44	18:28	20:14	32 07:12 (T58 Alt)
6	08:32	16:12 (T57 Alt)	08:03	07:13	07:09	06:15
	17:00	17 16:29 (T57 Alt)	17:46	18:29	20:16	34 07:12 (T58 Alt)
7	08:32	16:13 (T57 Alt)	08:02	07:11	07:07	06:13
	17:01	17 16:30 (T57 Alt)	17:48	18:31	20:17	36 07:13 (T58 Alt)
8	08:32	16:13 (T57 Alt)	08:00	08:09	07:05	06:11
	17:02	18 16:31 (T57 Alt)	17:49	18:32	20:19	36 07:13 (T58 Alt)
9	08:31	16:14 (T57 Alt)	07:59	08:07	07:03	06:09
	17:04	19 16:33 (T57 Alt)	17:51	19:34	20:20	37 07:13 (T58 Alt)
10	08:31	16:14 (T57 Alt)	07:57	08:05	07:01	06:07
	17:05	20 16:34 (T57 Alt)	17:52	19:35	20:22	37 07:13 (T58 Alt)
11	08:30	16:15 (T57 Alt)	07:56	08:03	06:59	06:06
	17:06	20 16:35 (T57 Alt)	17:54	19:37	20:23	36 07:13 (T58 Alt)
12	08:30	16:16 (T57 Alt)	07:54	08:01	06:57	06:04
	17:08	18 16:34 (T57 Alt)	17:56	19:39	20:25	36 07:12 (T58 Alt)
13	08:29	16:17 (T57 Alt)	07:52	07:59	06:55	06:03
	17:09	18 16:35 (T57 Alt)	17:57	19:40	20:26	35 07:12 (T58 Alt)
14	08:29	16:18 (T57 Alt)	07:51	07:57	06:53	06:02
	17:10	17 16:35 (T57 Alt)	17:59	19:42	20:28	36 07:13 (T58 Alt)
15	08:28	16:19 (T57 Alt)	07:49	07:55	06:51	06:00
	17:12	15 16:34 (T57 Alt)	18:01	19:43	20:29	35 07:12 (T58 Alt)
16	08:27	16:19 (T57 Alt)	07:47	07:53	06:49	05:59
	17:13	15 16:34 (T57 Alt)	18:01	19:45	20:31	34 07:11 (T58 Alt)
17	08:27	16:21 (T57 Alt)	07:46	07:51	06:47	05:58
	17:14	12 16:33 (T57 Alt)	18:02	19:46	20:32	33 07:11 (T58 Alt)
18	08:26	16:22 (T57 Alt)	07:44	07:49	06:45	05:56
	17:16	10 16:32 (T57 Alt)	18:04	19:48	20:34	33 07:11 (T58 Alt)
19	08:25	16:25 (T57 Alt)	07:42	07:47	06:43	05:55
	17:17	4 16:29 (T57 Alt)	18:05	19:49	20:35	31 07:10 (T58 Alt)
20	08:24		07:40	07:45	06:42	05:54
	17:19		18:07	19:51	20:37	31 07:10 (T58 Alt)
21	08:23		07:38	07:42	06:40	05:53
	17:20		18:09	19:52	20:38	29 07:09 (T58 Alt)
22	08:22		07:37	07:40	06:38	05:52
	17:22		18:10	19:54	20:39	28 07:09 (T58 Alt)
23	08:21		07:35	07:38	06:36	05:51
	17:23		18:12	19:55	20:41	26 07:08 (T58 Alt)
24	08:20		07:33	07:36	06:34	05:50
	17:25		18:14	19:57	20:42	25 07:07 (T58 Alt)
25	08:19		07:31	07:34	06:32	05:49
	17:27		18:15	19:58	20:44	23 07:06 (T58 Alt)
26	08:18		07:29	07:32	06:30	05:48
	17:28		18:17	20:00	7 19:14 (T09)	21 07:05 (T58 Alt)
27	08:17		07:27	07:30	06:29	05:47
	17:30		18:18	20:01	20:47	14 07:05 (T58 Alt)
28	08:16		07:25	07:28	06:27	05:46
	17:31		18:20	20:03	20:48	17 07:07 (T58 Alt)
29	08:14		07:26	07:26	06:25	05:45
	17:33		18:22	20:04	20:50	20 07:08 (T58 Alt)
30	08:13		07:24	07:24	06:23	05:44
	17:34		18:24	20:06	20:51	23 07:09 (T58 Alt)
31	08:12		07:22	07:22	06:21	05:44
	17:36		18:26	20:07	20:52	4 06:57 (T58 Alt)
Potential sun hours	273	285	368	410	472	482
Total, worst case	292		268	83	887	
Sun reduction	0.56		0.63	0.59	0.67	
Oper. time red.	0.98		0.98	0.98	0.98	
Wind dir. red.	0.61		0.67	0.65	0.65	
Total reduction	0.33		0.41	0.37	0.42	
Total, real	97		110	31	375	

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, With obstacles H15, H16 & H81 Shadow receptor: H16 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (23)

Assumptions for shadow calculations

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

Table with 12 columns (Jan-Dec) and 1 row of values: 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 time

Table with 13 columns (N, ESE, SSE, S, SSW, WSW, W, WNW, NNW, Sum) and 1 row of values: 524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552

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

Main shadow calculation table with columns for months (January-June) and rows for hours of the day (08:33-17:36). Includes summary rows for 'Potential sun hours' and 'Total, worst case'.

Table layout: For each day in each month the following matrix apply

Matrix layout table with 4 columns: Day in month, Sun rise/set times, Minutes with flicker, First/Last time with flicker.

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SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, With obstacles H15, H16 & H81 **Shadow receptor:** H16 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (23)

Assumptions for shadow calculations

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 time
 N NNE ENE E ESE SSE S SSW WSW W WNW NNW Sum
 524 474 586 541 606 835 754 637 557 1,091 1,182 765 8,552
 Idle start wind speed: Cut in wind speed from power curve

	July	August	September	October	November	December
1	05:41 21:46	06:09 (T33) 21:20	06:56 20:25	07:20 (T32) 19:13 (T50 Alt)	07:39 19:23	08:10 16:47
2	05:42 21:46	06:09 (T33) 21:19	06:58 20:23	07:21 (T32) 19:16 (T50 Alt)	07:40 19:20	08:12 16:47
3	05:43 21:46	06:10 (T33) 21:17	06:59 20:21	07:23 (T32) 19:19 (T50 Alt)	07:41 19:18	08:13 16:46
4	05:43 21:45	06:11 (T33) 21:16	07:00 20:19	07:24 (T32) 19:21 (T50 Alt)	07:43 19:16	08:14 16:46
5	05:44 21:45	06:11 (T33) 21:14	07:02 20:17	07:25 (T50 Alt) 18:52 (T50 Alt)	07:44 19:14	08:15 16:46
6	05:45 21:45	06:12 (T33) 21:13	07:03 20:15	07:26 (T50 Alt) 18:51 (T50 Alt)	07:46 19:12	08:16 16:45
7	05:46 21:44	06:13 (T33) 21:11	07:05 20:13	07:27 (T50 Alt) 18:49 (T50 Alt)	07:47 19:10	08:18 16:45
8	05:46 21:44	06:14 (T33) 21:10	07:06 20:11	07:28 (T50 Alt) 18:47 (T50 Alt)	07:49 19:08	08:19 16:45
9	05:47 21:43	06:14 (T33) 21:08	07:07 20:09	07:29 (T50 Alt) 18:47 (T50 Alt)	07:50 19:06	08:20 16:45
10	05:48 21:43	06:15 (T33) 21:06	07:09 20:07	07:30 (T50 Alt) 18:45 (T50 Alt)	07:52 19:04	08:21 16:44
11	05:49 21:42	06:16 (T33) 21:05	07:10 20:05	07:31 (T50 Alt) 18:44 (T50 Alt)	07:53 19:02	08:22 16:44
12	05:50 21:41	06:17 (T33) 21:03	07:12 20:03	07:32 (T50 Alt) 18:44 (T50 Alt)	07:55 19:00	08:23 16:44
13	05:51 21:41	06:18 (T33) 21:01	07:13 20:01	07:33 (T50 Alt) 18:43 (T50 Alt)	07:56 19:04	08:24 16:44
14	05:52 21:40	06:19 (T33) 20:59	07:14 19:58	07:34 (T50 Alt) 18:42 (T50 Alt)	07:58 18:54	08:25 16:44
15	05:53 21:39	06:20 (T33) 20:58	07:16 19:56	07:35 (T50 Alt) 18:42 (T50 Alt)	07:59 18:52	08:26 16:45
16	05:54 21:38	06:21 (T33) 20:56	07:17 19:54	07:36 (T50 Alt) 18:42 (T50 Alt)	08:01 18:50	08:27 16:45
17	05:55 21:37	06:22 (T33) 20:54	07:19 19:52	07:37 (T50 Alt) 18:42 (T50 Alt)	08:02 18:48	08:28 16:45
18	05:56 21:37	06:23 (T33) 20:52	07:20 19:50	07:38 (T50 Alt) 18:42 (T50 Alt)	08:04 18:46	08:29 16:45
19	05:57 21:36	06:24 (T33) 20:50	07:21 19:48	07:39 (T50 Alt) 18:41 (T50 Alt)	08:05 18:44	08:30 16:46
20	05:58 21:35	06:25 (T33) 20:49	07:23 19:46	07:40 (T50 Alt) 18:42 (T50 Alt)	08:07 18:43	08:31 16:46
21	06:00 21:34	06:26 (T33) 20:47	07:24 19:44	07:41 (T50 Alt) 18:43 (T50 Alt)	08:08 18:41	08:32 16:47
22	06:01 21:33	06:27 (T33) 20:45	07:26 19:42	07:42 (T50 Alt) 18:43 (T50 Alt)	08:10 18:39	08:33 16:47
23	06:02 21:31	06:28 (T33) 20:43	07:27 19:39	07:43 (T50 Alt) 18:44 (T50 Alt)	08:11 18:37	08:34 16:48
24	06:03 21:30	06:29 (T33) 20:41	07:29 19:37	07:44 (T50 Alt) 18:44 (T50 Alt)	08:13 18:35	08:35 16:48
25	06:04 21:29	06:30 (T33) 20:39	07:30 19:35	07:45 (T50 Alt) 18:46 (T50 Alt)	08:14 18:33	08:36 16:49
26	06:06 21:28	06:31 (T33) 20:37	07:31 19:33	07:46 (T50 Alt) 18:48 (T50 Alt)	08:16 18:32	08:37 16:49
27	06:07 21:27	06:32 (T33) 20:35	07:32 19:31	07:47 (T50 Alt) 18:51 (T50 Alt)	08:18 18:30	08:38 16:50
28	06:08 21:25	06:33 (T33) 20:33	07:33 19:29	07:48 (T50 Alt) 18:50 (T50 Alt)	08:19 18:28	08:39 16:51
29	06:09 21:24	06:34 (T33) 20:31	07:34 19:27	07:49 (T50 Alt) 18:51 (T50 Alt)	08:21 18:26	08:40 16:52
30	06:11 21:23	06:35 (T33) 20:29	07:35 19:25	07:50 (T50 Alt) 18:52 (T50 Alt)	08:23 18:25	08:41 16:53
31	06:12 21:21	06:36 (T33) 20:27	07:36 19:23	07:51 (T50 Alt) 18:53 (T50 Alt)	08:25 18:23	08:42 16:53
Potential sun hours	487	445	379	336	277	260
Total, worst case	311	359	899		340	58
Sun reduction	0.74	0.72	0.69		0.44	0.44
Oper. time red.	0.98	0.98	0.98		0.98	0.98
Wind dir. red.	0.64	0.67	0.68		0.68	0.68
Total reduction	0.47	0.47	0.46		0.29	0.29
Total, real	145	169	411		98	17

Table layout: For each day in each month the following matrix apply

Day in month	Sun rise (hh:mm)	Minutes with flicker	First time (hh:mm) with flicker	(WTG causing flicker first time)
	Sun set (hh:mm)		Last time (hh:mm) with flicker	(WTG causing flicker last time)

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SHADOW - Calendar

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, With obstacles H15, H16 & H81 Shadow receptor: H81 - Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (408)

Assumptions for shadow calculations

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

Table with columns for months (Jan-Dec) and values: 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 time

Table with columns N, NNE, ENE, E, ESE, SSE, S, SSW, WSW, W, WNW, NNW, Sum and values: 524, 474, 586, 541, 606, 835, 754, 637, 557, 1,091, 1,182, 765, 8,552

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

Main shadow calculation matrix table with columns for months (January-December) and rows for sun hours (08:32 to 17:36), Total sun hours, Total, worst case, Sun reduction, Oper. time red., Wind dir. red., Total reduction, and Total, real.

Table layout: For each day in each month the following matrix apply

Summary table with columns: Day in month, Sun rise (hh:mm), Sun set (hh:mm), Minutes with flicker, First time (hh:mm) with flicker, Last time (hh:mm) with flicker, (WTG causing flicker first time), (WTG causing flicker last time)

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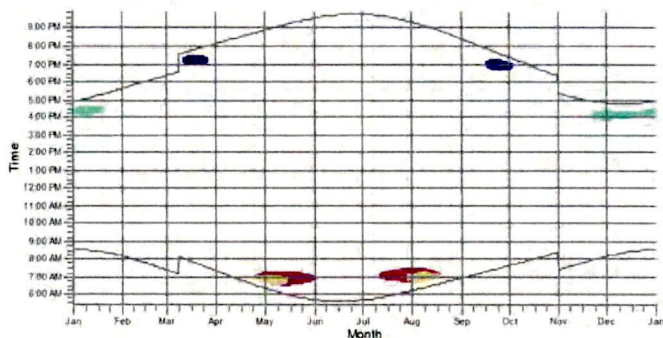
Description:
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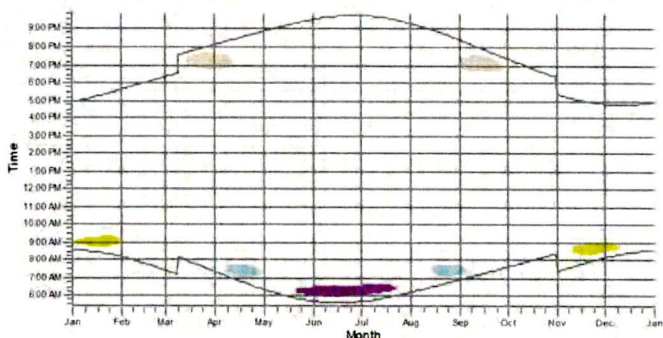
SHADOW - Calendar, graphical

Calculation: V117-3.3 91.5 HH Shadow Rev 9 w/ Alts, With obstacles H15, H16 & H81

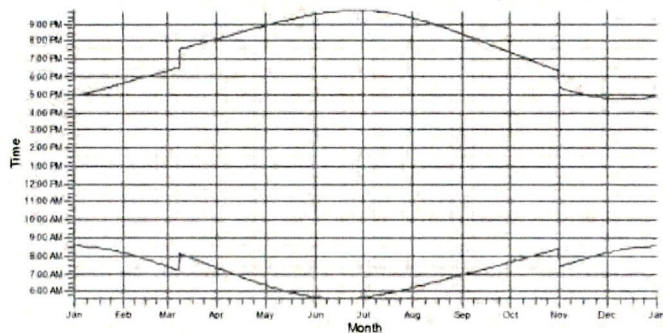
H15: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (22)



H16: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (23)



H81: Shadow Receptor: 1.0 x 1.0 Azimuth: 0.0° Slope: 90.0° (408)



WTGs

- | | | | |
|--|--|--|--|
|  T31: T31 |  T33: T33 |  T50 Alt: T50 Alt |  T58 Alt: T58 Alt |
|  T32: T32 |  T09: T09 |  T57 Alt: T57 Alt |  T59 Alt: T59 Alt |

Appendix G: windPRO Sound Analysis with No Ground Attenuation

Project:

20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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DECIBEL - Main Result

Calculation: V117-3.3 84m HH Rev 9 No Ground Attenuation

Noise calculation model:

ISO 9613-2 General

Wind speed:

95% rated power

Ground attenuation:

None

Meteorological coefficient, C0:

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 1:400,000

New WTG

Noise sensitive area

WTGs

Table with columns: UTM (north)-WGS84 Zone: 14 (East, North, Z), Row data/Description, WTG type (Valid, Manufact., Type-generator), Power, Rotor diameter, Hub height, Noise data (Creator, Name, Wind speed, Status, Lwa,ref, Pure tones). Rows T01 to T43.

To be continued on next page...

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DECIBEL - Main Result

Calculation: V117-3.3 84m HH Rev 9 No Ground Attenuation

...continued from previous page

No.	Name	UTM (north)-WGS84 Zone: 14			Imission height	Demands Noise [dB(A)]	Sound Level From WTGs [dB(A)]	Distance to noise demand [m]	Demands fulfilled ? Noise
		East	North	Z					
H33	Noise sensitive point: User defined (114)	433,417	5,386,642	489.8	1.5	50.0	34.8	3,148	Yes
H34	Noise sensitive point: User defined (115)	430,581	5,386,696	484.6	1.5	50.0	33.3	3,282	Yes
H35	Noise sensitive point: User defined (116)	428,790	5,387,073	487.7	1.5	50.0	31.2	4,064	Yes
H36	Noise sensitive point: User defined (117)	428,339	5,387,121	487.8	1.5	50.0	30.7	4,315	Yes
H37	Noise sensitive point: User defined (118)	424,038	5,388,227	476.1	1.5	50.0	25.0	7,465	Yes
H38	Noise sensitive point: User defined (119)	427,771	5,389,763	485.6	1.5	50.0	26.1	6,937	Yes
H39	Noise sensitive point: User defined (120)	426,492	5,389,606	486.3	1.5	50.0	25.5	7,325	Yes
H40	Noise sensitive point: User defined (121)	426,881	5,390,596	478.5	1.5	50.0	24.5	8,068	Yes
H41	Noise sensitive point: User defined (122)	429,239	5,390,383	484.6	1.5	50.0	26.1	7,102	Yes
H42	Noise sensitive point: User defined (123)	429,976	5,389,256	485.3	1.5	50.0	28.1	5,878	Yes
H43	Noise sensitive point: User defined (124)	431,513	5,390,474	486.5	1.5	50.0	26.9	6,972	Yes
H44	Noise sensitive point: User defined (125)	429,367	5,391,413	484.6	1.5	50.0	24.8	8,096	Yes
H45	Noise sensitive point: User defined (126)	432,691	5,390,026	492.8	1.5	50.0	27.9	6,442	Yes
H46	Noise sensitive point: User defined (127)	434,940	5,389,948	488.7	1.5	50.0	28.3	5,576	Yes
H47	Noise sensitive point: User defined (128)	434,910	5,390,254	489.5	1.5	50.0	27.7	5,882	Yes
H48	Noise sensitive point: User defined (129)	426,887	5,391,926	484.6	1.5	50.0	23.0	9,273	Yes
H49	Noise sensitive point: User defined (130)	436,271	5,390,194	493.4	1.5	50.0	27.7	5,697	Yes
H50	Noise sensitive point: User defined (131)	436,212	5,390,180	493.3	1.5	50.0	27.7	5,682	Yes
H51	Noise sensitive point: User defined (132)	436,128	5,390,182	493.0	1.5	50.0	27.7	5,684	Yes
H52	Noise sensitive point: User defined (133)	436,045	5,390,169	492.7	1.5	50.0	27.8	5,672	Yes
H53	Noise sensitive point: User defined (134)	435,952	5,390,222	492.0	1.5	50.0	27.7	5,728	Yes
H54	Noise sensitive point: User defined (135)	436,061	5,391,348	494.3	1.5	50.0	25.9	6,851	Yes
H55	Noise sensitive point: User defined (136)	436,924	5,390,748	494.9	1.5	50.0	26.6	6,246	Yes
H56	Noise sensitive point: User defined (137)	436,493	5,390,085	493.8	1.5	50.0	27.8	5,597	Yes
H57	Noise sensitive point: User defined (138)	436,955	5,390,062	494.2	1.5	50.0	27.7	5,562	Yes
H58	Noise sensitive point: User defined (139)	436,487	5,389,750	493.8	1.5	50.0	28.4	5,262	Yes
H59	Noise sensitive point: User defined (140)	436,695	5,390,178	493.8	1.5	50.0	27.6	5,705	Yes
H60	Noise sensitive point: User defined (141)	436,792	5,390,176	493.9	1.5	50.0	27.6	5,698	Yes
H61	Noise sensitive point: User defined (142)	436,761	5,390,069	493.8	1.5	50.0	27.8	5,597	Yes
H62	Noise sensitive point: User defined (143)	436,848	5,390,074	494.0	1.5	50.0	27.8	5,588	Yes
H63	Noise sensitive point: User defined (144)	436,447	5,389,149	491.4	1.5	50.0	29.6	4,660	Yes
H64	Noise sensitive point: User defined (145)	435,203	5,388,342	487.7	1.5	50.0	31.3	3,951	Yes
H65	Noise sensitive point: User defined (146)	436,340	5,387,513	487.7	1.5	50.0	33.3	3,020	Yes
H66	Noise sensitive point: User defined (147)	437,143	5,388,366	492.2	1.5	50.0	31.0	3,856	Yes
H67	Noise sensitive point: User defined (148)	437,850	5,388,298	492.1	1.5	50.0	30.8	3,750	Yes
H68	Noise sensitive point: User defined (149)	438,962	5,380,033	490.7	1.5	50.0	38.1	1,452	Yes
H69	Noise sensitive point: User defined (150)	437,832	5,375,631	496.6	1.5	50.0	31.0	4,397	Yes
H70	Noise sensitive point: User defined (151)	437,063	5,376,441	493.8	1.5	50.0	33.5	3,460	Yes
H71	Noise sensitive point: User defined (152)	426,198	5,376,299	477.3	1.5	50.0	31.1	3,589	Yes
H72	Noise sensitive point: User defined (153)	423,740	5,382,611	473.1	1.5	50.0	31.1	2,909	Yes
H73	Noise sensitive point: User defined (154)	421,712	5,385,818	484.6	1.5	50.0	24.6	6,551	Yes
H74	Noise sensitive point: User defined (155)	422,066	5,388,846	472.5	1.5	50.0	22.5	8,817	Yes
H75	Noise sensitive point: User defined (156)	431,638	5,384,520	487.7	1.5	50.0	40.7	1,187	Yes
H76	Noise sensitive point: User defined (157)	426,805	5,384,667	485.2	1.5	50.0	33.7	3,040	Yes
H77	Noise sensitive point: User defined (158)	433,190	5,389,038	493.8	1.5	50.0	29.7	5,371	Yes
H78	Noise sensitive point: User defined (159)	436,125	5,384,612	492.2	1.5	50.0	47.7	117	Yes
H79	Noise sensitive point: User defined (160)	437,120	5,384,628	484.8	1.5	50.0	46.0	357	Yes
H80	Noise sensitive point: User defined (161)	431,362	5,379,742	479.8	1.5	50.0	48.9	165	Yes
H81	Noise sensitive point: User defined (162)	437,190	5,383,550	484.6	1.5	50.0	51.0	-295	No

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DECIBEL - Main Result
Calculation: V117-3.3 84m HH Rev 9 No Ground Attenuation

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Table with columns for WTG (NSA, T46-T02) and rows for various turbine configurations (H46-H81).

Table with columns for WTG (NSA, T05-T23) and rows for various turbine configurations (H01-H22).

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WTG

Table with columns: NSA, T05, T04, T48 Alt, T49 Alt, T50 Alt, T51 Alt, T52 Alt, T53 Alt, T54 Alt, T55 Alt, T56 Alt, T57 Alt, T58 Alt, T59 Alt, T23. Rows include turbine identifiers (H23-H78) and corresponding decibel values.

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DECIBEL - Main Result

Calculation: V117-3.3 84m HH Rev 9 No Ground Attenuation

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WTG

NSA	T05	T04	T48 Alt	T49 Alt	T50 Alt	T51 Alt	T52 Alt	T53 Alt	T54 Alt	T55 Alt	T56 Alt	T57 Alt	T58 Alt	T59 Alt	T23
H79	8910	9469	811	744	4232	4778	9739	10596	9146	7771	1846	7189	5099	4681	4576
H80	2512	3702	7378	7793	3485	3007	2716	3743	2012	1381	5738	2375	3469	3719	2996
H81	8568	9248	437	866	3885	4422	9320	10230	8689	7355	1308	6927	4954	4549	3970

Appendix H: windPRO Sound Analysis with Alternative Ground Attenuation

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DECIBEL - Main Result

Calculation: V117-3.3 84m HH Rev 9 Alt Ground Attenuation

Noise calculation model:

ISO 9613-2 General

Wind speed:

95% rated power

Ground attenuation:

Alternative

Meteorological coefficient, C0:

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)

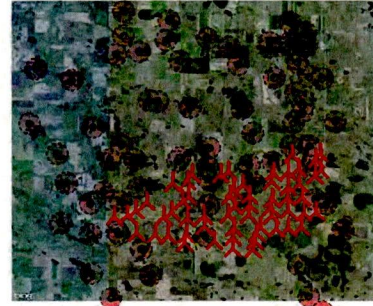
Pure tones:

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 1:400,000

New WTG

Noise sensitive area

WTGs

Table with columns: UTM (north)-WGS84 Zone: 14 (East, North, Z, Row), WTG type (Valid, Manufact., Type-generator), Noise data (Power, Rotor diameter, Hub height, Creator, Name, Wind speed, Status, Lwa.ref, Pure tones). Rows T01 to T43.

To be continued on next page...

Project:

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DECIBEL - Main Result**Calculation: V117-3.3 84m HH Rev 9 Alt Ground Attenuation**

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UTM (north)-WGS84 Zone: 14				WTG type			Noise data				Wind speed	Status	LwA,ref	Pure tones	
East	North	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Creator	Name	[m/s]		[dB(A)]	
T44	437,401	5,383,031	484.6 T44	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T45	437,748	5,383,328	484.6 T45	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T46	436,528	5,383,414	491.2 T46	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T47	436,146	5,384,176	493.8 T47	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T48 Alt	437,462	5,383,893	484.9 T48 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T49 Alt	437,741	5,384,219	486.5 T49 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T50 Alt	433,440	5,382,540	491.0 T50 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T51 Alt	432,950	5,382,296	487.7 T51 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T52 Alt	428,647	5,379,825	484.6 T52 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T53 Alt	427,624	5,379,928	487.7 T53 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T54 Alt	429,351	5,379,803	481.6 T54 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T55 Alt	430,397	5,380,730	475.9 T55 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T56 Alt	435,924	5,383,222	484.6 T56 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T57 Alt	430,454	5,381,937	481.6 T57 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T58 Alt	432,258	5,383,093	481.6 T58 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T59 Alt	432,653	5,383,230	479.6 T59 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h

h) Generic octave distribution used

Calculation Results**Sound Level**

Noise sensitive area		UTM (north)-WGS84 Zone: 14			Demands	Sound Level		Demands fulfilled ?	
No.	Name	East	North	Z	mission height	Noise	From WTGs	Distance to noise demand	Noise
				[m]	[m]	[dB(A)]	[dB(A)]	[m]	
H01	Noise sensitive point: User defined (82)	425,103	5,377,690	482.7	1.5	50.0	27.7	3,076	Yes
H02	Noise sensitive point: User defined (83)	425,068	5,379,854	474.1	1.5	50.0	32.4	1,359	Yes
H03	Noise sensitive point: User defined (84)	426,643	5,379,805	491.7	1.5	50.0	39.7	691	Yes
H04	Noise sensitive point: User defined (85)	426,549	5,379,974	491.0	1.5	50.0	40.5	559	Yes
H05	Noise sensitive point: User defined (86)	427,874	5,379,000	474.0	1.5	50.0	39.2	668	Yes
H06	Noise sensitive point: User defined (87)	428,371	5,377,613	488.9	1.5	50.0	33.0	1,932	Yes
H07	Noise sensitive point: User defined (88)	436,489	5,378,172	496.8	1.5	50.0	34.9	1,754	Yes
H08	Noise sensitive point: User defined (89)	437,470	5,377,901	494.2	1.5	50.0	32.2	2,157	Yes
H09	Noise sensitive point: User defined (90)	423,456	5,380,441	468.5	1.5	50.0	26.8	2,682	Yes
H10	Noise sensitive point: User defined (91)	425,063	5,381,519	490.7	1.5	50.0	33.1	1,222	Yes
H11	Noise sensitive point: User defined (92)	425,794	5,382,095	484.6	1.5	50.0	34.7	1,121	Yes
H12	Noise sensitive point: User defined (93)	426,747	5,381,621	488.2	1.5	50.0	41.8	489	Yes
H13	Noise sensitive point: User defined (94)	427,710	5,382,364	484.6	1.5	50.0	39.6	600	Yes
H14	Noise sensitive point: User defined (95)	431,600	5,381,428	480.6	1.5	50.0	44.5	314	Yes
H15	Noise sensitive point: User defined (96)	431,525	5,382,848	481.6	1.5	50.0	43.2	468	Yes
H16	Noise sensitive point: User defined (97)	434,082	5,382,575	494.6	1.5	50.0	45.6	313	Yes
H17	Noise sensitive point: User defined (98)	437,449	5,381,736	489.6	1.5	50.0	44.2	396	Yes
H18	Noise sensitive point: User defined (99)	438,036	5,381,480	487.7	1.5	50.0	41.7	404	Yes
H19	Noise sensitive point: User defined (100)	435,083	5,383,732	482.5	1.5	50.0	44.6	242	Yes
H20	Noise sensitive point: User defined (101)	433,814	5,383,618	481.3	1.5	50.0	40.7	825	Yes
H21	Noise sensitive point: User defined (102)	431,519	5,383,509	482.5	1.5	50.0	41.7	542	Yes
H22	Noise sensitive point: User defined (103)	429,988	5,383,991	485.4	1.5	50.0	38.2	821	Yes
H23	Noise sensitive point: User defined (104)	429,842	5,383,799	486.0	1.5	50.0	39.0	774	Yes
H24	Noise sensitive point: User defined (105)	426,110	5,383,888	484.6	1.5	50.0	29.9	2,769	Yes
H25	Noise sensitive point: User defined (106)	427,520	5,383,912	487.7	1.5	50.0	32.5	2,114	Yes
H26	Noise sensitive point: User defined (107)	423,216	5,384,199	475.5	1.5	50.0	23.7	4,357	Yes
H27	Noise sensitive point: User defined (108)	425,207	5,385,626	484.6	1.5	50.0	25.1	4,662	Yes
H28	Noise sensitive point: User defined (109)	434,037	5,385,350	487.7	1.5	50.0	34.3	2,121	Yes
H29	Noise sensitive point: User defined (110)	436,241	5,385,900	487.5	1.5	50.0	34.3	1,432	Yes
H30	Noise sensitive point: User defined (111)	436,720	5,386,461	487.7	1.5	50.0	32.1	2,061	Yes
H31	Noise sensitive point: User defined (112)	438,532	5,385,959	492.7	1.5	50.0	31.8	1,614	Yes
H32	Noise sensitive point: User defined (113)	436,777	5,386,821	487.7	1.5	50.0	30.8	2,425	Yes

To be continued on next page...

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20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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DECIBEL - Main Result

Calculation: V117-3.3 84m HH Rev 9 Alt Ground Attenuation

...continued from previous page

Noise sensitive area		UTM (north)-WGS84 Zone: 14			Demands	Sound Level	Demands fulfilled ?		
No.	Name	East	North	Z	Imission height	Noise	From WTGs	Distance to noise demand	Noise
				[m]	[m]	[dB(A)]	[dB(A)]	[m]	
H33	Noise sensitive point: User defined (114)	433,417	5,386,642	489.8	1.5	50.0	30.3	3,190	Yes
H34	Noise sensitive point: User defined (115)	430,581	5,386,696	484.6	1.5	50.0	28.8	3,312	Yes
H35	Noise sensitive point: User defined (116)	428,790	5,387,073	487.7	1.5	50.0	26.7	4,101	Yes
H36	Noise sensitive point: User defined (117)	428,339	5,387,121	487.8	1.5	50.0	26.2	4,350	Yes
H37	Noise sensitive point: User defined (118)	424,038	5,388,227	476.1	1.5	50.0	20.2	7,486	Yes
H38	Noise sensitive point: User defined (119)	427,771	5,389,763	485.6	1.5	50.0	21.5	6,974	Yes
H39	Noise sensitive point: User defined (120)	426,492	5,389,606	486.3	1.5	50.0	20.8	7,355	Yes
H40	Noise sensitive point: User defined (121)	426,881	5,390,596	478.5	1.5	50.0	19.8	8,103	Yes
H41	Noise sensitive point: User defined (122)	429,239	5,390,383	484.6	1.5	50.0	21.5	7,134	Yes
H42	Noise sensitive point: User defined (123)	429,976	5,389,256	485.3	1.5	50.0	23.5	5,910	Yes
H43	Noise sensitive point: User defined (124)	431,513	5,390,474	486.5	1.5	50.0	22.3	7,021	Yes
H44	Noise sensitive point: User defined (125)	429,367	5,391,413	484.6	1.5	50.0	20.2	8,128	Yes
H45	Noise sensitive point: User defined (126)	432,691	5,390,026	492.8	1.5	50.0	23.3	6,487	Yes
H46	Noise sensitive point: User defined (127)	434,940	5,389,948	488.7	1.5	50.0	23.7	5,603	Yes
H47	Noise sensitive point: User defined (128)	434,910	5,390,254	489.5	1.5	50.0	23.1	5,909	Yes
H48	Noise sensitive point: User defined (129)	426,887	5,391,926	484.6	1.5	50.0	18.3	9,310	Yes
H49	Noise sensitive point: User defined (130)	436,271	5,390,194	493.4	1.5	50.0	23.1	5,725	Yes
H50	Noise sensitive point: User defined (131)	436,212	5,390,180	493.3	1.5	50.0	23.1	5,710	Yes
H51	Noise sensitive point: User defined (132)	436,128	5,390,182	493.0	1.5	50.0	23.1	5,712	Yes
H52	Noise sensitive point: User defined (133)	436,045	5,390,169	492.7	1.5	50.0	23.2	5,700	Yes
H53	Noise sensitive point: User defined (134)	435,952	5,390,222	492.0	1.5	50.0	23.1	5,756	Yes
H54	Noise sensitive point: User defined (135)	436,061	5,391,348	494.3	1.5	50.0	21.3	6,879	Yes
H55	Noise sensitive point: User defined (136)	436,924	5,390,748	494.9	1.5	50.0	22.0	6,277	Yes
H56	Noise sensitive point: User defined (137)	436,493	5,390,085	493.8	1.5	50.0	23.2	5,625	Yes
H57	Noise sensitive point: User defined (138)	436,955	5,390,062	494.2	1.5	50.0	23.1	5,593	Yes
H58	Noise sensitive point: User defined (139)	436,487	5,389,750	493.8	1.5	50.0	23.8	5,290	Yes
H59	Noise sensitive point: User defined (140)	436,695	5,390,178	493.8	1.5	50.0	23.0	5,733	Yes
H60	Noise sensitive point: User defined (141)	436,792	5,390,176	493.9	1.5	50.0	23.0	5,729	Yes
H61	Noise sensitive point: User defined (142)	436,761	5,390,069	493.8	1.5	50.0	23.2	5,628	Yes
H62	Noise sensitive point: User defined (143)	436,848	5,390,074	494.0	1.5	50.0	23.2	5,619	Yes
H63	Noise sensitive point: User defined (144)	436,447	5,389,149	491.4	1.5	50.0	25.0	4,688	Yes
H64	Noise sensitive point: User defined (145)	435,203	5,388,342	487.7	1.5	50.0	26.8	3,978	Yes
H65	Noise sensitive point: User defined (146)	436,340	5,387,513	487.7	1.5	50.0	28.8	3,048	Yes
H66	Noise sensitive point: User defined (147)	437,143	5,388,366	492.2	1.5	50.0	26.5	3,887	Yes
H67	Noise sensitive point: User defined (148)	437,850	5,388,298	492.1	1.5	50.0	26.2	3,777	Yes
H68	Noise sensitive point: User defined (149)	438,962	5,380,033	490.7	1.5	50.0	33.9	1,475	Yes
H69	Noise sensitive point: User defined (150)	437,832	5,375,631	496.6	1.5	50.0	26.5	4,435	Yes
H70	Noise sensitive point: User defined (151)	437,063	5,376,441	493.8	1.5	50.0	29.1	3,499	Yes
H71	Noise sensitive point: User defined (152)	426,198	5,376,299	477.3	1.5	50.0	26.3	3,607	Yes
H72	Noise sensitive point: User defined (153)	423,740	5,382,611	473.1	1.5	50.0	26.6	2,924	Yes
H73	Noise sensitive point: User defined (154)	421,712	5,385,818	484.6	1.5	50.0	20.0	6,566	Yes
H74	Noise sensitive point: User defined (155)	422,066	5,388,846	472.5	1.5	50.0	17.9	8,832	Yes
H75	Noise sensitive point: User defined (156)	431,638	5,384,520	487.7	1.5	50.0	36.6	1,240	Yes
H76	Noise sensitive point: User defined (157)	426,805	5,384,667	485.2	1.5	50.0	29.3	3,067	Yes
H77	Noise sensitive point: User defined (158)	433,190	5,389,038	493.8	1.5	50.0	25.1	5,394	Yes
H78	Noise sensitive point: User defined (159)	436,125	5,384,612	492.2	1.5	50.0	45.7	145	Yes
H79	Noise sensitive point: User defined (160)	437,120	5,384,628	484.8	1.5	50.0	42.7	420	Yes
H80	Noise sensitive point: User defined (161)	431,362	5,379,742	479.8	1.5	50.0	46.1	255	Yes
H81	Noise sensitive point: User defined (162)	437,190	5,383,550	484.6	1.5	50.0	48.8	84	Yes

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DECIBEL - Main Result

Calculation: V117-3.3 84m HH Rev 9 Alt Ground Attenuation

Table with columns for Distances (m) and WTG (H01-H64) and rows for NSA (T22-T39). The table contains a grid of numerical values representing decibel attenuation for each distance and tower combination.

To be continued on next page...

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Calculation: V117-3.3 84m HH Rev 9 Alt Ground Attenuation

...continued from previous page

Table with columns: WTG, NSA, T22, T31, T30, T24, T21, T27, T26, T37, T38, T07, T29, T36, T28, T34, T35, T19, T40, T42, T41, T43, T44, T39. Rows include data for towers H65 through H81.

Table with columns: WTG, NSA, T46, T18, T16, T17, T45, T25, T20, T14, T12, T11, T32, T47, T33, T09, T03, T10, T06, T08, T13, T01, T15, T02. Rows include data for towers H01 through H45.

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DECIBEL - Main Result

Calculation: V117-3.3 84m HH Rev 9 Alt Ground Attenuation

...continued from previous page

Table with columns: WTG, NSA, T05, T04, T48 Alt, T49 Alt, T50 Alt, T51 Alt, T52 Alt, T53 Alt, T54 Alt, T55 Alt, T56 Alt, T57 Alt, T58 Alt, T59 Alt, T23. Rows include turbine models H23 through H78.

To be continued on next page...

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DECIBEL - Main Result

Calculation: V117-3.3 84m HH Rev 9 Alt Ground Attenuation

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WTG

NSA	T05	T04	T48 Alt	T49 Alt	T50 Alt	T51 Alt	T52 Alt	T53 Alt	T54 Alt	T55 Alt	T56 Alt	T57 Alt	T58 Alt	T59 Alt	T23
H79	8910	9469	811	744	4232	4778	9739	10596	9146	7771	1846	7189	5099	4681	4576
H80	2512	3702	7378	7793	3485	3007	2716	3743	2012	1381	5738	2375	3469	3719	2996
H81	8568	9248	437	866	3885	4422	9320	10230	8689	7355	1308	6927	4954	4549	3970

Appendix I: windPRO Sound Analysis with General Ground Attenuation

Project:
20131290 Rolette Power Development

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DECIBEL - Main Result

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation

Noise calculation model:

ISO 9613-2 General

Wind speed:

95% rated power

Ground attenuation:

General, Ground factor: 0.7

Meteorological coefficient, C0:

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

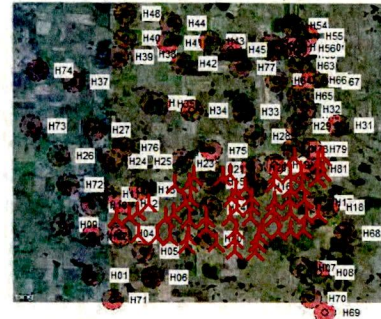
Height above ground level, when no value in NSA object:

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 1:400,000

New WTG

Noise sensitive area

WTGs

	UTM (north)-WGS84 Zone: 14			Row data/Description	Valid	WTG type	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Noise data		Wind speed [m/s]	Status	Lwa,ref [dB(A)]	Pure tones
	East	North	Z									Creator	Name				
T01	426,404	5,380,816	490.7	T01	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T02	427,088	5,380,888	490.7	T02	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T03	427,532	5,381,154	490.6	T03	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T04	428,153	5,381,587	484.6	T04	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T05	429,079	5,380,790	481.6	T05	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T06	429,560	5,381,041	481.6	T06	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T07	430,155	5,381,640	478.5	T07	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T08	429,579	5,382,607	487.7	T08	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T09	430,407	5,382,722	496.8	T09	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T10	430,657	5,383,084	491.0	T10	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T11	430,242	5,379,390	490.7	T11	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T12	430,379	5,379,847	480.0	T12	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T13	431,335	5,380,312	481.2	T13	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T14	431,340	5,380,862	481.6	T14	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T15	431,891	5,379,497	484.6	T15	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T16	432,876	5,379,052	496.9	T16	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T17	432,886	5,379,665	487.7	T17	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T18	432,945	5,380,204	489.6	T18	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T19	432,633	5,380,904	496.8	T19	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T20	432,985	5,381,379	499.9	T20	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T21	432,753	5,381,916	493.8	T21	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T22	433,787	5,380,903	516.3	T22	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T23	433,809	5,381,470	515.1	T23	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T24	433,830	5,381,961	512.1	T24	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T25	434,026	5,379,018	527.3	T25	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T26	434,112	5,379,482	520.4	T26	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T27	434,209	5,379,879	512.1	T27	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T28	434,398	5,380,261	515.1	T28	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T29	435,048	5,380,847	518.2	T29	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T30	434,970	5,381,321	525.3	T30	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T31	435,093	5,381,756	514.4	T31	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T32	435,029	5,382,733	490.7	T32	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T33	435,153	5,383,180	487.7	T33	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T34	435,280	5,380,120	499.8	T34	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T35	435,948	5,380,198	493.8	T35	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T36	435,940	5,381,153	497.4	T36	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T37	435,892	5,381,871	496.8	T37	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T38	435,956	5,382,432	496.8	T38	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T39	436,670	5,380,219	493.8	T39	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T40	436,795	5,381,008	493.8	T40	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T41	437,500	5,381,035	490.7	T41	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T42	436,705	5,381,860	496.8	T42	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T43	436,544	5,382,577	486.6	T43	Yes	VESTAS	V117-3.3	GridStreame-3,300	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
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DECIBEL - Main Result

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation

...continued from previous page

UTM (north)-WGS84 Zone: 14				WTG type			Noise data				Wind	Status	LwA,ref	Pure	
East	North	Z	Row data/Description	Valid	Manufact.	Type-generator	Power, rated [kW]	Rotor diameter [m]	Hub height [m]	Creator	Name	speed [m/s]		[dB(A)]	tones
T44	437,401	5,383,031	484.6 T44	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T45	437,748	5,383,328	484.6 T45	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T46	436,528	5,383,414	491.2 T46	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T47	436,146	5,384,176	493.8 T47	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T48 Alt	437,462	5,383,893	484.9 T48 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T49 Alt	437,741	5,384,219	486.5 T49 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T50 Alt	433,440	5,382,540	491.0 T50 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T51 Alt	432,950	5,382,296	487.7 T51 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T52 Alt	428,647	5,379,825	484.6 T52 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T53 Alt	427,624	5,379,928	487.7 T53 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T54 Alt	429,351	5,379,803	481.6 T54 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T55 Alt	430,397	5,380,730	475.9 T55 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T56 Alt	435,924	5,383,222	484.6 T56 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T57 Alt	430,454	5,381,937	481.6 T57 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T58 Alt	432,258	5,383,093	481.6 T58 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h
T59 Alt	432,653	5,383,230	479.6 T59 Alt	Yes	VESTAS	V117-3.3 GridStream	3,300	117.0	84.0	USER	Revised Sound	(95%)	User value	108.5	0 dB h

h) Generic octave distribution used

Calculation Results

Sound Level

Noise sensitive area		UTM (north)-WGS84 Zone: 14			Demands	Sound Level	Demands fulfilled ?		
No.	Name	East	North	Z	Imission height	Noise	From WTGs	Distance to noise demand	Noise
				[m]	[m]	[dB(A)]	[dB(A)]	[m]	
H01	Noise sensitive point: User defined (82)	425,103	5,377,690	482.7	1.5	50.0	28.1	3,186	Yes
H02	Noise sensitive point: User defined (83)	425,068	5,379,854	474.1	1.5	50.0	32.0	1,462	Yes
H03	Noise sensitive point: User defined (84)	426,643	5,379,805	491.7	1.5	50.0	38.7	798	Yes
H04	Noise sensitive point: User defined (85)	426,549	5,379,974	491.0	1.5	50.0	39.3	664	Yes
H05	Noise sensitive point: User defined (86)	427,874	5,379,000	474.0	1.5	50.0	38.2	778	Yes
H06	Noise sensitive point: User defined (87)	428,371	5,377,613	488.9	1.5	50.0	32.7	2,040	Yes
H07	Noise sensitive point: User defined (88)	436,489	5,378,172	496.8	1.5	50.0	34.4	1,860	Yes
H08	Noise sensitive point: User defined (89)	437,470	5,377,901	494.2	1.5	50.0	32.1	2,260	Yes
H09	Noise sensitive point: User defined (90)	423,456	5,380,441	468.5	1.5	50.0	27.3	2,786	Yes
H10	Noise sensitive point: User defined (91)	425,063	5,381,519	490.7	1.5	50.0	32.6	1,333	Yes
H11	Noise sensitive point: User defined (92)	425,794	5,382,095	484.6	1.5	50.0	34.1	1,232	Yes
H12	Noise sensitive point: User defined (93)	426,747	5,381,621	488.2	1.5	50.0	40.6	608	Yes
H13	Noise sensitive point: User defined (94)	427,710	5,382,364	484.6	1.5	50.0	38.6	709	Yes
H14	Noise sensitive point: User defined (95)	431,600	5,381,428	480.6	1.5	50.0	43.2	429	Yes
H15	Noise sensitive point: User defined (96)	431,525	5,382,848	481.6	1.5	50.0	42.0	576	Yes
H16	Noise sensitive point: User defined (97)	434,082	5,382,575	494.6	1.5	50.0	44.3	429	Yes
H17	Noise sensitive point: User defined (98)	437,449	5,381,736	489.6	1.5	50.0	42.9	510	Yes
H18	Noise sensitive point: User defined (99)	438,036	5,381,480	487.7	1.5	50.0	40.5	511	Yes
H19	Noise sensitive point: User defined (100)	435,083	5,383,732	482.5	1.5	50.0	43.0	355	Yes
H20	Noise sensitive point: User defined (101)	433,814	5,383,618	481.3	1.5	50.0	39.9	938	Yes
H21	Noise sensitive point: User defined (102)	431,519	5,383,509	482.5	1.5	50.0	40.6	652	Yes
H22	Noise sensitive point: User defined (103)	429,988	5,383,991	485.4	1.5	50.0	37.4	935	Yes
H23	Noise sensitive point: User defined (104)	429,842	5,383,799	486.0	1.5	50.0	38.2	887	Yes
H24	Noise sensitive point: User defined (105)	426,110	5,383,888	484.6	1.5	50.0	30.0	2,887	Yes
H25	Noise sensitive point: User defined (106)	427,520	5,383,912	487.7	1.5	50.0	32.2	2,219	Yes
H26	Noise sensitive point: User defined (107)	423,216	5,384,199	475.5	1.5	50.0	24.9	4,462	Yes
H27	Noise sensitive point: User defined (108)	425,207	5,385,626	484.6	1.5	50.0	26.1	4,767	Yes
H28	Noise sensitive point: User defined (109)	434,037	5,385,350	487.7	1.5	50.0	34.0	2,228	Yes
H29	Noise sensitive point: User defined (110)	436,241	5,385,900	487.5	1.5	50.0	33.9	1,538	Yes
H30	Noise sensitive point: User defined (111)	436,720	5,386,461	487.7	1.5	50.0	31.9	2,171	Yes
H31	Noise sensitive point: User defined (112)	438,532	5,385,959	492.7	1.5	50.0	32.0	1,718	Yes
H32	Noise sensitive point: User defined (113)	436,777	5,386,821	487.7	1.5	50.0	30.8	2,534	Yes

To be continued on next page...

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DECIBEL - Main Result

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation

...continued from previous page

No.	Name	UTM (north)-WGS84 Zone: 14			Emission height	Demands Noise [dB(A)]	Sound Level From WTGs [dB(A)]	Distance to noise demand [m]	Demands fulfilled ? Noise
		East	North	Z					
H33	Noise sensitive point: User defined (114)	433,417	5,386,642	489.8	1.5	50.0	30.6	3,299	Yes
H34	Noise sensitive point: User defined (115)	430,581	5,386,696	484.6	1.5	50.0	29.3	3,418	Yes
H35	Noise sensitive point: User defined (116)	428,790	5,387,073	487.7	1.5	50.0	27.5	4,210	Yes
H36	Noise sensitive point: User defined (117)	428,339	5,387,121	487.8	1.5	50.0	27.1	4,462	Yes
H37	Noise sensitive point: User defined (118)	424,038	5,388,227	476.1	1.5	50.0	22.4	7,590	Yes
H38	Noise sensitive point: User defined (119)	427,771	5,389,763	485.6	1.5	50.0	23.4	7,081	Yes
H39	Noise sensitive point: User defined (120)	426,492	5,389,606	486.3	1.5	50.0	22.9	7,464	Yes
H40	Noise sensitive point: User defined (121)	426,881	5,390,596	478.5	1.5	50.0	22.1	8,213	Yes
H41	Noise sensitive point: User defined (122)	429,239	5,390,383	484.6	1.5	50.0	23.4	7,245	Yes
H42	Noise sensitive point: User defined (123)	429,976	5,389,256	485.3	1.5	50.0	25.0	6,016	Yes
H43	Noise sensitive point: User defined (124)	431,513	5,390,474	486.5	1.5	50.0	24.0	7,133	Yes
H44	Noise sensitive point: User defined (125)	429,367	5,391,413	484.6	1.5	50.0	22.4	8,237	Yes
H45	Noise sensitive point: User defined (126)	432,691	5,390,026	492.8	1.5	50.0	24.8	6,594	Yes
H46	Noise sensitive point: User defined (127)	434,940	5,389,948	488.7	1.5	50.0	25.1	5,711	Yes
H47	Noise sensitive point: User defined (128)	434,910	5,390,124	489.5	1.5	50.0	24.7	6,017	Yes
H48	Noise sensitive point: User defined (129)	426,887	5,391,926	484.6	1.5	50.0	21.0	9,418	Yes
H49	Noise sensitive point: User defined (130)	436,271	5,390,194	493.4	1.5	50.0	24.6	5,831	Yes
H50	Noise sensitive point: User defined (131)	436,212	5,390,180	493.3	1.5	50.0	24.6	5,816	Yes
H51	Noise sensitive point: User defined (132)	436,128	5,390,182	493.0	1.5	50.0	24.7	5,818	Yes
H52	Noise sensitive point: User defined (133)	436,045	5,390,169	492.7	1.5	50.0	24.7	5,806	Yes
H53	Noise sensitive point: User defined (134)	435,952	5,390,222	492.0	1.5	50.0	24.6	5,862	Yes
H54	Noise sensitive point: User defined (135)	436,061	5,391,348	494.3	1.5	50.0	23.2	6,985	Yes
H55	Noise sensitive point: User defined (136)	436,924	5,390,748	494.9	1.5	50.0	23.7	6,387	Yes
H56	Noise sensitive point: User defined (137)	436,493	5,390,085	493.8	1.5	50.0	24.7	5,731	Yes
H57	Noise sensitive point: User defined (138)	436,955	5,390,062	494.2	1.5	50.0	24.6	5,703	Yes
H58	Noise sensitive point: User defined (139)	436,487	5,389,750	493.8	1.5	50.0	25.2	5,396	Yes
H59	Noise sensitive point: User defined (140)	436,695	5,390,178	493.8	1.5	50.0	24.5	5,839	Yes
H60	Noise sensitive point: User defined (141)	436,792	5,390,176	493.9	1.5	50.0	24.5	5,838	Yes
H61	Noise sensitive point: User defined (142)	436,761	5,390,069	493.8	1.5	50.0	24.7	5,737	Yes
H62	Noise sensitive point: User defined (143)	436,848	5,390,074	494.0	1.5	50.0	24.6	5,729	Yes
H63	Noise sensitive point: User defined (144)	436,447	5,389,149	491.4	1.5	50.0	26.1	4,794	Yes
H64	Noise sensitive point: User defined (145)	435,203	5,388,342	487.7	1.5	50.0	27.6	4,085	Yes
H65	Noise sensitive point: User defined (146)	436,340	5,387,513	487.7	1.5	50.0	29.2	3,154	Yes
H66	Noise sensitive point: User defined (147)	437,143	5,388,366	492.2	1.5	50.0	27.2	3,997	Yes
H67	Noise sensitive point: User defined (148)	437,850	5,388,298	492.1	1.5	50.0	27.0	3,884	Yes
H68	Noise sensitive point: User defined (149)	438,962	5,380,033	490.7	1.5	50.0	33.5	1,584	Yes
H69	Noise sensitive point: User defined (150)	437,832	5,375,631	496.6	1.5	50.0	27.4	4,540	Yes
H70	Noise sensitive point: User defined (151)	437,063	5,376,441	493.8	1.5	50.0	29.5	3,608	Yes
H71	Noise sensitive point: User defined (152)	426,198	5,376,299	477.3	1.5	50.0	27.3	3,712	Yes
H72	Noise sensitive point: User defined (153)	423,740	5,382,611	473.1	1.5	50.0	27.2	3,028	Yes
H73	Noise sensitive point: User defined (154)	421,712	5,385,818	484.6	1.5	50.0	22.1	6,672	Yes
H74	Noise sensitive point: User defined (155)	422,066	5,388,846	472.5	1.5	50.0	20.5	8,943	Yes
H75	Noise sensitive point: User defined (156)	431,638	5,384,520	487.7	1.5	50.0	36.0	1,352	Yes
H76	Noise sensitive point: User defined (157)	426,805	5,384,667	485.2	1.5	50.0	29.6	3,175	Yes
H77	Noise sensitive point: User defined (158)	433,190	5,389,038	493.8	1.5	50.0	26.3	5,505	Yes
H78	Noise sensitive point: User defined (159)	436,125	5,384,612	492.2	1.5	50.0	43.4	251	Yes
H79	Noise sensitive point: User defined (160)	437,120	5,384,628	484.8	1.5	50.0	41.4	540	Yes
H80	Noise sensitive point: User defined (161)	431,362	5,379,742	479.8	1.5	50.0	44.4	372	Yes
H81	Noise sensitive point: User defined (162)	437,190	5,383,550	484.6	1.5	50.0	46.7	224	Yes

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DECIBEL - Main Result

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WTG

Table with columns NSA, T22, T31, T30, T24, T21, T27, T26, T37, T38, T07, T29, T36, T28, T34, T35, T19, T40, T42, T41, T43, T44, T39. Rows include data for WTG H65 through H81.

WTG

Table with columns NSA, T46, T18, T16, T17, T45, T25, T20, T14, T12, T11, T32, T47, T33, T09, T03, T10, T06, T08, T13, T01, T15, T02. Rows include data for WTG H01 through H45.

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...continued from previous page

WTG

NSA	T05	T04	T48 Alt	T49 Alt	T50 Alt	T51 Alt	T52 Alt	T53 Alt	T54 Alt	T55 Alt	T56 Alt	T57 Alt	T58 Alt	T59 Alt	T23
H23	3104	2783	7620	7910	3812	3453	4149	4462	4026	3119	6110	1960	2517	2868	4600
H24	4291	3077	11352	11636	7453	7023	4790	4239	5214	5325	9837	4762	6199	6576	8070
H25	3490	2410	9942	10226	6077	5666	4239	3985	4498	4290	8433	3537	4808	5178	6746
H26	6782	5585	14249	14525	10357	9919	6973	6138	7547	7975	12746	7584	9109	9487	10939
H27	6195	4999	12377	12613	8792	8429	6744	6189	7147	7135	10984	6414	7492	7822	9553
H28	6736	6985	3722	3873	2873	3242	7718	8398	7262	5881	2845	4948	2874	2532	3887
H29	8798	9166	2349	2253	4375	4881	9725	10484	9201	7802	2697	7014	4873	4472	5054
H30	9516	9857	2673	2464	5112	5618	10450	11199	9932	8533	3336	7728	5590	5194	5778
H31	10774	11262	2327	1912	6134	6676	11633	12465	11054	9670	3781	9024	6898	6482	6516
H32	9779	10088	3007	2775	5428	5926	10725	11458	10218	8820	3699	7990	5858	5468	6119
H33	7285	7298	4891	4957	4102	4371	8320	8868	7957	6638	4241	5560	3733	3496	5187
H34	6094	5657	7430	7576	5044	4998	7138	7386	7002	5969	6374	4761	3974	4038	6143
H35	6290	5523	9237	9395	6494	6335	7249	7240	7292	6543	8107	5399	5279	5449	7522
H36	6374	5537	9677	9840	6856	6674	7302	7228	7388	6714	8529	5599	5620	5810	7865
H37	8984	7812	14106	14277	10988	10706	9583	9040	9959	9831	12897	8985	9692	9959	11880
H38	9068	8185	11330	11408	9182	9088	9976	9836	10085	9407	10453	8273	8039	8156	10258
H39	9188	8189	12368	12472	9910	9754	10015	9744	10211	9697	11390	8632	8699	8866	10942
H40	10049	9098	12525	12594	10388	10283	10915	10694	11072	10474	11669	9368	9231	9358	11458
H41	9594	8863	10476	10502	8897	8898	10574	10579	10581	9722	9797	8533	7890	7926	10016
H42	8513	7883	9209	9256	7557	7569	9524	9620	9474	8536	8473	7335	6572	6594	8678
H43	9985	9501	8871	8827	8165	8304	11028	11240	10888	9808	8489	8603	7419	7333	9292
H44	10627	9901	11049	11040	9763	9796	11610	11617	11610	10732	10493	9538	8808	8818	10890
H45	9917	9582	7770	7696	7524	7735	10973	11298	10755	9575	7534	8393	6947	6796	8629
H46	10873	10769	6560	6377	7559	7907	11919	12407	11583	10276	6798	9182	7361	7097	8553
H47	11116	10990	6854	6666	7853	8196	12165	12638	11838	10539	7105	9436	7636	7378	8853
H48	11350	10416	13280	13312	11447	11380	12228	12021	12371	11733	12547	10607	10338	10434	12540
H49	11839	11832	6413	6153	8161	8568	12870	13423	12485	11138	6981	10100	8157	7848	9065
H50	11792	11781	6410	6154	8128	8532	12824	13374	12440	11095	6964	10055	8115	7808	9035
H51	11743	11725	6429	6178	8101	8502	12776	13322	12396	11053	6963	10009	8077	7772	9015
H52	11683	11659	6434	6187	8062	8460	12717	13259	12340	10999	6948	9951	8026	7724	8982
H53	11671	11636	6507	6264	8083	8476	12706	13241	12334	10998	7000	9943	8029	7731	9011
H54	12658	12563	7586	7325	9190	9572	13702	14199	13353	12034	8128	10955	9089	8804	10131
H55	12677	12683	6877	6580	8917	9340	13704	14268	13310	11956	7592	10931	8965	8646	9787
H56	11890	11907	6268	5998	8140	8557	12916	13484	12519	11166	6887	10142	8175	7857	9023
H57	12166	12219	6190	5896	8303	8738	13184	13776	12770	11405	6918	10406	8404	8074	9150
H58	11626	11666	5938	5672	7828	8251	12648	13230	12242	10883	6553	9871	7887	7564	8702
H59	12089	12115	6332	6050	8303	8727	13113	13688	12711	11354	6999	10338	8360	8038	9174
H60	12149	12182	6319	6032	8340	8767	13171	13751	12766	11407	7008	10395	8410	8086	9203
H61	12046	12085	6216	5932	8229	8657	13068	13650	12661	11301	6898	10291	8303	7978	9092
H62	12106	12151	6212	5923	8269	8700	13126	13712	12716	11354	6914	10349	8355	8027	9125
H63	11143	11224	5354	5097	7261	7694	12156	12762	11735	10367	5950	9377	7364	7031	8119
H64	9723	9764	4990	4842	6064	6452	10748	11324	10352	9002	5171	7974	6019	5713	7012
H65	9895	10107	3790	3580	5757	6222	10876	11554	10406	9018	4311	8108	6017	5651	6552
H66	11065	11260	4485	4190	6904	7377	12047	12721	11578	10189	5287	9278	7188	6822	7660
H67	11546	11793	4423	4081	7253	7748	12509	13215	12017	10621	5429	9755	7640	7259	7934
H68	9912	10920	4141	4360	6065	6423	10317	11339	9614	8593	4404	8718	7369	7073	5350
H69	10160	11365	8270	8588	8187	8261	10097	11076	9452	9015	7827	9705	9314	9196	7091
H70	9092	10289	7462	7807	7094	7155	9071	10063	8413	7926	6876	8595	8206	8096	5990
H71	5336	5638	13584	13999	9560	9031	4293	3899	4714	6105	11938	7064	9104	9471	9201
H72	5641	4530	13781	14093	9700	9216	5643	4720	6274	6918	12200	6748	8532	8934	10133
H73	8919	7706	15867	16109	12177	11777	9166	8345	9723	10066	14447	9565	10892	11243	12855
H74	10681	9473	16173	16344	13005	12703	11166	10508	11612	11631	14956	10867	11704	11984	13867
H75	4523	4555	5857	6110	2677	2582	5566	6099	5242	3988	4479	2842	1556	1641	3744
H76	4495	3362	10685	10945	6967	6587	5180	4809	5490	5330	9233	4558	5676	6022	7699
H77	9216	8994	6688	6628	6503	6747	10272	10676	10001	8765	6427	7610	6018	5833	7593
H78	8016	8527	1518	1663	3392	3930	8879	9706	8308	6919	1405	6270	4155	3737	3903

To be continued on next page...

Project:

20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

Description:

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Calculated:

6/26/2015 11:20 PM/2.9.285

DECIBEL - Main Result

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation

...continued from previous page

WTG

NSA	T05	T04	T48 Alt	T49 Alt	T50 Alt	T51 Alt	T52 Alt	T53 Alt	T54 Alt	T55 Alt	T56 Alt	T57 Alt	T58 Alt	T59 Alt	T23
H79	8910	9469	811	744	4232	4778	9739	10596	9146	7771	1846	7189	5099	4681	4576
H80	2512	3702	7378	7793	3485	3007	2716	3743	2012	1381	5738	2375	3469	3719	2996
H81	8568	9248	437	866	3885	4422	9320	10230	8689	7355	1308	6927	4954	4549	3970

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

Assumptions

Calculated L(DW) = LWA,ref + K + Dc - (Adiv + Aatm + Agr + Abar + Amisc) - Cmet
(when calculated with ground attenuation, then Dc = Domega)

- LWA,ref: Sound pressure level at WTG
- K: Pure tone
- Dc: Directivity correction
- Adiv: the attenuation due to geometrical divergence
- Aatm: the attenuation due to atmospheric absorption
- Agr: the attenuation due to ground effect
- Abar: the attenuation due to a barrier
- Amisc: the attenuation due to miscellaneous other effects
- Cmet: Meteorological correction

Calculation Results

Noise sensitive area: H01 Noise sensitive point: User defined (82)

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	3,386	3,387	18.55	108.5	0.00	81.60	-	-	0.00	0.00	-	0.00
T02	3,764	3,765	17.29	108.5	0.00	82.51	-	-	0.00	0.00	-	0.00
T03	4,231	4,232	15.88	108.5	0.00	83.53	-	-	0.00	0.00	-	0.00
T04	4,948	4,949	13.99	108.5	0.00	84.89	-	-	0.00	0.00	-	0.00
T05	5,042	5,042	13.77	108.5	0.00	85.05	-	-	0.00	0.00	-	0.00
T06	5,576	5,577	12.55	108.5	0.00	85.93	-	-	0.00	0.00	-	0.00
T07	6,413	6,413	10.88	108.5	0.00	87.14	-	-	0.00	0.00	-	0.00
T08	6,650	6,650	10.45	108.5	0.00	87.46	-	-	0.00	0.00	-	0.00
T09	7,312	7,312	9.32	108.5	0.00	88.28	-	-	0.00	0.00	-	0.00
T10	7,742	7,743	8.64	108.5	0.00	88.78	-	-	0.00	0.00	-	0.00
T11	5,413	5,414	12.91	108.5	0.00	85.67	-	-	0.00	0.00	-	0.00
T12	5,700	5,700	12.29	108.5	0.00	86.12	-	-	0.00	0.00	-	0.00
T13	6,761	6,762	10.25	108.5	0.00	87.60	-	-	0.00	0.00	-	0.00
T14	6,997	6,998	9.84	108.5	0.00	87.90	-	-	0.00	0.00	-	0.00
T15	7,024	7,025	9.79	108.5	0.00	87.93	-	-	0.00	0.00	-	0.00
T16	7,891	7,892	8.42	108.5	0.00	88.94	-	-	0.00	0.00	-	0.00
T17	8,030	8,030	8.21	108.5	0.00	89.09	-	-	0.00	0.00	-	0.00
T18	8,235	8,235	7.91	108.5	0.00	89.31	-	-	0.00	0.00	-	0.00
T19	8,187	8,187	7.98	108.5	0.00	89.26	-	-	0.00	0.00	-	0.00
T20	8,703	8,703	7.27	108.5	0.00	89.79	-	-	0.00	0.00	-	0.00
T21	8,740	8,740	7.22	108.5	0.00	89.83	-	-	0.00	0.00	-	0.00
T22	9,259	9,260	6.54	108.5	0.00	90.33	-	-	0.00	0.00	-	0.00
T23	9,491	9,492	6.25	108.5	0.00	90.55	-	-	0.00	0.00	-	0.00
T24	9,716	9,717	5.98	108.5	0.00	90.75	-	-	0.00	0.00	-	0.00
T25	9,021	9,022	6.84	108.5	0.00	90.11	-	-	0.00	0.00	-	0.00
T26	9,185	9,186	6.63	108.5	0.00	90.26	-	-	0.00	0.00	-	0.00
T27	9,365	9,366	6.41	108.5	0.00	90.43	-	-	0.00	0.00	-	0.00
T28	9,644	9,645	6.07	108.5	0.00	90.69	-	-	0.00	0.00	-	0.00
T29	10,434	10,435	5.15	108.5	0.00	91.37	-	-	0.00	0.00	-	0.00
T30	10,514	10,515	5.06	108.5	0.00	91.44	-	-	0.00	0.00	-	0.00
T31	10,786	10,786	4.77	108.5	0.00	91.66	-	-	0.00	0.00	-	0.00
T32	11,134	11,134	4.40	108.5	0.00	91.93	-	-	0.00	0.00	-	0.00
T33	11,452	11,452	4.07	108.5	0.00	92.18	-	-	0.00	0.00	-	0.00
T34	10,463	10,464	5.12	108.5	0.00	91.39	-	-	0.00	0.00	-	0.00
T35	11,131	11,132	4.40	108.5	0.00	91.93	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T36	11,377	11,377	4.15	108.5	0.00	92.12	-	-	0.00	0.00	-	0.00
T37	11,570	11,571	3.95	108.5	0.00	92.27	-	-	0.00	0.00	-	0.00
T38	11,844	11,844	3.68	108.5	0.00	92.47	-	-	0.00	0.00	-	0.00
T39	11,840	11,841	3.69	108.5	0.00	92.47	-	-	0.00	0.00	-	0.00
T40	12,154	12,154	3.38	108.5	0.00	92.69	-	-	0.00	0.00	-	0.00
T41	12,840	12,841	2.75	108.5	0.00	93.17	-	-	0.00	0.00	-	0.00
T42	12,328	12,329	3.22	108.5	0.00	92.82	-	-	0.00	0.00	-	0.00
T43	12,441	12,441	3.12	108.5	0.00	92.90	-	-	0.00	0.00	-	0.00
T44	13,408	13,408	2.25	108.5	0.00	93.55	-	-	0.00	0.00	-	0.00
T45	13,845	13,845	1.88	108.5	0.00	93.83	-	-	0.00	0.00	-	0.00
T46	12,779	12,779	2.81	108.5	0.00	93.13	-	-	0.00	0.00	-	0.00
T47	12,807	12,807	2.78	108.5	0.00	93.15	-	-	0.00	0.00	-	0.00
T48 Alt	13,828	13,828	1.89	108.5	0.00	93.82	-	-	0.00	0.00	-	0.00
T49 Alt	14,225	14,225	1.57	108.5	0.00	94.06	-	-	0.00	0.00	-	0.00
T50 Alt	9,645	9,645	6.07	108.5	0.00	90.69	-	-	0.00	0.00	-	0.00
T51 Alt	9,099	9,099	6.75	108.5	0.00	90.18	-	-	0.00	0.00	-	0.00
T52 Alt	4,138	4,139	16.15	108.5	0.00	83.34	-	-	0.00	0.00	-	0.00
T53 Alt	3,371	3,372	18.61	108.5	0.00	81.56	-	-	0.00	0.00	-	0.00
T54 Alt	4,744	4,745	14.50	108.5	0.00	84.52	-	-	0.00	0.00	-	0.00
T55 Alt	6,105	6,106	11.47	108.5	0.00	86.71	-	-	0.00	0.00	-	0.00
T56 Alt	12,153	12,153	3.39	108.5	0.00	92.69	-	-	0.00	0.00	-	0.00
T57 Alt	6,832	6,832	10.12	108.5	0.00	87.69	-	-	0.00	0.00	-	0.00
T58 Alt	8,966	8,966	6.92	108.5	0.00	90.05	-	-	0.00	0.00	-	0.00
T59 Alt	9,365	9,365	6.41	108.5	0.00	90.43	-	-	0.00	0.00	-	0.00

Sum 28.05

- Data undefined due to calculation with octave data

Noise sensitive area: H02 Noise sensitive point: User defined (83)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	1,646	1,649	27.28	108.5	0.00	75.35	-	-	0.00	0.00	-	0.00
T02	2,269	2,271	23.35	108.5	0.00	78.13	-	-	0.00	0.00	-	0.00
T03	2,786	2,788	20.85	108.5	0.00	79.90	-	-	0.00	0.00	-	0.00
T04	3,538	3,539	18.03	108.5	0.00	81.98	-	-	0.00	0.00	-	0.00
T05	4,119	4,120	16.20	108.5	0.00	83.30	-	-	0.00	0.00	-	0.00
T06	4,646	4,647	14.75	108.5	0.00	84.34	-	-	0.00	0.00	-	0.00
T07	5,391	5,392	12.96	108.5	0.00	85.64	-	-	0.00	0.00	-	0.00
T08	5,285	5,286	13.20	108.5	0.00	85.46	-	-	0.00	0.00	-	0.00
T09	6,061	6,062	11.55	108.5	0.00	86.65	-	-	0.00	0.00	-	0.00
T10	6,455	6,456	10.80	108.5	0.00	87.20	-	-	0.00	0.00	-	0.00
T11	5,195	5,196	13.40	108.5	0.00	85.31	-	-	0.00	0.00	-	0.00
T12	5,311	5,312	13.14	108.5	0.00	85.50	-	-	0.00	0.00	-	0.00
T13	6,284	6,285	11.12	108.5	0.00	86.97	-	-	0.00	0.00	-	0.00
T14	6,352	6,353	10.99	108.5	0.00	87.06	-	-	0.00	0.00	-	0.00
T15	6,832	6,833	10.12	108.5	0.00	87.69	-	-	0.00	0.00	-	0.00
T16	7,849	7,850	8.48	108.5	0.00	88.90	-	-	0.00	0.00	-	0.00
T17	7,820	7,821	8.52	108.5	0.00	88.87	-	-	0.00	0.00	-	0.00
T18	7,884	7,885	8.43	108.5	0.00	88.94	-	-	0.00	0.00	-	0.00
T19	7,637	7,638	8.80	108.5	0.00	88.66	-	-	0.00	0.00	-	0.00
T20	8,063	8,063	8.16	108.5	0.00	89.13	-	-	0.00	0.00	-	0.00
T21	7,957	7,957	8.32	108.5	0.00	89.02	-	-	0.00	0.00	-	0.00
T22	8,782	8,783	7.16	108.5	0.00	89.87	-	-	0.00	0.00	-	0.00
T23	8,889	8,890	7.02	108.5	0.00	89.98	-	-	0.00	0.00	-	0.00

To be continued on next page...

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

...continued from previous page

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T24	9,012	9,013	6.86	108.5	0.00	90.10	-	-	0.00	0.00	-	0.00
T25	8,997	8,998	6.88	108.5	0.00	90.08	-	-	0.00	0.00	-	0.00
T26	9,051	9,052	6.81	108.5	0.00	90.14	-	-	0.00	0.00	-	0.00
T27	9,141	9,142	6.69	108.5	0.00	90.22	-	-	0.00	0.00	-	0.00
T28	9,339	9,340	6.44	108.5	0.00	90.41	-	-	0.00	0.00	-	0.00
T29	10,029	10,030	5.61	108.5	0.00	91.03	-	-	0.00	0.00	-	0.00
T30	10,010	10,011	5.63	108.5	0.00	91.01	-	-	0.00	0.00	-	0.00
T31	10,204	10,204	5.41	108.5	0.00	91.18	-	-	0.00	0.00	-	0.00
T32	10,369	10,369	5.22	108.5	0.00	91.31	-	-	0.00	0.00	-	0.00
T33	10,619	10,620	4.95	108.5	0.00	91.52	-	-	0.00	0.00	-	0.00
T34	10,216	10,216	5.40	108.5	0.00	91.19	-	-	0.00	0.00	-	0.00
T35	10,885	10,886	4.66	108.5	0.00	91.74	-	-	0.00	0.00	-	0.00
T36	10,949	10,950	4.59	108.5	0.00	91.79	-	-	0.00	0.00	-	0.00
T37	11,010	11,010	4.53	108.5	0.00	91.84	-	-	0.00	0.00	-	0.00
T38	11,189	11,190	4.34	108.5	0.00	91.98	-	-	0.00	0.00	-	0.00
T39	11,608	11,608	3.92	108.5	0.00	92.30	-	-	0.00	0.00	-	0.00
T40	11,784	11,784	3.74	108.5	0.00	92.43	-	-	0.00	0.00	-	0.00
T41	12,488	12,488	3.07	108.5	0.00	92.93	-	-	0.00	0.00	-	0.00
T42	11,808	11,809	3.72	108.5	0.00	92.44	-	-	0.00	0.00	-	0.00
T43	11,795	11,795	3.73	108.5	0.00	92.43	-	-	0.00	0.00	-	0.00
T44	12,736	12,736	2.84	108.5	0.00	93.10	-	-	0.00	0.00	-	0.00
T45	13,147	13,148	2.48	108.5	0.00	93.38	-	-	0.00	0.00	-	0.00
T46	12,000	12,001	3.53	108.5	0.00	92.58	-	-	0.00	0.00	-	0.00
T47	11,891	11,892	3.64	108.5	0.00	92.50	-	-	0.00	0.00	-	0.00
T48 Alt	13,035	13,035	2.58	108.5	0.00	93.30	-	-	0.00	0.00	-	0.00
T49 Alt	13,404	13,404	2.25	108.5	0.00	93.54	-	-	0.00	0.00	-	0.00
T50 Alt	8,792	8,792	7.15	108.5	0.00	89.88	-	-	0.00	0.00	-	0.00
T51 Alt	8,252	8,252	7.89	108.5	0.00	89.33	-	-	0.00	0.00	-	0.00
T52 Alt	3,579	3,581	17.89	108.5	0.00	82.08	-	-	0.00	0.00	-	0.00
T53 Alt	2,557	2,559	21.85	108.5	0.00	79.16	-	-	0.00	0.00	-	0.00
T54 Alt	4,283	4,284	15.73	108.5	0.00	83.64	-	-	0.00	0.00	-	0.00
T55 Alt	5,401	5,402	12.94	108.5	0.00	85.65	-	-	0.00	0.00	-	0.00
T56 Alt	11,367	11,367	4.16	108.5	0.00	92.11	-	-	0.00	0.00	-	0.00
T57 Alt	5,775	5,776	12.13	108.5	0.00	86.23	-	-	0.00	0.00	-	0.00
T58 Alt	7,886	7,886	8.42	108.5	0.00	88.94	-	-	0.00	0.00	-	0.00
T59 Alt	8,302	8,303	7.82	108.5	0.00	89.38	-	-	0.00	0.00	-	0.00
Sum	32.04											

- Data undefined due to calculation with octave data

Noise sensitive area: H03 Noise sensitive point: User defined (84)

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	1,039	1,042	32.64	108.5	0.00	71.36	-	-	0.00	0.00	-	0.00
T02	1,171	1,173	31.28	108.5	0.00	72.39	-	-	0.00	0.00	-	0.00
T03	1,616	1,618	27.51	108.5	0.00	75.18	-	-	0.00	0.00	-	0.00
T04	2,336	2,337	22.99	108.5	0.00	78.37	-	-	0.00	0.00	-	0.00
T05	2,628	2,629	21.53	108.5	0.00	79.39	-	-	0.00	0.00	-	0.00
T06	3,168	3,169	19.34	108.5	0.00	81.02	-	-	0.00	0.00	-	0.00
T07	3,962	3,963	16.67	108.5	0.00	82.96	-	-	0.00	0.00	-	0.00
T08	4,059	4,060	16.38	108.5	0.00	83.17	-	-	0.00	0.00	-	0.00
T09	4,762	4,763	14.45	108.5	0.00	84.56	-	-	0.00	0.00	-	0.00
T10	5,183	5,184	13.43	108.5	0.00	85.29	-	-	0.00	0.00	-	0.00
T11	3,623	3,624	17.75	108.5	0.00	82.18	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

No.	Distance [m]	Sound distance [m]	95% rated power									
			WTG Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T12	3,736	3,737	17.38	108.5	0.00	82.45	-	-	0.00	0.00	-	0.00
T13	4,720	4,720	14.56	108.5	0.00	84.48	-	-	0.00	0.00	-	0.00
T14	4,814	4,815	14.32	108.5	0.00	84.65	-	-	0.00	0.00	-	0.00
T15	5,257	5,258	13.26	108.5	0.00	85.42	-	-	0.00	0.00	-	0.00
T16	6,278	6,279	11.13	108.5	0.00	86.96	-	-	0.00	0.00	-	0.00
T17	6,245	6,245	11.20	108.5	0.00	86.91	-	-	0.00	0.00	-	0.00
T18	6,314	6,315	11.06	108.5	0.00	87.01	-	-	0.00	0.00	-	0.00
T19	6,090	6,090	11.50	108.5	0.00	86.69	-	-	0.00	0.00	-	0.00
T20	6,535	6,535	10.65	108.5	0.00	87.31	-	-	0.00	0.00	-	0.00
T21	6,464	6,465	10.78	108.5	0.00	87.21	-	-	0.00	0.00	-	0.00
T22	7,228	7,229	9.45	108.5	0.00	88.18	-	-	0.00	0.00	-	0.00
T23	7,357	7,358	9.24	108.5	0.00	88.33	-	-	0.00	0.00	-	0.00
T24	7,503	7,504	9.01	108.5	0.00	88.51	-	-	0.00	0.00	-	0.00
T25	7,425	7,426	9.14	108.5	0.00	88.41	-	-	0.00	0.00	-	0.00
T26	7,476	7,477	9.05	108.5	0.00	88.47	-	-	0.00	0.00	-	0.00
T27	7,566	7,567	8.91	108.5	0.00	88.58	-	-	0.00	0.00	-	0.00
T28	7,769	7,769	8.60	108.5	0.00	88.81	-	-	0.00	0.00	-	0.00
T29	8,469	8,470	7.58	108.5	0.00	89.56	-	-	0.00	0.00	-	0.00
T30	8,464	8,465	7.59	108.5	0.00	89.55	-	-	0.00	0.00	-	0.00
T31	8,672	8,673	7.31	108.5	0.00	89.76	-	-	0.00	0.00	-	0.00
T32	8,882	8,883	7.03	108.5	0.00	89.97	-	-	0.00	0.00	-	0.00
T33	9,155	9,155	6.67	108.5	0.00	90.23	-	-	0.00	0.00	-	0.00
T34	8,643	8,644	7.35	108.5	0.00	89.73	-	-	0.00	0.00	-	0.00
T35	9,313	9,314	6.47	108.5	0.00	90.38	-	-	0.00	0.00	-	0.00
T36	9,394	9,395	6.37	108.5	0.00	90.46	-	-	0.00	0.00	-	0.00
T37	9,476	9,477	6.27	108.5	0.00	90.53	-	-	0.00	0.00	-	0.00
T38	9,676	9,677	6.03	108.5	0.00	90.71	-	-	0.00	0.00	-	0.00
T39	10,036	10,036	5.60	108.5	0.00	91.03	-	-	0.00	0.00	-	0.00
T40	10,223	10,223	5.39	108.5	0.00	91.19	-	-	0.00	0.00	-	0.00
T41	10,926	10,927	4.62	108.5	0.00	91.77	-	-	0.00	0.00	-	0.00
T42	10,270	10,270	5.34	108.5	0.00	91.23	-	-	0.00	0.00	-	0.00
T43	10,282	10,282	5.32	108.5	0.00	91.24	-	-	0.00	0.00	-	0.00
T44	11,232	11,232	4.30	108.5	0.00	92.01	-	-	0.00	0.00	-	0.00
T45	11,650	11,651	3.87	108.5	0.00	92.33	-	-	0.00	0.00	-	0.00
T46	10,523	10,524	5.05	108.5	0.00	91.44	-	-	0.00	0.00	-	0.00
T47	10,460	10,460	5.12	108.5	0.00	91.39	-	-	0.00	0.00	-	0.00
T48 Alt	11,565	11,565	3.96	108.5	0.00	92.26	-	-	0.00	0.00	-	0.00
T49 Alt	11,943	11,944	3.59	108.5	0.00	92.54	-	-	0.00	0.00	-	0.00
T50 Alt	7,326	7,327	9.29	108.5	0.00	88.30	-	-	0.00	0.00	-	0.00
T51 Alt	6,781	6,782	10.21	108.5	0.00	87.63	-	-	0.00	0.00	-	0.00
T52 Alt	2,004	2,006	24.90	108.5	0.00	77.05	-	-	0.00	0.00	-	0.00
T53 Alt	988	991	33.21	108.5	0.00	70.93	-	-	0.00	0.00	-	0.00
T54 Alt	2,708	2,709	21.18	108.5	0.00	79.66	-	-	0.00	0.00	-	0.00
T55 Alt	3,867	3,867	16.97	108.5	0.00	82.75	-	-	0.00	0.00	-	0.00
T56 Alt	9,890	9,890	5.77	108.5	0.00	90.90	-	-	0.00	0.00	-	0.00
T57 Alt	4,367	4,368	15.50	108.5	0.00	83.80	-	-	0.00	0.00	-	0.00
T58 Alt	6,507	6,507	10.70	108.5	0.00	87.27	-	-	0.00	0.00	-	0.00
T59 Alt	6,917	6,918	9.98	108.5	0.00	87.80	-	-	0.00	0.00	-	0.00

Sum 38.68

- Data undefined due to calculation with octave data

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

Noise sensitive area: H04 Noise sensitive point: User defined (85)

WTG No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	854	858	34.83	108.5	0.00	69.67	-	-	0.00	0.00	-	0.00
T02	1,061	1,064	32.41	108.5	0.00	71.54	-	-	0.00	0.00	-	0.00
T03	1,536	1,538	28.11	108.5	0.00	74.74	-	-	0.00	0.00	-	0.00
T04	2,275	2,276	23.32	108.5	0.00	78.14	-	-	0.00	0.00	-	0.00
T05	2,658	2,659	21.40	108.5	0.00	79.50	-	-	0.00	0.00	-	0.00
T06	3,194	3,195	19.25	108.5	0.00	81.09	-	-	0.00	0.00	-	0.00
T07	3,972	3,973	16.64	108.5	0.00	82.98	-	-	0.00	0.00	-	0.00
T08	4,014	4,015	16.51	108.5	0.00	83.07	-	-	0.00	0.00	-	0.00
T09	4,737	4,738	14.52	108.5	0.00	84.51	-	-	0.00	0.00	-	0.00
T10	5,152	5,153	13.50	108.5	0.00	85.24	-	-	0.00	0.00	-	0.00
T11	3,739	3,740	17.37	108.5	0.00	82.46	-	-	0.00	0.00	-	0.00
T12	3,832	3,833	17.07	108.5	0.00	82.67	-	-	0.00	0.00	-	0.00
T13	4,798	4,799	14.36	108.5	0.00	84.62	-	-	0.00	0.00	-	0.00
T14	4,873	4,873	14.18	108.5	0.00	84.76	-	-	0.00	0.00	-	0.00
T15	5,363	5,364	13.02	108.5	0.00	85.59	-	-	0.00	0.00	-	0.00
T16	6,394	6,394	10.91	108.5	0.00	87.12	-	-	0.00	0.00	-	0.00
T17	6,345	6,345	11.01	108.5	0.00	87.05	-	-	0.00	0.00	-	0.00
T18	6,400	6,400	10.90	108.5	0.00	87.12	-	-	0.00	0.00	-	0.00
T19	6,154	6,155	11.37	108.5	0.00	86.78	-	-	0.00	0.00	-	0.00
T20	6,588	6,588	10.56	108.5	0.00	87.38	-	-	0.00	0.00	-	0.00
T21	6,501	6,501	10.71	108.5	0.00	87.26	-	-	0.00	0.00	-	0.00
T22	7,297	7,298	9.34	108.5	0.00	88.26	-	-	0.00	0.00	-	0.00
T23	7,413	7,413	9.16	108.5	0.00	88.40	-	-	0.00	0.00	-	0.00
T24	7,547	7,548	8.94	108.5	0.00	88.56	-	-	0.00	0.00	-	0.00
T25	7,538	7,539	8.96	108.5	0.00	88.55	-	-	0.00	0.00	-	0.00
T26	7,579	7,580	8.89	108.5	0.00	88.59	-	-	0.00	0.00	-	0.00
T27	7,660	7,661	8.77	108.5	0.00	88.69	-	-	0.00	0.00	-	0.00
T28	7,854	7,855	8.47	108.5	0.00	88.90	-	-	0.00	0.00	-	0.00
T29	8,544	8,544	7.48	108.5	0.00	89.63	-	-	0.00	0.00	-	0.00
T30	8,528	8,529	7.50	108.5	0.00	89.62	-	-	0.00	0.00	-	0.00
T31	8,728	8,728	7.23	108.5	0.00	89.82	-	-	0.00	0.00	-	0.00
T32	8,918	8,918	6.98	108.5	0.00	90.01	-	-	0.00	0.00	-	0.00
T33	9,182	9,182	6.64	108.5	0.00	90.26	-	-	0.00	0.00	-	0.00
T34	8,733	8,733	7.23	108.5	0.00	89.82	-	-	0.00	0.00	-	0.00
T35	9,402	9,402	6.36	108.5	0.00	90.46	-	-	0.00	0.00	-	0.00
T36	9,465	9,465	6.29	108.5	0.00	90.52	-	-	0.00	0.00	-	0.00
T37	9,533	9,534	6.20	108.5	0.00	90.59	-	-	0.00	0.00	-	0.00
T38	9,723	9,723	5.97	108.5	0.00	90.76	-	-	0.00	0.00	-	0.00
T39	10,124	10,124	5.50	108.5	0.00	91.11	-	-	0.00	0.00	-	0.00
T40	10,298	10,298	5.30	108.5	0.00	91.26	-	-	0.00	0.00	-	0.00
T41	11,002	11,003	4.54	108.5	0.00	91.83	-	-	0.00	0.00	-	0.00
T42	10,329	10,330	5.27	108.5	0.00	91.28	-	-	0.00	0.00	-	0.00
T43	10,328	10,329	5.27	108.5	0.00	91.28	-	-	0.00	0.00	-	0.00
T44	11,275	11,275	4.25	108.5	0.00	92.04	-	-	0.00	0.00	-	0.00
T45	11,690	11,691	3.83	108.5	0.00	92.36	-	-	0.00	0.00	-	0.00
T46	10,555	10,556	5.02	108.5	0.00	91.47	-	-	0.00	0.00	-	0.00
T47	10,477	10,477	5.10	108.5	0.00	91.40	-	-	0.00	0.00	-	0.00
T48 Alt	11,595	11,595	3.93	108.5	0.00	92.29	-	-	0.00	0.00	-	0.00
T49 Alt	11,970	11,970	3.56	108.5	0.00	92.56	-	-	0.00	0.00	-	0.00
T50 Alt	7,353	7,353	9.25	108.5	0.00	88.33	-	-	0.00	0.00	-	0.00
T51 Alt	6,809	6,810	10.16	108.5	0.00	87.66	-	-	0.00	0.00	-	0.00
T52 Alt	2,104	2,105	24.30	108.5	0.00	77.46	-	-	0.00	0.00	-	0.00
T53 Alt	1,076	1,079	32.25	108.5	0.00	71.66	-	-	0.00	0.00	-	0.00
T54 Alt	2,807	2,808	20.77	108.5	0.00	79.97	-	-	0.00	0.00	-	0.00
T55 Alt	3,922	3,923	16.80	108.5	0.00	82.87	-	-	0.00	0.00	-	0.00

To be continued on next page...

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20131290 Rolette Power Development

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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T56 Alt	9,922	9,922	5.74	108.5	0.00	90.93	-	-	0.00	0.00	-	0.00
T57 Alt	4,371	4,371	15.49	108.5	0.00	83.81	-	-	0.00	0.00	-	0.00
T58 Alt	6,505	6,506	10.71	108.5	0.00	87.27	-	-	0.00	0.00	-	0.00
T59 Alt	6,918	6,918	9.97	108.5	0.00	87.80	-	-	0.00	0.00	-	0.00

Sum 39.34
- Data undefined due to calculation with octave data

Noise sensitive area: H05 Noise sensitive point: User defined (86)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	2,336	2,339	22.98	108.5	0.00	78.38	-	-	0.00	0.00	-	0.00
T02	2,045	2,047	24.64	108.5	0.00	77.22	-	-	0.00	0.00	-	0.00
T03	2,181	2,183	23.84	108.5	0.00	77.78	-	-	0.00	0.00	-	0.00
T04	2,602	2,604	21.64	108.5	0.00	79.31	-	-	0.00	0.00	-	0.00
T05	2,158	2,160	23.98	108.5	0.00	77.69	-	-	0.00	0.00	-	0.00
T06	2,647	2,649	21.44	108.5	0.00	79.46	-	-	0.00	0.00	-	0.00
T07	3,489	3,490	18.20	108.5	0.00	81.86	-	-	0.00	0.00	-	0.00
T08	3,990	3,991	16.59	108.5	0.00	83.02	-	-	0.00	0.00	-	0.00
T09	4,502	4,504	15.13	108.5	0.00	84.07	-	-	0.00	0.00	-	0.00
T10	4,942	4,943	14.01	108.5	0.00	84.88	-	-	0.00	0.00	-	0.00
T11	2,400	2,402	22.65	108.5	0.00	78.61	-	-	0.00	0.00	-	0.00
T12	2,644	2,646	21.46	108.5	0.00	79.45	-	-	0.00	0.00	-	0.00
T13	3,702	3,703	17.49	108.5	0.00	82.37	-	-	0.00	0.00	-	0.00
T14	3,934	3,936	16.76	108.5	0.00	82.90	-	-	0.00	0.00	-	0.00
T15	4,048	4,049	16.41	108.5	0.00	83.15	-	-	0.00	0.00	-	0.00
T16	5,002	5,003	13.86	108.5	0.00	84.99	-	-	0.00	0.00	-	0.00
T17	5,056	5,057	13.73	108.5	0.00	85.08	-	-	0.00	0.00	-	0.00
T18	5,212	5,213	13.37	108.5	0.00	85.34	-	-	0.00	0.00	-	0.00
T19	5,125	5,126	13.57	108.5	0.00	85.20	-	-	0.00	0.00	-	0.00
T20	5,638	5,639	12.42	108.5	0.00	86.02	-	-	0.00	0.00	-	0.00
T21	5,684	5,685	12.32	108.5	0.00	86.09	-	-	0.00	0.00	-	0.00
T22	6,212	6,213	11.26	108.5	0.00	86.87	-	-	0.00	0.00	-	0.00
T23	6,428	6,430	10.85	108.5	0.00	87.16	-	-	0.00	0.00	-	0.00
T24	6,651	6,653	10.44	108.5	0.00	87.46	-	-	0.00	0.00	-	0.00
T25	6,152	6,154	11.37	108.5	0.00	86.78	-	-	0.00	0.00	-	0.00
T26	6,256	6,258	11.17	108.5	0.00	86.93	-	-	0.00	0.00	-	0.00
T27	6,395	6,397	10.91	108.5	0.00	87.12	-	-	0.00	0.00	-	0.00
T28	6,645	6,646	10.45	108.5	0.00	87.45	-	-	0.00	0.00	-	0.00
T29	7,408	7,409	9.16	108.5	0.00	88.40	-	-	0.00	0.00	-	0.00
T30	7,466	7,467	9.07	108.5	0.00	88.46	-	-	0.00	0.00	-	0.00
T31	7,727	7,728	8.66	108.5	0.00	88.76	-	-	0.00	0.00	-	0.00
T32	8,070	8,071	8.15	108.5	0.00	89.14	-	-	0.00	0.00	-	0.00
T33	8,394	8,394	7.69	108.5	0.00	89.48	-	-	0.00	0.00	-	0.00
T34	7,491	7,491	9.03	108.5	0.00	88.49	-	-	0.00	0.00	-	0.00
T35	8,162	8,163	8.02	108.5	0.00	89.24	-	-	0.00	0.00	-	0.00
T36	8,348	8,349	7.75	108.5	0.00	89.43	-	-	0.00	0.00	-	0.00
T37	8,516	8,517	7.52	108.5	0.00	89.61	-	-	0.00	0.00	-	0.00
T38	8,781	8,781	7.16	108.5	0.00	89.87	-	-	0.00	0.00	-	0.00
T39	8,880	8,881	7.03	108.5	0.00	89.97	-	-	0.00	0.00	-	0.00
T40	9,144	9,145	6.69	108.5	0.00	90.22	-	-	0.00	0.00	-	0.00
T41	9,839	9,839	5.83	108.5	0.00	90.86	-	-	0.00	0.00	-	0.00
T42	9,282	9,283	6.51	108.5	0.00	90.35	-	-	0.00	0.00	-	0.00
T43	9,379	9,379	6.39	108.5	0.00	90.44	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T44	10,345	10,345	5.25	108.5	0.00	91.29	-	-	0.00	0.00	-	0.00
T45	10,781	10,781	4.77	108.5	0.00	91.65	-	-	0.00	0.00	-	0.00
T46	9,715	9,715	5.98	108.5	0.00	90.75	-	-	0.00	0.00	-	0.00
T47	9,758	9,758	5.93	108.5	0.00	90.79	-	-	0.00	0.00	-	0.00
T48 Alt	10,764	10,764	4.79	108.5	0.00	91.64	-	-	0.00	0.00	-	0.00
T49 Alt	11,162	11,162	4.37	108.5	0.00	91.96	-	-	0.00	0.00	-	0.00
T50 Alt	6,596	6,597	10.54	108.5	0.00	87.39	-	-	0.00	0.00	-	0.00
T51 Alt	6,052	6,053	11.57	108.5	0.00	86.64	-	-	0.00	0.00	-	0.00
T52 Alt	1,131	1,135	31.67	108.5	0.00	72.10	-	-	0.00	0.00	-	0.00
T53 Alt	961	966	33.50	108.5	0.00	70.70	-	-	0.00	0.00	-	0.00
T54 Alt	1,681	1,683	27.03	108.5	0.00	75.52	-	-	0.00	0.00	-	0.00
T55 Alt	3,060	3,061	19.75	108.5	0.00	80.72	-	-	0.00	0.00	-	0.00
T56 Alt	9,090	9,091	6.76	108.5	0.00	90.17	-	-	0.00	0.00	-	0.00
T57 Alt	3,909	3,910	16.83	108.5	0.00	82.84	-	-	0.00	0.00	-	0.00
T58 Alt	5,998	5,998	11.68	108.5	0.00	86.56	-	-	0.00	0.00	-	0.00
T59 Alt	6,382	6,383	10.93	108.5	0.00	87.10	-	-	0.00	0.00	-	0.00
Sum	38.22											

- Data undefined due to calculation with octave data

Noise sensitive area: H06 Noise sensitive point: User defined (87)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	3,759	3,760	17.30	108.5	0.00	82.50	-	-	0.00	0.00	-	0.00
T02	3,517	3,518	18.10	108.5	0.00	81.93	-	-	0.00	0.00	-	0.00
T03	3,639	3,640	17.69	108.5	0.00	82.22	-	-	0.00	0.00	-	0.00
T04	3,980	3,981	16.62	108.5	0.00	83.00	-	-	0.00	0.00	-	0.00
T05	3,255	3,256	19.02	108.5	0.00	81.25	-	-	0.00	0.00	-	0.00
T06	3,628	3,629	17.73	108.5	0.00	82.20	-	-	0.00	0.00	-	0.00
T07	4,404	4,405	15.40	108.5	0.00	83.88	-	-	0.00	0.00	-	0.00
T08	5,138	5,139	13.54	108.5	0.00	85.22	-	-	0.00	0.00	-	0.00
T09	5,500	5,501	12.72	108.5	0.00	85.81	-	-	0.00	0.00	-	0.00
T10	5,929	5,930	11.82	108.5	0.00	86.46	-	-	0.00	0.00	-	0.00
T11	2,580	2,582	21.74	108.5	0.00	79.24	-	-	0.00	0.00	-	0.00
T12	3,004	3,005	19.97	108.5	0.00	80.56	-	-	0.00	0.00	-	0.00
T13	4,009	4,010	16.53	108.5	0.00	83.06	-	-	0.00	0.00	-	0.00
T14	4,401	4,402	15.41	108.5	0.00	83.87	-	-	0.00	0.00	-	0.00
T15	3,992	3,993	16.58	108.5	0.00	83.03	-	-	0.00	0.00	-	0.00
T16	4,729	4,730	14.54	108.5	0.00	84.50	-	-	0.00	0.00	-	0.00
T17	4,959	4,960	13.96	108.5	0.00	84.91	-	-	0.00	0.00	-	0.00
T18	5,257	5,257	13.26	108.5	0.00	85.42	-	-	0.00	0.00	-	0.00
T19	5,384	5,385	12.97	108.5	0.00	85.62	-	-	0.00	0.00	-	0.00
T20	5,956	5,957	11.76	108.5	0.00	86.50	-	-	0.00	0.00	-	0.00
T21	6,141	6,142	11.39	108.5	0.00	86.77	-	-	0.00	0.00	-	0.00
T22	6,337	6,338	11.02	108.5	0.00	87.04	-	-	0.00	0.00	-	0.00
T23	6,667	6,668	10.41	108.5	0.00	87.48	-	-	0.00	0.00	-	0.00
T24	6,979	6,980	9.87	108.5	0.00	87.88	-	-	0.00	0.00	-	0.00
T25	5,827	5,828	12.02	108.5	0.00	86.31	-	-	0.00	0.00	-	0.00
T26	6,037	6,038	11.60	108.5	0.00	86.62	-	-	0.00	0.00	-	0.00
T27	6,262	6,263	11.16	108.5	0.00	86.94	-	-	0.00	0.00	-	0.00
T28	6,583	6,584	10.56	108.5	0.00	87.37	-	-	0.00	0.00	-	0.00
T29	7,419	7,420	9.14	108.5	0.00	88.41	-	-	0.00	0.00	-	0.00
T30	7,569	7,570	8.91	108.5	0.00	88.58	-	-	0.00	0.00	-	0.00
T31	7,896	7,897	8.41	108.5	0.00	88.95	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	8,399	8,399	7.68	108.5	0.00	89.49	-	-	0.00	0.00	-	0.00
T33	8,774	8,775	7.17	108.5	0.00	89.86	-	-	0.00	0.00	-	0.00
T34	7,350	7,351	9.26	108.5	0.00	88.33	-	-	0.00	0.00	-	0.00
T35	8,006	8,006	8.25	108.5	0.00	89.07	-	-	0.00	0.00	-	0.00
T36	8,356	8,356	7.74	108.5	0.00	89.44	-	-	0.00	0.00	-	0.00
T37	8,642	8,643	7.35	108.5	0.00	89.73	-	-	0.00	0.00	-	0.00
T38	8,986	8,987	6.89	108.5	0.00	90.07	-	-	0.00	0.00	-	0.00
T39	8,699	8,699	7.27	108.5	0.00	89.79	-	-	0.00	0.00	-	0.00
T40	9,082	9,083	6.77	108.5	0.00	90.16	-	-	0.00	0.00	-	0.00
T41	9,749	9,750	5.94	108.5	0.00	90.78	-	-	0.00	0.00	-	0.00
T42	9,354	9,354	6.42	108.5	0.00	90.42	-	-	0.00	0.00	-	0.00
T43	9,562	9,563	6.17	108.5	0.00	90.61	-	-	0.00	0.00	-	0.00
T44	10,531	10,531	5.04	108.5	0.00	91.45	-	-	0.00	0.00	-	0.00
T45	10,981	10,982	4.56	108.5	0.00	91.81	-	-	0.00	0.00	-	0.00
T46	10,009	10,010	5.63	108.5	0.00	91.01	-	-	0.00	0.00	-	0.00
T47	10,175	10,175	5.44	108.5	0.00	91.15	-	-	0.00	0.00	-	0.00
T48 Alt	11,049	11,049	4.49	108.5	0.00	91.87	-	-	0.00	0.00	-	0.00
T49 Alt	11,464	11,465	4.06	108.5	0.00	92.19	-	-	0.00	0.00	-	0.00
T50 Alt	7,069	7,069	9.72	108.5	0.00	87.99	-	-	0.00	0.00	-	0.00
T51 Alt	6,550	6,550	10.63	108.5	0.00	87.33	-	-	0.00	0.00	-	0.00
T52 Alt	2,229	2,231	23.57	108.5	0.00	77.97	-	-	0.00	0.00	-	0.00
T53 Alt	2,433	2,434	22.48	108.5	0.00	78.73	-	-	0.00	0.00	-	0.00
T54 Alt	2,399	2,400	22.65	108.5	0.00	78.61	-	-	0.00	0.00	-	0.00
T55 Alt	3,718	3,719	17.44	108.5	0.00	82.41	-	-	0.00	0.00	-	0.00
T56 Alt	9,408	9,408	6.36	108.5	0.00	90.47	-	-	0.00	0.00	-	0.00
T57 Alt	4,799	4,800	14.36	108.5	0.00	84.62	-	-	0.00	0.00	-	0.00
T58 Alt	6,719	6,719	10.32	108.5	0.00	87.55	-	-	0.00	0.00	-	0.00
T59 Alt	7,063	7,063	9.73	108.5	0.00	87.98	-	-	0.00	0.00	-	0.00

Sum 32.70

- Data undefined due to calculation with octave data

Noise sensitive area: H07 Noise sensitive point: User defined (88)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	10,426	10,426	5.16	108.5	0.00	91.36	-	-	0.00	0.00	-	0.00
T02	9,785	9,785	5.90	108.5	0.00	90.81	-	-	0.00	0.00	-	0.00
T03	9,440	9,441	6.32	108.5	0.00	90.50	-	-	0.00	0.00	-	0.00
T04	9,009	9,009	6.86	108.5	0.00	90.09	-	-	0.00	0.00	-	0.00
T05	7,859	7,859	8.47	108.5	0.00	88.91	-	-	0.00	0.00	-	0.00
T06	7,499	7,500	9.02	108.5	0.00	88.50	-	-	0.00	0.00	-	0.00
T07	7,221	7,222	9.47	108.5	0.00	88.17	-	-	0.00	0.00	-	0.00
T08	8,211	8,211	7.95	108.5	0.00	89.29	-	-	0.00	0.00	-	0.00
T09	7,595	7,596	8.87	108.5	0.00	88.61	-	-	0.00	0.00	-	0.00
T10	7,625	7,625	8.82	108.5	0.00	88.65	-	-	0.00	0.00	-	0.00
T11	6,365	6,365	10.97	108.5	0.00	87.08	-	-	0.00	0.00	-	0.00
T12	6,335	6,336	11.02	108.5	0.00	87.04	-	-	0.00	0.00	-	0.00
T13	5,580	5,581	12.54	108.5	0.00	85.93	-	-	0.00	0.00	-	0.00
T14	5,809	5,810	12.06	108.5	0.00	86.28	-	-	0.00	0.00	-	0.00
T15	4,785	4,786	14.40	108.5	0.00	84.60	-	-	0.00	0.00	-	0.00
T16	3,719	3,720	17.43	108.5	0.00	82.41	-	-	0.00	0.00	-	0.00
T17	3,900	3,901	16.86	108.5	0.00	82.82	-	-	0.00	0.00	-	0.00
T18	4,086	4,086	16.30	108.5	0.00	83.23	-	-	0.00	0.00	-	0.00
T19	4,726	4,727	14.55	108.5	0.00	84.49	-	-	0.00	0.00	-	0.00

To be continued on next page...

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20131290 Rolette Power Development

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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T20	4,750	4,751	14.48	108.5	0.00	84.54	-	-	0.00	0.00	-	0.00
T21	5,289	5,290	13.19	108.5	0.00	85.47	-	-	0.00	0.00	-	0.00
T22	3,842	3,843	17.04	108.5	0.00	82.69	-	-	0.00	0.00	-	0.00
T23	4,250	4,251	15.83	108.5	0.00	83.57	-	-	0.00	0.00	-	0.00
T24	4,629	4,630	14.80	108.5	0.00	84.31	-	-	0.00	0.00	-	0.00
T25	2,604	2,607	21.63	108.5	0.00	79.32	-	-	0.00	0.00	-	0.00
T26	2,714	2,716	21.15	108.5	0.00	79.68	-	-	0.00	0.00	-	0.00
T27	2,848	2,850	20.59	108.5	0.00	80.10	-	-	0.00	0.00	-	0.00
T28	2,955	2,957	20.16	108.5	0.00	80.42	-	-	0.00	0.00	-	0.00
T29	3,039	3,040	19.83	108.5	0.00	80.66	-	-	0.00	0.00	-	0.00
T30	3,496	3,498	18.17	108.5	0.00	81.88	-	-	0.00	0.00	-	0.00
T31	3,846	3,847	17.03	108.5	0.00	82.70	-	-	0.00	0.00	-	0.00
T32	4,789	4,790	14.39	108.5	0.00	84.61	-	-	0.00	0.00	-	0.00
T33	5,183	5,184	13.43	108.5	0.00	85.29	-	-	0.00	0.00	-	0.00
T34	2,292	2,294	23.22	108.5	0.00	78.21	-	-	0.00	0.00	-	0.00
T35	2,097	2,098	24.34	108.5	0.00	77.44	-	-	0.00	0.00	-	0.00
T36	3,031	3,032	19.86	108.5	0.00	80.64	-	-	0.00	0.00	-	0.00
T37	3,747	3,747	17.34	108.5	0.00	82.47	-	-	0.00	0.00	-	0.00
T38	4,293	4,294	15.70	108.5	0.00	83.66	-	-	0.00	0.00	-	0.00
T39	2,055	2,057	24.59	108.5	0.00	77.26	-	-	0.00	0.00	-	0.00
T40	2,852	2,854	20.58	108.5	0.00	80.11	-	-	0.00	0.00	-	0.00
T41	3,036	3,037	19.85	108.5	0.00	80.65	-	-	0.00	0.00	-	0.00
T42	3,694	3,695	17.51	108.5	0.00	82.35	-	-	0.00	0.00	-	0.00
T43	4,405	4,406	15.39	108.5	0.00	83.88	-	-	0.00	0.00	-	0.00
T44	4,944	4,944	14.00	108.5	0.00	84.88	-	-	0.00	0.00	-	0.00
T45	5,307	5,308	13.15	108.5	0.00	85.50	-	-	0.00	0.00	-	0.00
T46	5,242	5,243	13.30	108.5	0.00	85.39	-	-	0.00	0.00	-	0.00
T47	6,014	6,014	11.65	108.5	0.00	86.58	-	-	0.00	0.00	-	0.00
T48 Alt	5,803	5,803	12.07	108.5	0.00	86.27	-	-	0.00	0.00	-	0.00
T49 Alt	6,175	6,175	11.33	108.5	0.00	86.81	-	-	0.00	0.00	-	0.00
T50 Alt	5,327	5,327	13.10	108.5	0.00	85.53	-	-	0.00	0.00	-	0.00
T51 Alt	5,434	5,434	12.86	108.5	0.00	85.70	-	-	0.00	0.00	-	0.00
T52 Alt	8,014	8,014	8.23	108.5	0.00	89.08	-	-	0.00	0.00	-	0.00
T53 Alt	9,038	9,038	6.82	108.5	0.00	90.12	-	-	0.00	0.00	-	0.00
T54 Alt	7,322	7,323	9.30	108.5	0.00	88.29	-	-	0.00	0.00	-	0.00
T55 Alt	6,607	6,607	10.52	108.5	0.00	87.40	-	-	0.00	0.00	-	0.00
T56 Alt	5,081	5,082	13.67	108.5	0.00	85.12	-	-	0.00	0.00	-	0.00
T57 Alt	7,113	7,113	9.64	108.5	0.00	88.04	-	-	0.00	0.00	-	0.00
T58 Alt	6,490	6,490	10.74	108.5	0.00	87.25	-	-	0.00	0.00	-	0.00
T59 Alt	6,348	6,348	11.00	108.5	0.00	87.05	-	-	0.00	0.00	-	0.00

Sum 34.39

- Data undefined due to calculation with octave data

Noise sensitive area: H08 Noise sensitive point: User defined (89)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	11,443	11,444	4.08	108.5	0.00	92.17	-	-	0.00	0.00	-	0.00
T02	10,803	10,803	4.75	108.5	0.00	91.67	-	-	0.00	0.00	-	0.00
T03	10,457	10,457	5.13	108.5	0.00	91.39	-	-	0.00	0.00	-	0.00
T04	10,020	10,020	5.62	108.5	0.00	91.02	-	-	0.00	0.00	-	0.00
T05	8,874	8,875	7.04	108.5	0.00	89.96	-	-	0.00	0.00	-	0.00
T06	8,510	8,511	7.53	108.5	0.00	89.60	-	-	0.00	0.00	-	0.00
T07	8,215	8,215	7.94	108.5	0.00	89.29	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:
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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

No.	Distance [m]	Sound distance [m]	95% rated power									
			WTG	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
T08	9,188	9,188	6.63	108.5	0.00	90.26	-	-	0.00	0.00	-	0.00
T09	8,551	8,552	7.47	108.5	0.00	89.64	-	-	0.00	0.00	-	0.00
T10	8,560	8,561	7.46	108.5	0.00	89.65	-	-	0.00	0.00	-	0.00
T11	7,380	7,380	9.21	108.5	0.00	88.36	-	-	0.00	0.00	-	0.00
T12	7,353	7,353	9.25	108.5	0.00	88.33	-	-	0.00	0.00	-	0.00
T13	6,592	6,592	10.55	108.5	0.00	87.38	-	-	0.00	0.00	-	0.00
T14	6,808	6,808	10.17	108.5	0.00	87.66	-	-	0.00	0.00	-	0.00
T15	5,803	5,803	12.07	108.5	0.00	86.27	-	-	0.00	0.00	-	0.00
T16	4,736	4,737	14.52	108.5	0.00	84.51	-	-	0.00	0.00	-	0.00
T17	4,912	4,912	14.08	108.5	0.00	84.83	-	-	0.00	0.00	-	0.00
T18	5,078	5,078	13.68	108.5	0.00	85.11	-	-	0.00	0.00	-	0.00
T19	5,694	5,694	12.30	108.5	0.00	86.11	-	-	0.00	0.00	-	0.00
T20	5,676	5,677	12.34	108.5	0.00	86.08	-	-	0.00	0.00	-	0.00
T21	6,194	6,195	11.29	108.5	0.00	86.84	-	-	0.00	0.00	-	0.00
T22	4,751	4,753	14.48	108.5	0.00	84.54	-	-	0.00	0.00	-	0.00
T23	5,113	5,114	13.60	108.5	0.00	85.17	-	-	0.00	0.00	-	0.00
T24	5,453	5,454	12.82	108.5	0.00	85.73	-	-	0.00	0.00	-	0.00
T25	3,621	3,622	17.75	108.5	0.00	82.18	-	-	0.00	0.00	-	0.00
T26	3,712	3,713	17.45	108.5	0.00	82.40	-	-	0.00	0.00	-	0.00
T27	3,814	3,816	17.13	108.5	0.00	82.63	-	-	0.00	0.00	-	0.00
T28	3,873	3,875	16.94	108.5	0.00	82.77	-	-	0.00	0.00	-	0.00
T29	3,814	3,815	17.13	108.5	0.00	82.63	-	-	0.00	0.00	-	0.00
T30	4,236	4,238	15.86	108.5	0.00	83.54	-	-	0.00	0.00	-	0.00
T31	4,529	4,530	15.06	108.5	0.00	84.12	-	-	0.00	0.00	-	0.00
T32	5,414	5,414	12.91	108.5	0.00	85.67	-	-	0.00	0.00	-	0.00
T33	5,765	5,766	12.15	108.5	0.00	86.22	-	-	0.00	0.00	-	0.00
T34	3,117	3,119	19.53	108.5	0.00	80.88	-	-	0.00	0.00	-	0.00
T35	2,755	2,757	20.98	108.5	0.00	79.81	-	-	0.00	0.00	-	0.00
T36	3,594	3,595	17.84	108.5	0.00	82.11	-	-	0.00	0.00	-	0.00
T37	4,272	4,273	15.76	108.5	0.00	83.61	-	-	0.00	0.00	-	0.00
T38	4,777	4,778	14.42	108.5	0.00	84.58	-	-	0.00	0.00	-	0.00
T39	2,452	2,454	22.38	108.5	0.00	78.80	-	-	0.00	0.00	-	0.00
T40	3,179	3,181	19.30	108.5	0.00	81.05	-	-	0.00	0.00	-	0.00
T41	3,134	3,135	19.47	108.5	0.00	80.93	-	-	0.00	0.00	-	0.00
T42	4,032	4,033	16.46	108.5	0.00	83.11	-	-	0.00	0.00	-	0.00
T43	4,767	4,767	14.44	108.5	0.00	84.57	-	-	0.00	0.00	-	0.00
T44	5,130	5,131	13.56	108.5	0.00	85.20	-	-	0.00	0.00	-	0.00
T45	5,434	5,435	12.86	108.5	0.00	85.70	-	-	0.00	0.00	-	0.00
T46	5,593	5,593	12.52	108.5	0.00	85.95	-	-	0.00	0.00	-	0.00
T47	6,413	6,414	10.88	108.5	0.00	87.14	-	-	0.00	0.00	-	0.00
T48 Alt	5,992	5,992	11.69	108.5	0.00	86.55	-	-	0.00	0.00	-	0.00
T49 Alt	6,323	6,324	11.05	108.5	0.00	87.02	-	-	0.00	0.00	-	0.00
T50 Alt	6,145	6,146	11.39	108.5	0.00	86.77	-	-	0.00	0.00	-	0.00
T51 Alt	6,304	6,305	11.08	108.5	0.00	86.99	-	-	0.00	0.00	-	0.00
T52 Alt	9,030	9,030	6.83	108.5	0.00	90.11	-	-	0.00	0.00	-	0.00
T53 Alt	10,053	10,053	5.58	108.5	0.00	91.05	-	-	0.00	0.00	-	0.00
T54 Alt	8,339	8,339	7.77	108.5	0.00	89.42	-	-	0.00	0.00	-	0.00
T55 Alt	7,617	7,618	8.83	108.5	0.00	88.64	-	-	0.00	0.00	-	0.00
T56 Alt	5,541	5,541	12.63	108.5	0.00	85.87	-	-	0.00	0.00	-	0.00
T57 Alt	8,094	8,094	8.12	108.5	0.00	89.16	-	-	0.00	0.00	-	0.00
T58 Alt	7,357	7,357	9.25	108.5	0.00	88.33	-	-	0.00	0.00	-	0.00
T59 Alt	7,183	7,184	9.53	108.5	0.00	88.13	-	-	0.00	0.00	-	0.00

Sum 32.09

- Data undefined due to calculation with octave data

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

Description:
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

Noise sensitive area: H09 Noise sensitive point: User defined (90)

WTG No.	Distance		95% rated power									
	[m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	2,972	2,974	20.09	108.5	0.00	80.47	-	-	0.00	0.00	-	0.00
T02	3,660	3,661	17.62	108.5	0.00	82.27	-	-	0.00	0.00	-	0.00
T03	4,138	4,139	16.15	108.5	0.00	83.34	-	-	0.00	0.00	-	0.00
T04	4,835	4,836	14.27	108.5	0.00	84.69	-	-	0.00	0.00	-	0.00
T05	5,634	5,635	12.43	108.5	0.00	86.02	-	-	0.00	0.00	-	0.00
T06	6,133	6,134	11.41	108.5	0.00	86.76	-	-	0.00	0.00	-	0.00
T07	6,805	6,806	10.17	108.5	0.00	87.66	-	-	0.00	0.00	-	0.00
T08	6,495	6,496	10.72	108.5	0.00	87.25	-	-	0.00	0.00	-	0.00
T09	7,316	7,317	9.31	108.5	0.00	88.29	-	-	0.00	0.00	-	0.00
T10	7,671	7,671	8.75	108.5	0.00	88.70	-	-	0.00	0.00	-	0.00
T11	6,867	6,868	10.06	108.5	0.00	87.74	-	-	0.00	0.00	-	0.00
T12	6,948	6,949	9.92	108.5	0.00	87.84	-	-	0.00	0.00	-	0.00
T13	7,880	7,881	8.43	108.5	0.00	88.93	-	-	0.00	0.00	-	0.00
T14	7,895	7,896	8.41	108.5	0.00	88.95	-	-	0.00	0.00	-	0.00
T15	8,488	8,488	7.56	108.5	0.00	89.58	-	-	0.00	0.00	-	0.00
T16	9,522	9,523	6.21	108.5	0.00	90.58	-	-	0.00	0.00	-	0.00
T17	9,462	9,462	6.29	108.5	0.00	90.52	-	-	0.00	0.00	-	0.00
T18	9,492	9,492	6.25	108.5	0.00	90.55	-	-	0.00	0.00	-	0.00
T19	9,188	9,189	6.63	108.5	0.00	90.27	-	-	0.00	0.00	-	0.00
T20	9,575	9,576	6.15	108.5	0.00	90.62	-	-	0.00	0.00	-	0.00
T21	9,413	9,414	6.35	108.5	0.00	90.48	-	-	0.00	0.00	-	0.00
T22	10,341	10,342	5.25	108.5	0.00	91.29	-	-	0.00	0.00	-	0.00
T23	10,404	10,405	5.18	108.5	0.00	91.34	-	-	0.00	0.00	-	0.00
T24	10,485	10,486	5.09	108.5	0.00	91.41	-	-	0.00	0.00	-	0.00
T25	10,665	10,666	4.90	108.5	0.00	91.56	-	-	0.00	0.00	-	0.00
T26	10,699	10,700	4.86	108.5	0.00	91.59	-	-	0.00	0.00	-	0.00
T27	10,767	10,768	4.79	108.5	0.00	91.64	-	-	0.00	0.00	-	0.00
T28	10,944	10,944	4.60	108.5	0.00	91.78	-	-	0.00	0.00	-	0.00
T29	11,599	11,600	3.92	108.5	0.00	92.29	-	-	0.00	0.00	-	0.00
T30	11,548	11,548	3.98	108.5	0.00	92.25	-	-	0.00	0.00	-	0.00
T31	11,711	11,712	3.81	108.5	0.00	92.37	-	-	0.00	0.00	-	0.00
T32	11,798	11,798	3.73	108.5	0.00	92.44	-	-	0.00	0.00	-	0.00
T33	12,013	12,014	3.52	108.5	0.00	92.59	-	-	0.00	0.00	-	0.00
T34	11,829	11,829	3.70	108.5	0.00	92.46	-	-	0.00	0.00	-	0.00
T35	12,494	12,495	3.07	108.5	0.00	92.93	-	-	0.00	0.00	-	0.00
T36	12,504	12,505	3.06	108.5	0.00	92.94	-	-	0.00	0.00	-	0.00
T37	12,517	12,518	3.04	108.5	0.00	92.95	-	-	0.00	0.00	-	0.00
T38	12,658	12,658	2.92	108.5	0.00	93.05	-	-	0.00	0.00	-	0.00
T39	13,216	13,216	2.42	108.5	0.00	93.42	-	-	0.00	0.00	-	0.00
T40	13,351	13,351	2.30	108.5	0.00	93.51	-	-	0.00	0.00	-	0.00
T41	14,057	14,057	1.71	108.5	0.00	93.96	-	-	0.00	0.00	-	0.00
T42	13,325	13,325	2.32	108.5	0.00	93.49	-	-	0.00	0.00	-	0.00
T43	13,261	13,262	2.38	108.5	0.00	93.45	-	-	0.00	0.00	-	0.00
T44	14,184	14,184	1.60	108.5	0.00	94.04	-	-	0.00	0.00	-	0.00
T45	14,581	14,581	1.28	108.5	0.00	94.28	-	-	0.00	0.00	-	0.00
T46	13,406	13,406	2.25	108.5	0.00	93.55	-	-	0.00	0.00	-	0.00
T47	13,228	13,229	2.41	108.5	0.00	93.43	-	-	0.00	0.00	-	0.00
T48 Alt	14,425	14,425	1.41	108.5	0.00	94.18	-	-	0.00	0.00	-	0.00
T49 Alt	14,776	14,776	1.13	108.5	0.00	94.39	-	-	0.00	0.00	-	0.00
T50 Alt	10,202	10,202	5.41	108.5	0.00	91.17	-	-	0.00	0.00	-	0.00
T51 Alt	9,674	9,674	6.03	108.5	0.00	90.71	-	-	0.00	0.00	-	0.00
T52 Alt	5,228	5,229	13.33	108.5	0.00	85.37	-	-	0.00	0.00	-	0.00
T53 Alt	4,199	4,200	15.97	108.5	0.00	83.47	-	-	0.00	0.00	-	0.00
T54 Alt	5,929	5,930	11.82	108.5	0.00	86.46	-	-	0.00	0.00	-	0.00
T55 Alt	6,947	6,948	9.92	108.5	0.00	87.84	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:
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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T56 Alt	12,775	12,775	2.81	108.5	0.00	93.13	-	-	0.00	0.00	-	0.00
T57 Alt	7,156	7,157	9.57	108.5	0.00	88.09	-	-	0.00	0.00	-	0.00
T58 Alt	9,193	9,193	6.63	108.5	0.00	90.27	-	-	0.00	0.00	-	0.00
T59 Alt	9,611	9,611	6.11	108.5	0.00	90.66	-	-	0.00	0.00	-	0.00

Sum 27.30

- Data undefined due to calculation with octave data

Noise sensitive area: H10 Noise sensitive point: User defined (91)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	1,514	1,516	28.28	108.5	0.00	74.62	-	-	0.00	0.00	-	0.00
T02	2,121	2,123	24.19	108.5	0.00	77.54	-	-	0.00	0.00	-	0.00
T03	2,496	2,497	22.15	108.5	0.00	78.95	-	-	0.00	0.00	-	0.00
T04	3,091	3,092	19.64	108.5	0.00	80.80	-	-	0.00	0.00	-	0.00
T05	4,082	4,082	16.31	108.5	0.00	83.22	-	-	0.00	0.00	-	0.00
T06	4,522	4,523	15.08	108.5	0.00	84.11	-	-	0.00	0.00	-	0.00
T07	5,093	5,094	13.64	108.5	0.00	85.14	-	-	0.00	0.00	-	0.00
T08	4,645	4,646	14.75	108.5	0.00	84.34	-	-	0.00	0.00	-	0.00
T09	5,478	5,479	12.77	108.5	0.00	85.77	-	-	0.00	0.00	-	0.00
T10	5,809	5,809	12.06	108.5	0.00	86.28	-	-	0.00	0.00	-	0.00
T11	5,600	5,600	12.50	108.5	0.00	85.96	-	-	0.00	0.00	-	0.00
T12	5,573	5,573	12.56	108.5	0.00	85.92	-	-	0.00	0.00	-	0.00
T13	6,387	6,388	10.93	108.5	0.00	87.11	-	-	0.00	0.00	-	0.00
T14	6,311	6,312	11.07	108.5	0.00	87.00	-	-	0.00	0.00	-	0.00
T15	7,121	7,122	9.63	108.5	0.00	88.05	-	-	0.00	0.00	-	0.00
T16	8,193	8,194	7.97	108.5	0.00	89.27	-	-	0.00	0.00	-	0.00
T17	8,040	8,040	8.20	108.5	0.00	89.11	-	-	0.00	0.00	-	0.00
T18	7,991	7,991	8.27	108.5	0.00	89.05	-	-	0.00	0.00	-	0.00
T19	7,594	7,595	8.87	108.5	0.00	88.61	-	-	0.00	0.00	-	0.00
T20	7,923	7,924	8.37	108.5	0.00	88.98	-	-	0.00	0.00	-	0.00
T21	7,700	7,701	8.71	108.5	0.00	88.73	-	-	0.00	0.00	-	0.00
T22	8,746	8,746	7.21	108.5	0.00	89.84	-	-	0.00	0.00	-	0.00
T23	8,746	8,747	7.21	108.5	0.00	89.84	-	-	0.00	0.00	-	0.00
T24	8,778	8,779	7.17	108.5	0.00	89.87	-	-	0.00	0.00	-	0.00
T25	9,305	9,306	6.48	108.5	0.00	90.38	-	-	0.00	0.00	-	0.00
T26	9,275	9,276	6.52	108.5	0.00	90.35	-	-	0.00	0.00	-	0.00
T27	9,292	9,292	6.50	108.5	0.00	90.36	-	-	0.00	0.00	-	0.00
T28	9,420	9,420	6.34	108.5	0.00	90.48	-	-	0.00	0.00	-	0.00
T29	10,007	10,008	5.64	108.5	0.00	91.01	-	-	0.00	0.00	-	0.00
T30	9,909	9,910	5.75	108.5	0.00	90.92	-	-	0.00	0.00	-	0.00
T31	10,033	10,033	5.61	108.5	0.00	91.03	-	-	0.00	0.00	-	0.00
T32	10,040	10,040	5.60	108.5	0.00	91.03	-	-	0.00	0.00	-	0.00
T33	10,226	10,226	5.39	108.5	0.00	91.19	-	-	0.00	0.00	-	0.00
T34	10,313	10,313	5.29	108.5	0.00	91.27	-	-	0.00	0.00	-	0.00
T35	10,965	10,965	4.58	108.5	0.00	91.80	-	-	0.00	0.00	-	0.00
T36	10,883	10,884	4.66	108.5	0.00	91.74	-	-	0.00	0.00	-	0.00
T37	10,834	10,835	4.71	108.5	0.00	91.70	-	-	0.00	0.00	-	0.00
T38	10,931	10,932	4.61	108.5	0.00	91.77	-	-	0.00	0.00	-	0.00
T39	11,680	11,680	3.84	108.5	0.00	92.35	-	-	0.00	0.00	-	0.00
T40	11,743	11,743	3.78	108.5	0.00	92.40	-	-	0.00	0.00	-	0.00
T41	12,446	12,447	3.11	108.5	0.00	92.90	-	-	0.00	0.00	-	0.00
T42	11,647	11,647	3.88	108.5	0.00	92.32	-	-	0.00	0.00	-	0.00
T43	11,530	11,530	3.99	108.5	0.00	92.24	-	-	0.00	0.00	-	0.00

To be continued on next page...

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T44	12,431	12,431	3.12	108.5	0.00	92.89	-	-	0.00	0.00	-	0.00
T45	12,813	12,814	2.77	108.5	0.00	93.15	-	-	0.00	0.00	-	0.00
T46	11,621	11,621	3.90	108.5	0.00	92.30	-	-	0.00	0.00	-	0.00
T47	11,397	11,397	4.13	108.5	0.00	92.14	-	-	0.00	0.00	-	0.00
T48 Alt	12,624	12,624	2.95	108.5	0.00	93.02	-	-	0.00	0.00	-	0.00
T49 Alt	12,962	12,962	2.64	108.5	0.00	93.25	-	-	0.00	0.00	-	0.00
T50 Alt	8,439	8,439	7.63	108.5	0.00	89.53	-	-	0.00	0.00	-	0.00
T51 Alt	7,925	7,926	8.37	108.5	0.00	88.98	-	-	0.00	0.00	-	0.00
T52 Alt	3,964	3,965	16.67	108.5	0.00	82.96	-	-	0.00	0.00	-	0.00
T53 Alt	3,015	3,016	19.93	108.5	0.00	80.59	-	-	0.00	0.00	-	0.00
T54 Alt	4,618	4,619	14.82	108.5	0.00	84.29	-	-	0.00	0.00	-	0.00
T55 Alt	5,392	5,393	12.96	108.5	0.00	85.64	-	-	0.00	0.00	-	0.00
T56 Alt	10,994	10,994	4.55	108.5	0.00	91.82	-	-	0.00	0.00	-	0.00
T57 Alt	5,407	5,408	12.92	108.5	0.00	85.66	-	-	0.00	0.00	-	0.00
T58 Alt	7,365	7,365	9.23	108.5	0.00	88.34	-	-	0.00	0.00	-	0.00
T59 Alt	7,780	7,781	8.58	108.5	0.00	88.82	-	-	0.00	0.00	-	0.00
Sum	32.56											

- Data undefined due to calculation with octave data

Noise sensitive area: H11 Noise sensitive point: User defined (92)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	1,417	1,420	29.06	108.5	0.00	74.04	-	-	0.00	0.00	-	0.00
T02	1,770	1,772	26.41	108.5	0.00	75.97	-	-	0.00	0.00	-	0.00
T03	1,976	1,978	25.06	108.5	0.00	76.93	-	-	0.00	0.00	-	0.00
T04	2,413	2,414	22.58	108.5	0.00	78.66	-	-	0.00	0.00	-	0.00
T05	3,535	3,536	18.04	108.5	0.00	81.97	-	-	0.00	0.00	-	0.00
T06	3,911	3,912	16.83	108.5	0.00	82.85	-	-	0.00	0.00	-	0.00
T07	4,385	4,385	15.45	108.5	0.00	83.84	-	-	0.00	0.00	-	0.00
T08	3,820	3,821	17.11	108.5	0.00	82.64	-	-	0.00	0.00	-	0.00
T09	4,656	4,657	14.73	108.5	0.00	84.36	-	-	0.00	0.00	-	0.00
T10	4,963	4,963	13.96	108.5	0.00	84.92	-	-	0.00	0.00	-	0.00
T11	5,206	5,207	13.38	108.5	0.00	85.33	-	-	0.00	0.00	-	0.00
T12	5,106	5,107	13.61	108.5	0.00	85.16	-	-	0.00	0.00	-	0.00
T13	5,821	5,822	12.04	108.5	0.00	86.30	-	-	0.00	0.00	-	0.00
T14	5,681	5,682	12.33	108.5	0.00	86.09	-	-	0.00	0.00	-	0.00
T15	6,627	6,628	10.48	108.5	0.00	87.43	-	-	0.00	0.00	-	0.00
T16	7,708	7,709	8.69	108.5	0.00	88.74	-	-	0.00	0.00	-	0.00
T17	7,497	7,497	9.02	108.5	0.00	88.50	-	-	0.00	0.00	-	0.00
T18	7,396	7,397	9.18	108.5	0.00	88.38	-	-	0.00	0.00	-	0.00
T19	6,941	6,942	9.93	108.5	0.00	87.83	-	-	0.00	0.00	-	0.00
T20	7,227	7,227	9.46	108.5	0.00	88.18	-	-	0.00	0.00	-	0.00
T21	6,961	6,962	9.90	108.5	0.00	87.85	-	-	0.00	0.00	-	0.00
T22	8,081	8,082	8.14	108.5	0.00	89.15	-	-	0.00	0.00	-	0.00
T23	8,039	8,040	8.20	108.5	0.00	89.11	-	-	0.00	0.00	-	0.00
T24	8,037	8,038	8.20	108.5	0.00	89.10	-	-	0.00	0.00	-	0.00
T25	8,788	8,789	7.15	108.5	0.00	89.88	-	-	0.00	0.00	-	0.00
T26	8,719	8,719	7.24	108.5	0.00	89.81	-	-	0.00	0.00	-	0.00
T27	8,702	8,702	7.27	108.5	0.00	89.79	-	-	0.00	0.00	-	0.00
T28	8,798	8,798	7.14	108.5	0.00	89.89	-	-	0.00	0.00	-	0.00
T29	9,338	9,338	6.44	108.5	0.00	90.41	-	-	0.00	0.00	-	0.00
T30	9,209	9,209	6.60	108.5	0.00	90.28	-	-	0.00	0.00	-	0.00
T31	9,305	9,306	6.48	108.5	0.00	90.38	-	-	0.00	0.00	-	0.00

To be continued on next page...

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	9,257	9,257	6.54	108.5	0.00	90.33	-	-	0.00	0.00	-	0.00
T33	9,422	9,422	6.34	108.5	0.00	90.48	-	-	0.00	0.00	-	0.00
T34	9,690	9,690	6.01	108.5	0.00	90.73	-	-	0.00	0.00	-	0.00
T35	10,330	10,330	5.27	108.5	0.00	91.28	-	-	0.00	0.00	-	0.00
T36	10,190	10,190	5.43	108.5	0.00	91.16	-	-	0.00	0.00	-	0.00
T37	10,100	10,101	5.53	108.5	0.00	91.09	-	-	0.00	0.00	-	0.00
T38	10,168	10,168	5.45	108.5	0.00	91.14	-	-	0.00	0.00	-	0.00
T39	11,037	11,037	4.50	108.5	0.00	91.86	-	-	0.00	0.00	-	0.00
T40	11,055	11,055	4.48	108.5	0.00	91.87	-	-	0.00	0.00	-	0.00
T41	11,754	11,754	3.77	108.5	0.00	92.40	-	-	0.00	0.00	-	0.00
T42	10,913	10,914	4.63	108.5	0.00	91.76	-	-	0.00	0.00	-	0.00
T43	10,761	10,761	4.79	108.5	0.00	91.64	-	-	0.00	0.00	-	0.00
T44	11,645	11,645	3.88	108.5	0.00	92.32	-	-	0.00	0.00	-	0.00
T45	12,017	12,018	3.52	108.5	0.00	92.60	-	-	0.00	0.00	-	0.00
T46	10,815	10,815	4.74	108.5	0.00	91.68	-	-	0.00	0.00	-	0.00
T47	10,559	10,559	5.01	108.5	0.00	91.47	-	-	0.00	0.00	-	0.00
T48 Alt	11,805	11,806	3.72	108.5	0.00	92.44	-	-	0.00	0.00	-	0.00
T49 Alt	12,134	12,135	3.40	108.5	0.00	92.68	-	-	0.00	0.00	-	0.00
T50 Alt	7,659	7,659	8.77	108.5	0.00	88.68	-	-	0.00	0.00	-	0.00
T51 Alt	7,159	7,160	9.57	108.5	0.00	88.10	-	-	0.00	0.00	-	0.00
T52 Alt	3,646	3,647	17.67	108.5	0.00	82.24	-	-	0.00	0.00	-	0.00
T53 Alt	2,836	2,837	20.64	108.5	0.00	80.06	-	-	0.00	0.00	-	0.00
T54 Alt	4,231	4,232	15.88	108.5	0.00	83.53	-	-	0.00	0.00	-	0.00
T55 Alt	4,802	4,802	14.35	108.5	0.00	84.63	-	-	0.00	0.00	-	0.00
T56 Alt	10,193	10,193	5.42	108.5	0.00	91.17	-	-	0.00	0.00	-	0.00
T57 Alt	4,663	4,664	14.71	108.5	0.00	84.37	-	-	0.00	0.00	-	0.00
T58 Alt	6,541	6,541	10.64	108.5	0.00	87.31	-	-	0.00	0.00	-	0.00
T59 Alt	6,952	6,953	9.92	108.5	0.00	87.84	-	-	0.00	0.00	-	0.00
Sum	34.08											

- Data undefined due to calculation with octave data

Noise sensitive area: H12 Noise sensitive point: User defined (93)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	875	879	34.56	108.5	0.00	69.88	-	-	0.00	0.00	-	0.00
T02	809	813	35.42	108.5	0.00	69.21	-	-	0.00	0.00	-	0.00
T03	913	917	34.08	108.5	0.00	70.25	-	-	0.00	0.00	-	0.00
T04	1,406	1,408	29.16	108.5	0.00	73.97	-	-	0.00	0.00	-	0.00
T05	2,476	2,477	22.26	108.5	0.00	78.88	-	-	0.00	0.00	-	0.00
T06	2,872	2,873	20.50	108.5	0.00	80.17	-	-	0.00	0.00	-	0.00
T07	3,408	3,409	18.48	108.5	0.00	81.65	-	-	0.00	0.00	-	0.00
T08	2,999	3,000	19.99	108.5	0.00	80.54	-	-	0.00	0.00	-	0.00
T09	3,822	3,824	17.10	108.5	0.00	82.65	-	-	0.00	0.00	-	0.00
T10	4,175	4,176	16.04	108.5	0.00	83.41	-	-	0.00	0.00	-	0.00
T11	4,146	4,147	16.12	108.5	0.00	83.36	-	-	0.00	0.00	-	0.00
T12	4,042	4,043	16.43	108.5	0.00	83.13	-	-	0.00	0.00	-	0.00
T13	4,771	4,772	14.43	108.5	0.00	84.57	-	-	0.00	0.00	-	0.00
T14	4,655	4,656	14.73	108.5	0.00	84.36	-	-	0.00	0.00	-	0.00
T15	5,565	5,566	12.58	108.5	0.00	85.91	-	-	0.00	0.00	-	0.00
T16	6,646	6,646	10.45	108.5	0.00	87.45	-	-	0.00	0.00	-	0.00
T17	6,443	6,444	10.82	108.5	0.00	87.18	-	-	0.00	0.00	-	0.00
T18	6,358	6,358	10.98	108.5	0.00	87.07	-	-	0.00	0.00	-	0.00
T19	5,929	5,930	11.82	108.5	0.00	86.46	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

Description:
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Calculated:
 6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T20	6,243	6,243	11.20	108.5	0.00	86.91	-	-	0.00	0.00	-	0.00
T21	6,013	6,014	11.65	108.5	0.00	86.58	-	-	0.00	0.00	-	0.00
T22	7,077	7,077	9.70	108.5	0.00	88.00	-	-	0.00	0.00	-	0.00
T23	7,064	7,064	9.73	108.5	0.00	87.98	-	-	0.00	0.00	-	0.00
T24	7,091	7,092	9.68	108.5	0.00	88.02	-	-	0.00	0.00	-	0.00
T25	7,730	7,731	8.66	108.5	0.00	88.77	-	-	0.00	0.00	-	0.00
T26	7,669	7,670	8.75	108.5	0.00	88.70	-	-	0.00	0.00	-	0.00
T27	7,662	7,663	8.76	108.5	0.00	88.69	-	-	0.00	0.00	-	0.00
T28	7,771	7,772	8.60	108.5	0.00	88.81	-	-	0.00	0.00	-	0.00
T29	8,337	8,338	7.77	108.5	0.00	89.42	-	-	0.00	0.00	-	0.00
T30	8,228	8,229	7.92	108.5	0.00	89.31	-	-	0.00	0.00	-	0.00
T31	8,347	8,348	7.76	108.5	0.00	89.43	-	-	0.00	0.00	-	0.00
T32	8,356	8,357	7.74	108.5	0.00	89.44	-	-	0.00	0.00	-	0.00
T33	8,549	8,550	7.47	108.5	0.00	89.64	-	-	0.00	0.00	-	0.00
T34	8,664	8,665	7.32	108.5	0.00	89.76	-	-	0.00	0.00	-	0.00
T35	9,310	9,311	6.48	108.5	0.00	90.38	-	-	0.00	0.00	-	0.00
T36	9,205	9,205	6.61	108.5	0.00	90.28	-	-	0.00	0.00	-	0.00
T37	9,148	9,148	6.68	108.5	0.00	90.23	-	-	0.00	0.00	-	0.00
T38	9,245	9,245	6.56	108.5	0.00	90.32	-	-	0.00	0.00	-	0.00
T39	10,022	10,022	5.62	108.5	0.00	91.02	-	-	0.00	0.00	-	0.00
T40	10,067	10,067	5.57	108.5	0.00	91.06	-	-	0.00	0.00	-	0.00
T41	10,769	10,769	4.78	108.5	0.00	91.64	-	-	0.00	0.00	-	0.00
T42	9,961	9,961	5.69	108.5	0.00	90.97	-	-	0.00	0.00	-	0.00
T43	9,844	9,844	5.83	108.5	0.00	90.86	-	-	0.00	0.00	-	0.00
T44	10,747	10,748	4.81	108.5	0.00	91.63	-	-	0.00	0.00	-	0.00
T45	11,133	11,133	4.40	108.5	0.00	91.93	-	-	0.00	0.00	-	0.00
T46	9,944	9,944	5.71	108.5	0.00	90.95	-	-	0.00	0.00	-	0.00
T47	9,740	9,740	5.95	108.5	0.00	90.77	-	-	0.00	0.00	-	0.00
T48 Alt	10,953	10,953	4.59	108.5	0.00	91.79	-	-	0.00	0.00	-	0.00
T49 Alt	11,297	11,297	4.23	108.5	0.00	92.06	-	-	0.00	0.00	-	0.00
T50 Alt	6,755	6,756	10.26	108.5	0.00	87.59	-	-	0.00	0.00	-	0.00
T51 Alt	6,240	6,240	11.20	108.5	0.00	86.90	-	-	0.00	0.00	-	0.00
T52 Alt	2,614	2,616	21.59	108.5	0.00	79.35	-	-	0.00	0.00	-	0.00
T53 Alt	1,907	1,908	25.51	108.5	0.00	76.61	-	-	0.00	0.00	-	0.00
T54 Alt	3,176	3,177	19.32	108.5	0.00	81.04	-	-	0.00	0.00	-	0.00
T55 Alt	3,758	3,758	17.31	108.5	0.00	82.50	-	-	0.00	0.00	-	0.00
T56 Alt	9,316	9,316	6.47	108.5	0.00	90.38	-	-	0.00	0.00	-	0.00
T57 Alt	3,721	3,721	17.43	108.5	0.00	82.41	-	-	0.00	0.00	-	0.00
T58 Alt	5,704	5,705	12.28	108.5	0.00	86.12	-	-	0.00	0.00	-	0.00
T59 Alt	6,121	6,122	11.43	108.5	0.00	86.74	-	-	0.00	0.00	-	0.00

Sum 40.57

- Data undefined due to calculation with octave data

Noise sensitive area: H13 Noise sensitive point: User defined (94)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	2,025	2,027	24.76	108.5	0.00	77.14	-	-	0.00	0.00	-	0.00
T02	1,602	1,604	27.61	108.5	0.00	75.11	-	-	0.00	0.00	-	0.00
T03	1,223	1,226	30.77	108.5	0.00	72.77	-	-	0.00	0.00	-	0.00
T04	894	898	34.32	108.5	0.00	70.07	-	-	0.00	0.00	-	0.00
T05	2,086	2,088	24.40	108.5	0.00	77.39	-	-	0.00	0.00	-	0.00
T06	2,274	2,276	23.32	108.5	0.00	78.14	-	-	0.00	0.00	-	0.00
T07	2,550	2,551	21.88	108.5	0.00	79.13	-	-	0.00	0.00	-	0.00

To be continued on next page...

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20131290 Rolette Power Development

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Warren Enyart and Merle Boucher
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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T08	1,885	1,887	25.65	108.5	0.00	76.51	-	-	0.00	0.00	-	0.00
T09	2,721	2,723	21.12	108.5	0.00	79.70	-	-	0.00	0.00	-	0.00
T10	3,034	3,035	19.85	108.5	0.00	80.64	-	-	0.00	0.00	-	0.00
T11	3,906	3,907	16.84	108.5	0.00	82.84	-	-	0.00	0.00	-	0.00
T12	3,669	3,669	17.60	108.5	0.00	82.29	-	-	0.00	0.00	-	0.00
T13	4,166	4,166	16.07	108.5	0.00	83.40	-	-	0.00	0.00	-	0.00
T14	3,928	3,929	16.77	108.5	0.00	82.89	-	-	0.00	0.00	-	0.00
T15	5,070	5,070	13.70	108.5	0.00	85.10	-	-	0.00	0.00	-	0.00
T16	6,137	6,137	11.40	108.5	0.00	86.76	-	-	0.00	0.00	-	0.00
T17	5,837	5,838	12.00	108.5	0.00	86.33	-	-	0.00	0.00	-	0.00
T18	5,663	5,663	12.37	108.5	0.00	86.06	-	-	0.00	0.00	-	0.00
T19	5,134	5,135	13.55	108.5	0.00	85.21	-	-	0.00	0.00	-	0.00
T20	5,366	5,367	13.01	108.5	0.00	85.59	-	-	0.00	0.00	-	0.00
T21	5,063	5,064	13.71	108.5	0.00	85.09	-	-	0.00	0.00	-	0.00
T22	6,250	6,251	11.18	108.5	0.00	86.92	-	-	0.00	0.00	-	0.00
T23	6,164	6,165	11.35	108.5	0.00	86.80	-	-	0.00	0.00	-	0.00
T24	6,133	6,134	11.41	108.5	0.00	86.76	-	-	0.00	0.00	-	0.00
T25	7,148	7,149	9.59	108.5	0.00	88.08	-	-	0.00	0.00	-	0.00
T26	7,021	7,022	9.80	108.5	0.00	87.93	-	-	0.00	0.00	-	0.00
T27	6,958	6,958	9.91	108.5	0.00	87.85	-	-	0.00	0.00	-	0.00
T28	7,011	7,012	9.81	108.5	0.00	87.92	-	-	0.00	0.00	-	0.00
T29	7,493	7,494	9.03	108.5	0.00	88.49	-	-	0.00	0.00	-	0.00
T30	7,335	7,336	9.28	108.5	0.00	88.31	-	-	0.00	0.00	-	0.00
T31	7,408	7,409	9.16	108.5	0.00	88.39	-	-	0.00	0.00	-	0.00
T32	7,328	7,329	9.29	108.5	0.00	88.30	-	-	0.00	0.00	-	0.00
T33	7,488	7,488	9.04	108.5	0.00	88.49	-	-	0.00	0.00	-	0.00
T34	7,896	7,897	8.41	108.5	0.00	88.95	-	-	0.00	0.00	-	0.00
T35	8,518	8,518	7.52	108.5	0.00	89.61	-	-	0.00	0.00	-	0.00
T36	8,319	8,319	7.80	108.5	0.00	89.40	-	-	0.00	0.00	-	0.00
T37	8,196	8,197	7.97	108.5	0.00	89.27	-	-	0.00	0.00	-	0.00
T38	8,246	8,247	7.90	108.5	0.00	89.33	-	-	0.00	0.00	-	0.00
T39	9,213	9,214	6.60	108.5	0.00	90.29	-	-	0.00	0.00	-	0.00
T40	9,186	9,186	6.63	108.5	0.00	90.26	-	-	0.00	0.00	-	0.00
T41	9,880	9,880	5.79	108.5	0.00	90.90	-	-	0.00	0.00	-	0.00
T42	9,009	9,010	6.86	108.5	0.00	90.09	-	-	0.00	0.00	-	0.00
T43	8,837	8,837	7.09	108.5	0.00	89.93	-	-	0.00	0.00	-	0.00
T44	9,714	9,715	5.98	108.5	0.00	90.75	-	-	0.00	0.00	-	0.00
T45	10,084	10,085	5.55	108.5	0.00	91.07	-	-	0.00	0.00	-	0.00
T46	8,880	8,881	7.03	108.5	0.00	89.97	-	-	0.00	0.00	-	0.00
T47	8,628	8,629	7.37	108.5	0.00	89.72	-	-	0.00	0.00	-	0.00
T48 Alt	9,871	9,871	5.80	108.5	0.00	90.89	-	-	0.00	0.00	-	0.00
T49 Alt	10,201	10,201	5.41	108.5	0.00	91.17	-	-	0.00	0.00	-	0.00
T50 Alt	5,732	5,733	12.22	108.5	0.00	86.17	-	-	0.00	0.00	-	0.00
T51 Alt	5,241	5,241	13.30	108.5	0.00	85.39	-	-	0.00	0.00	-	0.00
T52 Alt	2,706	2,707	21.19	108.5	0.00	79.65	-	-	0.00	0.00	-	0.00
T53 Alt	2,438	2,439	22.45	108.5	0.00	78.74	-	-	0.00	0.00	-	0.00
T54 Alt	3,042	3,043	19.82	108.5	0.00	80.66	-	-	0.00	0.00	-	0.00
T55 Alt	3,145	3,146	19.43	108.5	0.00	80.96	-	-	0.00	0.00	-	0.00
T56 Alt	8,259	8,259	7.88	108.5	0.00	89.34	-	-	0.00	0.00	-	0.00
T57 Alt	2,777	2,778	20.89	108.5	0.00	79.88	-	-	0.00	0.00	-	0.00
T58 Alt	4,606	4,607	14.86	108.5	0.00	84.27	-	-	0.00	0.00	-	0.00
T59 Alt	5,018	5,019	13.82	108.5	0.00	85.01	-	-	0.00	0.00	-	0.00

Sum 38.61

- Data undefined due to calculation with octave data

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

Noise sensitive area: H14 Noise sensitive point: User defined (95)

WTG No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	5,232	5,233	13.32	108.5	0.00	85.37	-	-	0.00	0.00	-	0.00
T02	4,544	4,545	15.02	108.5	0.00	84.15	-	-	0.00	0.00	-	0.00
T03	4,077	4,078	16.33	108.5	0.00	83.21	-	-	0.00	0.00	-	0.00
T04	3,451	3,452	18.33	108.5	0.00	81.76	-	-	0.00	0.00	-	0.00
T05	2,600	2,602	21.65	108.5	0.00	79.31	-	-	0.00	0.00	-	0.00
T06	2,076	2,078	24.46	108.5	0.00	77.35	-	-	0.00	0.00	-	0.00
T07	1,460	1,463	28.71	108.5	0.00	74.30	-	-	0.00	0.00	-	0.00
T08	2,340	2,342	22.97	108.5	0.00	78.39	-	-	0.00	0.00	-	0.00
T09	1,760	1,763	26.48	108.5	0.00	75.92	-	-	0.00	0.00	-	0.00
T10	1,906	1,908	25.51	108.5	0.00	76.61	-	-	0.00	0.00	-	0.00
T11	2,449	2,451	22.39	108.5	0.00	78.79	-	-	0.00	0.00	-	0.00
T12	1,998	1,999	24.94	108.5	0.00	77.02	-	-	0.00	0.00	-	0.00
T13	1,147	1,150	31.52	108.5	0.00	72.21	-	-	0.00	0.00	-	0.00
T14	623	628	38.25	108.5	0.00	66.97	-	-	0.00	0.00	-	0.00
T15	1,953	1,955	25.21	108.5	0.00	76.82	-	-	0.00	0.00	-	0.00
T16	2,697	2,699	21.23	108.5	0.00	79.62	-	-	0.00	0.00	-	0.00
T17	2,182	2,184	23.84	108.5	0.00	77.79	-	-	0.00	0.00	-	0.00
T18	1,818	1,820	26.08	108.5	0.00	76.20	-	-	0.00	0.00	-	0.00
T19	1,158	1,162	31.40	108.5	0.00	72.30	-	-	0.00	0.00	-	0.00
T20	1,386	1,390	29.32	108.5	0.00	73.86	-	-	0.00	0.00	-	0.00
T21	1,252	1,256	30.50	108.5	0.00	72.98	-	-	0.00	0.00	-	0.00
T22	2,249	2,252	23.45	108.5	0.00	78.05	-	-	0.00	0.00	-	0.00
T23	2,209	2,212	23.68	108.5	0.00	77.90	-	-	0.00	0.00	-	0.00
T24	2,293	2,296	23.22	108.5	0.00	78.22	-	-	0.00	0.00	-	0.00
T25	3,420	3,422	18.43	108.5	0.00	81.69	-	-	0.00	0.00	-	0.00
T26	3,178	3,180	19.30	108.5	0.00	81.05	-	-	0.00	0.00	-	0.00
T27	3,034	3,036	19.85	108.5	0.00	80.65	-	-	0.00	0.00	-	0.00
T28	3,032	3,034	19.86	108.5	0.00	80.64	-	-	0.00	0.00	-	0.00
T29	3,496	3,499	18.17	108.5	0.00	81.88	-	-	0.00	0.00	-	0.00
T30	3,372	3,374	18.60	108.5	0.00	81.56	-	-	0.00	0.00	-	0.00
T31	3,508	3,510	18.13	108.5	0.00	81.91	-	-	0.00	0.00	-	0.00
T32	3,669	3,670	17.59	108.5	0.00	82.29	-	-	0.00	0.00	-	0.00
T33	3,961	3,962	16.67	108.5	0.00	82.96	-	-	0.00	0.00	-	0.00
T34	3,906	3,907	16.84	108.5	0.00	82.84	-	-	0.00	0.00	-	0.00
T35	4,519	4,520	15.09	108.5	0.00	84.10	-	-	0.00	0.00	-	0.00
T36	4,349	4,350	15.55	108.5	0.00	83.77	-	-	0.00	0.00	-	0.00
T37	4,314	4,315	15.64	108.5	0.00	83.70	-	-	0.00	0.00	-	0.00
T38	4,470	4,471	15.22	108.5	0.00	84.01	-	-	0.00	0.00	-	0.00
T39	5,212	5,213	13.36	108.5	0.00	85.34	-	-	0.00	0.00	-	0.00
T40	5,212	5,213	13.36	108.5	0.00	85.34	-	-	0.00	0.00	-	0.00
T41	5,913	5,914	11.85	108.5	0.00	86.44	-	-	0.00	0.00	-	0.00
T42	5,123	5,124	13.57	108.5	0.00	85.19	-	-	0.00	0.00	-	0.00
T43	5,076	5,077	13.68	108.5	0.00	85.11	-	-	0.00	0.00	-	0.00
T44	6,019	6,019	11.64	108.5	0.00	86.59	-	-	0.00	0.00	-	0.00
T45	6,435	6,435	10.84	108.5	0.00	87.17	-	-	0.00	0.00	-	0.00
T46	5,313	5,314	13.13	108.5	0.00	85.51	-	-	0.00	0.00	-	0.00
T47	5,312	5,313	13.14	108.5	0.00	85.51	-	-	0.00	0.00	-	0.00
T48 Alt	6,359	6,359	10.98	108.5	0.00	87.07	-	-	0.00	0.00	-	0.00
T49 Alt	6,745	6,746	10.27	108.5	0.00	87.58	-	-	0.00	0.00	-	0.00
T50 Alt	2,149	2,152	24.03	108.5	0.00	77.65	-	-	0.00	0.00	-	0.00
T51 Alt	1,605	1,608	27.59	108.5	0.00	75.12	-	-	0.00	0.00	-	0.00
T52 Alt	3,360	3,361	18.65	108.5	0.00	81.53	-	-	0.00	0.00	-	0.00
T53 Alt	4,250	4,251	15.83	108.5	0.00	83.57	-	-	0.00	0.00	-	0.00
T54 Alt	2,775	2,776	20.90	108.5	0.00	79.87	-	-	0.00	0.00	-	0.00
T55 Alt	1,390	1,393	29.29	108.5	0.00	73.88	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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Description:
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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T56 Alt	4,681	4,682	14.66	108.5	0.00	84.41	-	-	0.00	0.00	-	0.00
T57 Alt	1,254	1,256	30.49	108.5	0.00	72.98	-	-	0.00	0.00	-	0.00
T58 Alt	1,790	1,792	26.27	108.5	0.00	76.07	-	-	0.00	0.00	-	0.00
T59 Alt	2,087	2,089	24.39	108.5	0.00	77.40	-	-	0.00	0.00	-	0.00

Sum 43.19

- Data undefined due to calculation with octave data

Noise sensitive area: H15 Noise sensitive point: User defined (96)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	5,509	5,510	12.70	108.5	0.00	85.82	-	-	0.00	0.00	-	0.00
T02	4,851	4,851	14.23	108.5	0.00	84.72	-	-	0.00	0.00	-	0.00
T03	4,337	4,338	15.58	108.5	0.00	83.75	-	-	0.00	0.00	-	0.00
T04	3,600	3,601	17.82	108.5	0.00	82.13	-	-	0.00	0.00	-	0.00
T05	3,197	3,198	19.24	108.5	0.00	81.10	-	-	0.00	0.00	-	0.00
T06	2,670	2,671	21.35	108.5	0.00	79.53	-	-	0.00	0.00	-	0.00
T07	1,827	1,828	26.03	108.5	0.00	76.24	-	-	0.00	0.00	-	0.00
T08	1,961	1,963	25.16	108.5	0.00	76.86	-	-	0.00	0.00	-	0.00
T09	1,125	1,129	31.73	108.5	0.00	72.05	-	-	0.00	0.00	-	0.00
T10	900	904	34.25	108.5	0.00	70.13	-	-	0.00	0.00	-	0.00
T11	3,688	3,689	17.53	108.5	0.00	82.34	-	-	0.00	0.00	-	0.00
T12	3,212	3,213	19.18	108.5	0.00	81.14	-	-	0.00	0.00	-	0.00
T13	2,543	2,544	21.92	108.5	0.00	79.11	-	-	0.00	0.00	-	0.00
T14	1,995	1,996	24.95	108.5	0.00	77.00	-	-	0.00	0.00	-	0.00
T15	3,371	3,372	18.61	108.5	0.00	81.56	-	-	0.00	0.00	-	0.00
T16	4,029	4,030	16.47	108.5	0.00	83.11	-	-	0.00	0.00	-	0.00
T17	3,462	3,463	18.29	108.5	0.00	81.79	-	-	0.00	0.00	-	0.00
T18	3,001	3,002	19.98	108.5	0.00	80.55	-	-	0.00	0.00	-	0.00
T19	2,237	2,239	23.53	108.5	0.00	78.00	-	-	0.00	0.00	-	0.00
T20	2,071	2,073	24.49	108.5	0.00	77.33	-	-	0.00	0.00	-	0.00
T21	1,542	1,545	28.06	108.5	0.00	74.78	-	-	0.00	0.00	-	0.00
T22	2,983	2,986	20.05	108.5	0.00	80.50	-	-	0.00	0.00	-	0.00
T23	2,667	2,670	21.35	108.5	0.00	79.53	-	-	0.00	0.00	-	0.00
T24	2,470	2,472	22.28	108.5	0.00	78.86	-	-	0.00	0.00	-	0.00
T25	4,574	4,576	14.94	108.5	0.00	84.21	-	-	0.00	0.00	-	0.00
T26	4,245	4,247	15.84	108.5	0.00	83.56	-	-	0.00	0.00	-	0.00
T27	4,002	4,004	16.55	108.5	0.00	83.05	-	-	0.00	0.00	-	0.00
T28	3,866	3,868	16.96	108.5	0.00	82.75	-	-	0.00	0.00	-	0.00
T29	4,051	4,053	16.40	108.5	0.00	83.16	-	-	0.00	0.00	-	0.00
T30	3,768	3,770	17.27	108.5	0.00	82.53	-	-	0.00	0.00	-	0.00
T31	3,731	3,733	17.39	108.5	0.00	82.44	-	-	0.00	0.00	-	0.00
T32	3,506	3,507	18.14	108.5	0.00	81.90	-	-	0.00	0.00	-	0.00
T33	3,643	3,644	17.68	108.5	0.00	82.23	-	-	0.00	0.00	-	0.00
T34	4,642	4,643	14.76	108.5	0.00	84.34	-	-	0.00	0.00	-	0.00
T35	5,156	5,157	13.49	108.5	0.00	85.25	-	-	0.00	0.00	-	0.00
T36	4,729	4,730	14.54	108.5	0.00	84.50	-	-	0.00	0.00	-	0.00
T37	4,475	4,476	15.20	108.5	0.00	84.02	-	-	0.00	0.00	-	0.00
T38	4,450	4,452	15.27	108.5	0.00	83.97	-	-	0.00	0.00	-	0.00
T39	5,778	5,779	12.13	108.5	0.00	86.24	-	-	0.00	0.00	-	0.00
T40	5,582	5,583	12.54	108.5	0.00	85.94	-	-	0.00	0.00	-	0.00
T41	6,244	6,245	11.20	108.5	0.00	86.91	-	-	0.00	0.00	-	0.00
T42	5,273	5,274	13.22	108.5	0.00	85.44	-	-	0.00	0.00	-	0.00
T43	5,026	5,027	13.80	108.5	0.00	85.03	-	-	0.00	0.00	-	0.00

To be continued on next page...

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20131290 Rolette Power Development

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T44	5,879	5,880	11.92	108.5	0.00	86.39	-	-	0.00	0.00	-	0.00
T45	6,241	6,242	11.20	108.5	0.00	86.91	-	-	0.00	0.00	-	0.00
T46	5,035	5,036	13.78	108.5	0.00	85.04	-	-	0.00	0.00	-	0.00
T47	4,808	4,809	14.34	108.5	0.00	84.64	-	-	0.00	0.00	-	0.00
T48 Alt	6,028	6,029	11.62	108.5	0.00	86.60	-	-	0.00	0.00	-	0.00
T49 Alt	6,365	6,366	10.97	108.5	0.00	87.08	-	-	0.00	0.00	-	0.00
T50 Alt	1,939	1,941	25.30	108.5	0.00	76.76	-	-	0.00	0.00	-	0.00
T51 Alt	1,529	1,531	28.17	108.5	0.00	74.70	-	-	0.00	0.00	-	0.00
T52 Alt	4,174	4,174	16.05	108.5	0.00	83.41	-	-	0.00	0.00	-	0.00
T53 Alt	4,873	4,874	14.18	108.5	0.00	84.76	-	-	0.00	0.00	-	0.00
T54 Alt	3,742	3,743	17.36	108.5	0.00	82.46	-	-	0.00	0.00	-	0.00
T55 Alt	2,399	2,401	22.65	108.5	0.00	78.61	-	-	0.00	0.00	-	0.00
T56 Alt	4,415	4,416	15.37	108.5	0.00	83.90	-	-	0.00	0.00	-	0.00
T57 Alt	1,406	1,408	29.16	108.5	0.00	73.97	-	-	0.00	0.00	-	0.00
T58 Alt	773	777	35.93	108.5	0.00	68.81	-	-	0.00	0.00	-	0.00
T59 Alt	1,191	1,194	31.09	108.5	0.00	72.54	-	-	0.00	0.00	-	0.00

Sum 41.99

- Data undefined due to calculation with octave data

Noise sensitive area: H16 Noise sensitive point: User defined (97)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	7,877	7,877	8.44	108.5	0.00	88.93	-	-	0.00	0.00	-	0.00
T02	7,194	7,195	9.51	108.5	0.00	88.14	-	-	0.00	0.00	-	0.00
T03	6,702	6,703	10.35	108.5	0.00	87.53	-	-	0.00	0.00	-	0.00
T04	6,011	6,011	11.65	108.5	0.00	86.58	-	-	0.00	0.00	-	0.00
T05	5,312	5,312	13.14	108.5	0.00	85.51	-	-	0.00	0.00	-	0.00
T06	4,775	4,776	14.42	108.5	0.00	84.58	-	-	0.00	0.00	-	0.00
T07	4,037	4,037	16.45	108.5	0.00	83.12	-	-	0.00	0.00	-	0.00
T08	4,503	4,504	15.13	108.5	0.00	84.07	-	-	0.00	0.00	-	0.00
T09	3,677	3,678	17.57	108.5	0.00	82.31	-	-	0.00	0.00	-	0.00
T10	3,463	3,464	18.29	108.5	0.00	81.79	-	-	0.00	0.00	-	0.00
T11	4,989	4,990	13.89	108.5	0.00	84.96	-	-	0.00	0.00	-	0.00
T12	4,599	4,600	14.87	108.5	0.00	84.25	-	-	0.00	0.00	-	0.00
T13	3,559	3,560	17.96	108.5	0.00	82.03	-	-	0.00	0.00	-	0.00
T14	3,233	3,234	19.10	108.5	0.00	81.19	-	-	0.00	0.00	-	0.00
T15	3,778	3,779	17.24	108.5	0.00	82.55	-	-	0.00	0.00	-	0.00
T16	3,724	3,725	17.42	108.5	0.00	82.42	-	-	0.00	0.00	-	0.00
T17	3,146	3,147	19.43	108.5	0.00	80.96	-	-	0.00	0.00	-	0.00
T18	2,629	2,631	21.52	108.5	0.00	79.40	-	-	0.00	0.00	-	0.00
T19	2,212	2,214	23.67	108.5	0.00	77.90	-	-	0.00	0.00	-	0.00
T20	1,623	1,625	27.46	108.5	0.00	75.22	-	-	0.00	0.00	-	0.00
T21	1,483	1,486	28.53	108.5	0.00	74.44	-	-	0.00	0.00	-	0.00
T22	1,698	1,701	26.91	108.5	0.00	75.61	-	-	0.00	0.00	-	0.00
T23	1,138	1,143	31.59	108.5	0.00	72.16	-	-	0.00	0.00	-	0.00
T24	664	671	37.54	108.5	0.00	67.54	-	-	0.00	0.00	-	0.00
T25	3,557	3,559	17.96	108.5	0.00	82.03	-	-	0.00	0.00	-	0.00
T26	3,094	3,095	19.62	108.5	0.00	80.81	-	-	0.00	0.00	-	0.00
T27	2,699	2,701	21.22	108.5	0.00	79.63	-	-	0.00	0.00	-	0.00
T28	2,336	2,338	22.98	108.5	0.00	78.38	-	-	0.00	0.00	-	0.00
T29	1,979	1,982	25.04	108.5	0.00	76.94	-	-	0.00	0.00	-	0.00
T30	1,537	1,541	28.09	108.5	0.00	74.75	-	-	0.00	0.00	-	0.00
T31	1,301	1,305	30.05	108.5	0.00	73.31	-	-	0.00	0.00	-	0.00

To be continued on next page...

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	960	963	33.53	108.5	0.00	70.68	-	-	0.00	0.00	-	0.00
T33	1,230	1,232	30.72	108.5	0.00	72.81	-	-	0.00	0.00	-	0.00
T34	2,732	2,733	21.08	108.5	0.00	79.73	-	-	0.00	0.00	-	0.00
T35	3,022	3,023	19.90	108.5	0.00	80.61	-	-	0.00	0.00	-	0.00
T36	2,340	2,341	22.97	108.5	0.00	78.39	-	-	0.00	0.00	-	0.00
T37	1,942	1,944	25.28	108.5	0.00	76.77	-	-	0.00	0.00	-	0.00
T38	1,879	1,881	25.68	108.5	0.00	76.49	-	-	0.00	0.00	-	0.00
T39	3,500	3,501	18.16	108.5	0.00	81.88	-	-	0.00	0.00	-	0.00
T40	3,133	3,134	19.48	108.5	0.00	80.92	-	-	0.00	0.00	-	0.00
T41	3,749	3,750	17.34	108.5	0.00	82.48	-	-	0.00	0.00	-	0.00
T42	2,719	2,720	21.14	108.5	0.00	79.69	-	-	0.00	0.00	-	0.00
T43	2,462	2,463	22.33	108.5	0.00	78.83	-	-	0.00	0.00	-	0.00
T44	3,351	3,351	18.68	108.5	0.00	81.50	-	-	0.00	0.00	-	0.00
T45	3,743	3,743	17.36	108.5	0.00	82.46	-	-	0.00	0.00	-	0.00
T46	2,586	2,587	21.71	108.5	0.00	79.26	-	-	0.00	0.00	-	0.00
T47	2,612	2,613	21.60	108.5	0.00	79.34	-	-	0.00	0.00	-	0.00
T48 Alt	3,627	3,628	17.73	108.5	0.00	82.19	-	-	0.00	0.00	-	0.00
T49 Alt	4,011	4,012	16.52	108.5	0.00	83.07	-	-	0.00	0.00	-	0.00
T50 Alt	643	648	37.91	108.5	0.00	67.23	-	-	0.00	0.00	-	0.00
T51 Alt	1,166	1,168	31.34	108.5	0.00	72.35	-	-	0.00	0.00	-	0.00
T52 Alt	6,091	6,091	11.49	108.5	0.00	86.69	-	-	0.00	0.00	-	0.00
T53 Alt	6,980	6,980	9.87	108.5	0.00	87.88	-	-	0.00	0.00	-	0.00
T54 Alt	5,484	5,484	12.75	108.5	0.00	85.78	-	-	0.00	0.00	-	0.00
T55 Alt	4,121	4,121	16.20	108.5	0.00	83.30	-	-	0.00	0.00	-	0.00
T56 Alt	1,952	1,954	25.22	108.5	0.00	76.82	-	-	0.00	0.00	-	0.00
T57 Alt	3,683	3,684	17.55	108.5	0.00	82.33	-	-	0.00	0.00	-	0.00
T58 Alt	1,896	1,897	25.58	108.5	0.00	76.56	-	-	0.00	0.00	-	0.00
T59 Alt	1,572	1,573	27.84	108.5	0.00	74.94	-	-	0.00	0.00	-	0.00
Sum	44.31											

- Data undefined due to calculation with octave data

Noise sensitive area: H17 Noise sensitive point: User defined (98)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	11,083	11,084	4.45	108.5	0.00	91.89	-	-	0.00	0.00	-	0.00
T02	10,395	10,396	5.19	108.5	0.00	91.34	-	-	0.00	0.00	-	0.00
T03	9,934	9,934	5.72	108.5	0.00	90.94	-	-	0.00	0.00	-	0.00
T04	9,297	9,298	6.49	108.5	0.00	90.37	-	-	0.00	0.00	-	0.00
T05	8,423	8,424	7.65	108.5	0.00	89.51	-	-	0.00	0.00	-	0.00
T06	7,920	7,920	8.37	108.5	0.00	88.97	-	-	0.00	0.00	-	0.00
T07	7,295	7,295	9.35	108.5	0.00	88.26	-	-	0.00	0.00	-	0.00
T08	7,918	7,918	8.38	108.5	0.00	88.97	-	-	0.00	0.00	-	0.00
T09	7,110	7,111	9.65	108.5	0.00	88.04	-	-	0.00	0.00	-	0.00
T10	6,924	6,925	9.96	108.5	0.00	87.81	-	-	0.00	0.00	-	0.00
T11	7,579	7,580	8.89	108.5	0.00	88.59	-	-	0.00	0.00	-	0.00
T12	7,318	7,318	9.31	108.5	0.00	88.29	-	-	0.00	0.00	-	0.00
T13	6,277	6,278	11.13	108.5	0.00	86.96	-	-	0.00	0.00	-	0.00
T14	6,171	6,172	11.34	108.5	0.00	86.81	-	-	0.00	0.00	-	0.00
T15	5,992	5,993	11.69	108.5	0.00	86.55	-	-	0.00	0.00	-	0.00
T16	5,302	5,303	13.16	108.5	0.00	85.49	-	-	0.00	0.00	-	0.00
T17	5,011	5,012	13.84	108.5	0.00	85.00	-	-	0.00	0.00	-	0.00
T18	4,758	4,758	14.47	108.5	0.00	84.55	-	-	0.00	0.00	-	0.00
T19	4,888	4,889	14.14	108.5	0.00	84.78	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
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602 Lincoln Ave S
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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
T20	4,478	4,479	15.20	108.5	0.00	84.02	-	-	0.00	0.00	-	0.00
T21	4,699	4,700	14.61	108.5	0.00	84.44	-	-	0.00	0.00	-	0.00
T22	3,756	3,757	17.31	108.5	0.00	82.50	-	-	0.00	0.00	-	0.00
T23	3,650	3,651	17.66	108.5	0.00	82.25	-	-	0.00	0.00	-	0.00
T24	3,626	3,628	17.73	108.5	0.00	82.19	-	-	0.00	0.00	-	0.00
T25	4,371	4,373	15.49	108.5	0.00	83.81	-	-	0.00	0.00	-	0.00
T26	4,027	4,029	16.47	108.5	0.00	83.10	-	-	0.00	0.00	-	0.00
T27	3,735	3,736	17.38	108.5	0.00	82.45	-	-	0.00	0.00	-	0.00
T28	3,389	3,391	18.54	108.5	0.00	81.61	-	-	0.00	0.00	-	0.00
T29	2,560	2,563	21.82	108.5	0.00	79.17	-	-	0.00	0.00	-	0.00
T30	2,513	2,516	22.06	108.5	0.00	79.02	-	-	0.00	0.00	-	0.00
T31	2,356	2,359	22.88	108.5	0.00	78.45	-	-	0.00	0.00	-	0.00
T32	2,617	2,619	21.57	108.5	0.00	79.36	-	-	0.00	0.00	-	0.00
T33	2,712	2,714	21.16	108.5	0.00	79.67	-	-	0.00	0.00	-	0.00
T34	2,705	2,706	21.19	108.5	0.00	79.65	-	-	0.00	0.00	-	0.00
T35	2,149	2,151	24.03	108.5	0.00	77.65	-	-	0.00	0.00	-	0.00
T36	1,618	1,620	27.49	108.5	0.00	75.19	-	-	0.00	0.00	-	0.00
T37	1,563	1,566	27.90	108.5	0.00	74.89	-	-	0.00	0.00	-	0.00
T38	1,647	1,650	27.28	108.5	0.00	75.35	-	-	0.00	0.00	-	0.00
T39	1,705	1,708	26.86	108.5	0.00	75.65	-	-	0.00	0.00	-	0.00
T40	979	982	33.31	108.5	0.00	70.85	-	-	0.00	0.00	-	0.00
T41	703	708	36.96	108.5	0.00	68.00	-	-	0.00	0.00	-	0.00
T42	754	760	36.18	108.5	0.00	68.61	-	-	0.00	0.00	-	0.00
T43	1,235	1,238	30.66	108.5	0.00	72.85	-	-	0.00	0.00	-	0.00
T44	1,296	1,298	30.11	108.5	0.00	73.27	-	-	0.00	0.00	-	0.00
T45	1,620	1,622	27.48	108.5	0.00	75.20	-	-	0.00	0.00	-	0.00
T46	1,914	1,916	25.46	108.5	0.00	76.65	-	-	0.00	0.00	-	0.00
T47	2,766	2,767	20.93	108.5	0.00	79.84	-	-	0.00	0.00	-	0.00
T48 Alt	2,157	2,158	23.99	108.5	0.00	77.68	-	-	0.00	0.00	-	0.00
T49 Alt	2,500	2,501	22.13	108.5	0.00	78.96	-	-	0.00	0.00	-	0.00
T50 Alt	4,089	4,090	16.29	108.5	0.00	83.23	-	-	0.00	0.00	-	0.00
T51 Alt	4,533	4,534	15.05	108.5	0.00	84.13	-	-	0.00	0.00	-	0.00
T52 Alt	9,007	9,007	6.86	108.5	0.00	90.09	-	-	0.00	0.00	-	0.00
T53 Alt	9,990	9,991	5.66	108.5	0.00	90.99	-	-	0.00	0.00	-	0.00
T54 Alt	8,326	8,326	7.79	108.5	0.00	89.41	-	-	0.00	0.00	-	0.00
T55 Alt	7,123	7,123	9.63	108.5	0.00	88.05	-	-	0.00	0.00	-	0.00
T56 Alt	2,129	2,130	24.15	108.5	0.00	77.57	-	-	0.00	0.00	-	0.00
T57 Alt	6,998	6,998	9.84	108.5	0.00	87.90	-	-	0.00	0.00	-	0.00
T58 Alt	5,365	5,366	13.02	108.5	0.00	85.59	-	-	0.00	0.00	-	0.00
T59 Alt	5,023	5,024	13.81	108.5	0.00	85.02	-	-	0.00	0.00	-	0.00

Sum 42.86

- Data undefined due to calculation with octave data

Noise sensitive area: H18 Noise sensitive point: User defined (99)

WTG		95% rated power										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
T01	11,651	11,651	3.87	108.5	0.00	92.33	-	-	0.00	0.00	-	0.00
T02	10,964	10,964	4.58	108.5	0.00	91.80	-	-	0.00	0.00	-	0.00
T03	10,509	10,509	5.07	108.5	0.00	91.43	-	-	0.00	0.00	-	0.00
T04	9,884	9,884	5.78	108.5	0.00	90.90	-	-	0.00	0.00	-	0.00
T05	8,984	8,984	6.89	108.5	0.00	90.07	-	-	0.00	0.00	-	0.00
T06	8,487	8,488	7.56	108.5	0.00	89.58	-	-	0.00	0.00	-	0.00
T07	7,883	7,883	8.43	108.5	0.00	88.93	-	-	0.00	0.00	-	0.00

To be continued on next page...

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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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WTG No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T08	8,532	8,532	7.50	108.5	0.00	89.62	-	-	0.00	0.00	-	0.00
T09	7,729	7,730	8.66	108.5	0.00	88.76	-	-	0.00	0.00	-	0.00
T10	7,551	7,552	8.94	108.5	0.00	88.56	-	-	0.00	0.00	-	0.00
T11	8,069	8,070	8.15	108.5	0.00	89.14	-	-	0.00	0.00	-	0.00
T12	7,829	7,830	8.51	108.5	0.00	88.87	-	-	0.00	0.00	-	0.00
T13	6,802	6,802	10.18	108.5	0.00	87.65	-	-	0.00	0.00	-	0.00
T14	6,724	6,725	10.31	108.5	0.00	87.55	-	-	0.00	0.00	-	0.00
T15	6,457	6,458	10.80	108.5	0.00	87.20	-	-	0.00	0.00	-	0.00
T16	5,703	5,703	12.28	108.5	0.00	86.12	-	-	0.00	0.00	-	0.00
T17	5,460	5,461	12.80	108.5	0.00	85.75	-	-	0.00	0.00	-	0.00
T18	5,249	5,249	13.28	108.5	0.00	85.40	-	-	0.00	0.00	-	0.00
T19	5,434	5,435	12.86	108.5	0.00	85.70	-	-	0.00	0.00	-	0.00
T20	5,052	5,053	13.74	108.5	0.00	85.07	-	-	0.00	0.00	-	0.00
T21	5,301	5,302	13.16	108.5	0.00	85.49	-	-	0.00	0.00	-	0.00
T22	4,288	4,289	15.72	108.5	0.00	83.65	-	-	0.00	0.00	-	0.00
T23	4,227	4,228	15.89	108.5	0.00	83.52	-	-	0.00	0.00	-	0.00
T24	4,233	4,235	15.87	108.5	0.00	83.54	-	-	0.00	0.00	-	0.00
T25	4,705	4,707	14.60	108.5	0.00	84.46	-	-	0.00	0.00	-	0.00
T26	4,404	4,405	15.40	108.5	0.00	83.88	-	-	0.00	0.00	-	0.00
T27	4,149	4,150	16.12	108.5	0.00	83.36	-	-	0.00	0.00	-	0.00
T28	3,837	3,838	17.06	108.5	0.00	82.68	-	-	0.00	0.00	-	0.00
T29	3,054	3,057	19.77	108.5	0.00	80.70	-	-	0.00	0.00	-	0.00
T30	3,070	3,072	19.71	108.5	0.00	80.75	-	-	0.00	0.00	-	0.00
T31	2,956	2,958	20.16	108.5	0.00	80.42	-	-	0.00	0.00	-	0.00
T32	3,258	3,259	19.01	108.5	0.00	81.26	-	-	0.00	0.00	-	0.00
T33	3,347	3,348	18.69	108.5	0.00	81.50	-	-	0.00	0.00	-	0.00
T34	3,073	3,074	19.70	108.5	0.00	80.76	-	-	0.00	0.00	-	0.00
T35	2,450	2,452	22.39	108.5	0.00	78.79	-	-	0.00	0.00	-	0.00
T36	2,121	2,123	24.19	108.5	0.00	77.54	-	-	0.00	0.00	-	0.00
T37	2,180	2,182	23.85	108.5	0.00	77.78	-	-	0.00	0.00	-	0.00
T38	2,288	2,289	23.25	108.5	0.00	78.19	-	-	0.00	0.00	-	0.00
T39	1,859	1,861	25.81	108.5	0.00	76.40	-	-	0.00	0.00	-	0.00
T40	1,328	1,331	29.82	108.5	0.00	73.48	-	-	0.00	0.00	-	0.00
T41	697	702	37.05	108.5	0.00	67.93	-	-	0.00	0.00	-	0.00
T42	1,384	1,387	29.34	108.5	0.00	73.84	-	-	0.00	0.00	-	0.00
T43	1,852	1,854	25.86	108.5	0.00	76.36	-	-	0.00	0.00	-	0.00
T44	1,676	1,677	27.07	108.5	0.00	75.49	-	-	0.00	0.00	-	0.00
T45	1,870	1,872	25.74	108.5	0.00	76.45	-	-	0.00	0.00	-	0.00
T46	2,452	2,454	22.37	108.5	0.00	78.80	-	-	0.00	0.00	-	0.00
T47	3,292	3,294	18.89	108.5	0.00	81.35	-	-	0.00	0.00	-	0.00
T48 Alt	2,480	2,481	22.24	108.5	0.00	78.89	-	-	0.00	0.00	-	0.00
T49 Alt	2,755	2,756	20.98	108.5	0.00	79.80	-	-	0.00	0.00	-	0.00
T50 Alt	4,717	4,718	14.57	108.5	0.00	84.47	-	-	0.00	0.00	-	0.00
T51 Alt	5,151	5,151	13.51	108.5	0.00	85.24	-	-	0.00	0.00	-	0.00
T52 Alt	9,533	9,534	6.20	108.5	0.00	90.59	-	-	0.00	0.00	-	0.00
T53 Alt	10,527	10,528	5.05	108.5	0.00	91.45	-	-	0.00	0.00	-	0.00
T54 Alt	8,846	8,846	7.08	108.5	0.00	89.93	-	-	0.00	0.00	-	0.00
T55 Alt	7,675	7,676	8.74	108.5	0.00	88.70	-	-	0.00	0.00	-	0.00
T56 Alt	2,737	2,738	21.06	108.5	0.00	79.75	-	-	0.00	0.00	-	0.00
T57 Alt	7,596	7,596	8.87	108.5	0.00	88.61	-	-	0.00	0.00	-	0.00
T58 Alt	5,999	5,999	11.68	108.5	0.00	86.56	-	-	0.00	0.00	-	0.00
T59 Alt	5,660	5,661	12.37	108.5	0.00	86.06	-	-	0.00	0.00	-	0.00

Sum 40.51

- Data undefined due to calculation with octave data

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

Noise sensitive area: H19 Noise sensitive point: User defined (100)

WTG No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	9,156	9,156	6.67	108.5	0.00	90.23	-	-	0.00	0.00	-	0.00
T02	8,486	8,486	7.56	108.5	0.00	89.57	-	-	0.00	0.00	-	0.00
T03	7,979	7,979	8.29	108.5	0.00	89.04	-	-	0.00	0.00	-	0.00
T04	7,255	7,255	9.41	108.5	0.00	88.21	-	-	0.00	0.00	-	0.00
T05	6,686	6,687	10.38	108.5	0.00	87.50	-	-	0.00	0.00	-	0.00
T06	6,144	6,144	11.39	108.5	0.00	86.77	-	-	0.00	0.00	-	0.00
T07	5,354	5,354	13.04	108.5	0.00	85.57	-	-	0.00	0.00	-	0.00
T08	5,618	5,618	12.46	108.5	0.00	85.99	-	-	0.00	0.00	-	0.00
T09	4,783	4,784	14.40	108.5	0.00	84.60	-	-	0.00	0.00	-	0.00
T10	4,473	4,474	15.21	108.5	0.00	84.01	-	-	0.00	0.00	-	0.00
T11	6,503	6,504	10.71	108.5	0.00	87.26	-	-	0.00	0.00	-	0.00
T12	6,101	6,101	11.47	108.5	0.00	86.71	-	-	0.00	0.00	-	0.00
T13	5,074	5,074	13.69	108.5	0.00	85.11	-	-	0.00	0.00	-	0.00
T14	4,717	4,717	14.57	108.5	0.00	84.47	-	-	0.00	0.00	-	0.00
T15	5,303	5,304	13.16	108.5	0.00	85.49	-	-	0.00	0.00	-	0.00
T16	5,174	5,175	13.45	108.5	0.00	85.28	-	-	0.00	0.00	-	0.00
T17	4,622	4,623	14.81	108.5	0.00	84.30	-	-	0.00	0.00	-	0.00
T18	4,125	4,126	16.19	108.5	0.00	83.31	-	-	0.00	0.00	-	0.00
T19	3,742	3,743	17.36	108.5	0.00	82.46	-	-	0.00	0.00	-	0.00
T20	3,152	3,154	19.40	108.5	0.00	80.98	-	-	0.00	0.00	-	0.00
T21	2,954	2,956	20.17	108.5	0.00	80.41	-	-	0.00	0.00	-	0.00
T22	3,112	3,114	19.55	108.5	0.00	80.87	-	-	0.00	0.00	-	0.00
T23	2,596	2,599	21.66	108.5	0.00	79.29	-	-	0.00	0.00	-	0.00
T24	2,169	2,172	23.91	108.5	0.00	77.74	-	-	0.00	0.00	-	0.00
T25	4,831	4,833	14.28	108.5	0.00	84.68	-	-	0.00	0.00	-	0.00
T26	4,360	4,362	15.52	108.5	0.00	83.79	-	-	0.00	0.00	-	0.00
T27	3,951	3,953	16.70	108.5	0.00	82.94	-	-	0.00	0.00	-	0.00
T28	3,538	3,540	18.03	108.5	0.00	81.98	-	-	0.00	0.00	-	0.00
T29	2,885	2,887	20.44	108.5	0.00	80.21	-	-	0.00	0.00	-	0.00
T30	2,414	2,417	22.57	108.5	0.00	78.67	-	-	0.00	0.00	-	0.00
T31	1,976	1,980	25.06	108.5	0.00	76.93	-	-	0.00	0.00	-	0.00
T32	1,000	1,005	33.06	108.5	0.00	71.04	-	-	0.00	0.00	-	0.00
T33	556	563	39.42	108.5	0.00	66.01	-	-	0.00	0.00	-	0.00
T34	3,617	3,619	17.76	108.5	0.00	82.17	-	-	0.00	0.00	-	0.00
T35	3,638	3,640	17.69	108.5	0.00	82.22	-	-	0.00	0.00	-	0.00
T36	2,718	2,719	21.14	108.5	0.00	79.69	-	-	0.00	0.00	-	0.00
T37	2,029	2,032	24.74	108.5	0.00	77.16	-	-	0.00	0.00	-	0.00
T38	1,566	1,569	27.88	108.5	0.00	74.91	-	-	0.00	0.00	-	0.00
T39	3,855	3,856	17.00	108.5	0.00	82.72	-	-	0.00	0.00	-	0.00
T40	3,217	3,219	19.16	108.5	0.00	81.15	-	-	0.00	0.00	-	0.00
T41	3,622	3,623	17.75	108.5	0.00	82.18	-	-	0.00	0.00	-	0.00
T42	2,477	2,479	22.25	108.5	0.00	78.89	-	-	0.00	0.00	-	0.00
T43	1,862	1,864	25.79	108.5	0.00	76.41	-	-	0.00	0.00	-	0.00
T44	2,422	2,424	22.53	108.5	0.00	78.69	-	-	0.00	0.00	-	0.00
T45	2,695	2,697	21.23	108.5	0.00	79.62	-	-	0.00	0.00	-	0.00
T46	1,480	1,482	28.55	108.5	0.00	74.42	-	-	0.00	0.00	-	0.00
T47	1,152	1,156	31.46	108.5	0.00	72.26	-	-	0.00	0.00	-	0.00
T48 Alt	2,384	2,386	22.73	108.5	0.00	78.55	-	-	0.00	0.00	-	0.00
T49 Alt	2,702	2,704	21.21	108.5	0.00	79.64	-	-	0.00	0.00	-	0.00
T50 Alt	2,030	2,032	24.73	108.5	0.00	77.16	-	-	0.00	0.00	-	0.00
T51 Alt	2,571	2,573	21.78	108.5	0.00	79.21	-	-	0.00	0.00	-	0.00
T52 Alt	7,529	7,529	8.97	108.5	0.00	88.53	-	-	0.00	0.00	-	0.00
T53 Alt	8,373	8,374	7.72	108.5	0.00	89.46	-	-	0.00	0.00	-	0.00
T54 Alt	6,950	6,950	9.92	108.5	0.00	87.84	-	-	0.00	0.00	-	0.00
T55 Alt	5,565	5,565	12.58	108.5	0.00	85.91	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

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Calculated:
 6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T56 Alt	984	988	33.25	108.5	0.00	70.89	-	-	0.00	0.00	-	0.00
T57 Alt	4,965	4,965	13.95	108.5	0.00	84.92	-	-	0.00	0.00	-	0.00
T58 Alt	2,896	2,898	20.40	108.5	0.00	80.24	-	-	0.00	0.00	-	0.00
T59 Alt	2,481	2,483	22.23	108.5	0.00	78.90	-	-	0.00	0.00	-	0.00

Sum 43.05

- Data undefined due to calculation with octave data

Noise sensitive area: H20 Noise sensitive point: User defined (101)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	7,922	7,923	8.37	108.5	0.00	88.98	-	-	0.00	0.00	-	0.00
T02	7,259	7,259	9.40	108.5	0.00	88.22	-	-	0.00	0.00	-	0.00
T03	6,748	6,749	10.27	108.5	0.00	87.58	-	-	0.00	0.00	-	0.00
T04	6,015	6,015	11.64	108.5	0.00	86.58	-	-	0.00	0.00	-	0.00
T05	5,515	5,516	12.68	108.5	0.00	85.83	-	-	0.00	0.00	-	0.00
T06	4,974	4,974	13.93	108.5	0.00	84.93	-	-	0.00	0.00	-	0.00
T07	4,159	4,160	16.09	108.5	0.00	83.38	-	-	0.00	0.00	-	0.00
T08	4,354	4,355	15.54	108.5	0.00	83.78	-	-	0.00	0.00	-	0.00
T09	3,522	3,524	18.08	108.5	0.00	81.94	-	-	0.00	0.00	-	0.00
T10	3,202	3,203	19.22	108.5	0.00	81.11	-	-	0.00	0.00	-	0.00
T11	5,535	5,536	12.64	108.5	0.00	85.86	-	-	0.00	0.00	-	0.00
T12	5,101	5,102	13.62	108.5	0.00	85.15	-	-	0.00	0.00	-	0.00
T13	4,132	4,133	16.17	108.5	0.00	83.33	-	-	0.00	0.00	-	0.00
T14	3,704	3,704	17.48	108.5	0.00	82.37	-	-	0.00	0.00	-	0.00
T15	4,548	4,548	15.01	108.5	0.00	84.16	-	-	0.00	0.00	-	0.00
T16	4,661	4,662	14.71	108.5	0.00	84.37	-	-	0.00	0.00	-	0.00
T17	4,060	4,061	16.38	108.5	0.00	83.17	-	-	0.00	0.00	-	0.00
T18	3,523	3,524	18.08	108.5	0.00	81.94	-	-	0.00	0.00	-	0.00
T19	2,960	2,962	20.14	108.5	0.00	80.43	-	-	0.00	0.00	-	0.00
T20	2,387	2,389	22.71	108.5	0.00	78.57	-	-	0.00	0.00	-	0.00
T21	2,006	2,008	24.88	108.5	0.00	77.05	-	-	0.00	0.00	-	0.00
T22	2,715	2,718	21.14	108.5	0.00	79.68	-	-	0.00	0.00	-	0.00
T23	2,148	2,151	24.03	108.5	0.00	77.65	-	-	0.00	0.00	-	0.00
T24	1,657	1,661	27.19	108.5	0.00	75.41	-	-	0.00	0.00	-	0.00
T25	4,605	4,607	14.86	108.5	0.00	84.27	-	-	0.00	0.00	-	0.00
T26	4,147	4,149	16.12	108.5	0.00	83.36	-	-	0.00	0.00	-	0.00
T27	3,760	3,761	17.30	108.5	0.00	82.51	-	-	0.00	0.00	-	0.00
T28	3,408	3,410	18.47	108.5	0.00	81.65	-	-	0.00	0.00	-	0.00
T29	3,033	3,036	19.85	108.5	0.00	80.64	-	-	0.00	0.00	-	0.00
T30	2,571	2,575	21.77	108.5	0.00	79.21	-	-	0.00	0.00	-	0.00
T31	2,259	2,262	23.40	108.5	0.00	78.09	-	-	0.00	0.00	-	0.00
T32	1,503	1,506	28.37	108.5	0.00	74.56	-	-	0.00	0.00	-	0.00
T33	1,409	1,412	29.13	108.5	0.00	73.99	-	-	0.00	0.00	-	0.00
T34	3,793	3,794	17.19	108.5	0.00	82.58	-	-	0.00	0.00	-	0.00
T35	4,031	4,032	16.46	108.5	0.00	83.11	-	-	0.00	0.00	-	0.00
T36	3,255	3,257	19.02	108.5	0.00	81.26	-	-	0.00	0.00	-	0.00
T37	2,715	2,717	21.15	108.5	0.00	79.68	-	-	0.00	0.00	-	0.00
T38	2,448	2,450	22.39	108.5	0.00	78.78	-	-	0.00	0.00	-	0.00
T39	4,440	4,441	15.30	108.5	0.00	83.95	-	-	0.00	0.00	-	0.00
T40	3,962	3,963	16.67	108.5	0.00	82.96	-	-	0.00	0.00	-	0.00
T41	4,501	4,502	15.13	108.5	0.00	84.07	-	-	0.00	0.00	-	0.00
T42	3,384	3,385	18.56	108.5	0.00	81.59	-	-	0.00	0.00	-	0.00
T43	2,922	2,923	20.30	108.5	0.00	80.32	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T44	3,635	3,636	17.71	108.5	0.00	82.21	-	-	0.00	0.00	-	0.00
T45	3,945	3,946	16.72	108.5	0.00	82.92	-	-	0.00	0.00	-	0.00
T46	2,722	2,723	21.12	108.5	0.00	79.70	-	-	0.00	0.00	-	0.00
T47	2,398	2,400	22.66	108.5	0.00	78.60	-	-	0.00	0.00	-	0.00
T48 Alt	3,658	3,659	17.63	108.5	0.00	82.27	-	-	0.00	0.00	-	0.00
T49 Alt	3,973	3,974	16.64	108.5	0.00	82.98	-	-	0.00	0.00	-	0.00
T50 Alt	1,141	1,145	31.56	108.5	0.00	72.18	-	-	0.00	0.00	-	0.00
T51 Alt	1,579	1,582	27.78	108.5	0.00	74.98	-	-	0.00	0.00	-	0.00
T52 Alt	6,409	6,410	10.88	108.5	0.00	87.14	-	-	0.00	0.00	-	0.00
T53 Alt	7,207	7,207	9.49	108.5	0.00	88.16	-	-	0.00	0.00	-	0.00
T54 Alt	5,872	5,872	11.93	108.5	0.00	86.38	-	-	0.00	0.00	-	0.00
T55 Alt	4,474	4,474	15.21	108.5	0.00	84.01	-	-	0.00	0.00	-	0.00
T56 Alt	2,147	2,149	24.04	108.5	0.00	77.64	-	-	0.00	0.00	-	0.00
T57 Alt	3,757	3,758	17.31	108.5	0.00	82.50	-	-	0.00	0.00	-	0.00
T58 Alt	1,642	1,644	27.32	108.5	0.00	75.32	-	-	0.00	0.00	-	0.00
T59 Alt	1,224	1,227	30.77	108.5	0.00	72.78	-	-	0.00	0.00	-	0.00
Sum	39.88											

- Data undefined due to calculation with octave data

Noise sensitive area: H21 Noise sensitive point: User defined (102)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	5,781	5,781	12.12	108.5	0.00	86.24	-	-	0.00	0.00	-	0.00
T02	5,148	5,149	13.51	108.5	0.00	85.23	-	-	0.00	0.00	-	0.00
T03	4,631	4,631	14.79	108.5	0.00	84.31	-	-	0.00	0.00	-	0.00
T04	3,876	3,877	16.94	108.5	0.00	82.77	-	-	0.00	0.00	-	0.00
T05	3,653	3,654	17.65	108.5	0.00	82.26	-	-	0.00	0.00	-	0.00
T06	3,151	3,152	19.41	108.5	0.00	80.97	-	-	0.00	0.00	-	0.00
T07	2,314	2,315	23.11	108.5	0.00	78.29	-	-	0.00	0.00	-	0.00
T08	2,139	2,141	24.09	108.5	0.00	77.61	-	-	0.00	0.00	-	0.00
T09	1,362	1,365	29.52	108.5	0.00	73.70	-	-	0.00	0.00	-	0.00
T10	961	965	33.51	108.5	0.00	70.69	-	-	0.00	0.00	-	0.00
T11	4,312	4,313	15.65	108.5	0.00	83.70	-	-	0.00	0.00	-	0.00
T12	3,835	3,836	17.06	108.5	0.00	82.68	-	-	0.00	0.00	-	0.00
T13	3,202	3,203	19.22	108.5	0.00	81.11	-	-	0.00	0.00	-	0.00
T14	2,653	2,654	21.42	108.5	0.00	79.48	-	-	0.00	0.00	-	0.00
T15	4,029	4,030	16.47	108.5	0.00	83.11	-	-	0.00	0.00	-	0.00
T16	4,659	4,660	14.72	108.5	0.00	84.37	-	-	0.00	0.00	-	0.00
T17	4,080	4,081	16.32	108.5	0.00	83.21	-	-	0.00	0.00	-	0.00
T18	3,599	3,600	17.82	108.5	0.00	82.13	-	-	0.00	0.00	-	0.00
T19	2,833	2,835	20.66	108.5	0.00	80.05	-	-	0.00	0.00	-	0.00
T20	2,585	2,587	21.71	108.5	0.00	79.26	-	-	0.00	0.00	-	0.00
T21	2,015	2,017	24.82	108.5	0.00	77.10	-	-	0.00	0.00	-	0.00
T22	3,455	3,457	18.31	108.5	0.00	81.77	-	-	0.00	0.00	-	0.00
T23	3,066	3,068	19.72	108.5	0.00	80.74	-	-	0.00	0.00	-	0.00
T24	2,782	2,784	20.87	108.5	0.00	79.89	-	-	0.00	0.00	-	0.00
T25	5,143	5,145	13.52	108.5	0.00	85.23	-	-	0.00	0.00	-	0.00
T26	4,790	4,791	14.38	108.5	0.00	84.61	-	-	0.00	0.00	-	0.00
T27	4,518	4,519	15.09	108.5	0.00	84.10	-	-	0.00	0.00	-	0.00
T28	4,341	4,342	15.57	108.5	0.00	83.75	-	-	0.00	0.00	-	0.00
T29	4,420	4,422	15.35	108.5	0.00	83.91	-	-	0.00	0.00	-	0.00
T30	4,086	4,088	16.30	108.5	0.00	83.23	-	-	0.00	0.00	-	0.00
T31	3,981	3,983	16.61	108.5	0.00	83.00	-	-	0.00	0.00	-	0.00

To be continued on next page...

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	3,595	3,596	17.84	108.5	0.00	82.12	-	-	0.00	0.00	-	0.00
T33	3,649	3,650	17.66	108.5	0.00	82.25	-	-	0.00	0.00	-	0.00
T34	5,063	5,064	13.71	108.5	0.00	85.09	-	-	0.00	0.00	-	0.00
T35	5,530	5,531	12.65	108.5	0.00	85.86	-	-	0.00	0.00	-	0.00
T36	5,010	5,011	13.84	108.5	0.00	85.00	-	-	0.00	0.00	-	0.00
T37	4,669	4,670	14.69	108.5	0.00	84.39	-	-	0.00	0.00	-	0.00
T38	4,566	4,567	14.96	108.5	0.00	84.19	-	-	0.00	0.00	-	0.00
T39	6,112	6,113	11.45	108.5	0.00	86.72	-	-	0.00	0.00	-	0.00
T40	5,839	5,840	12.00	108.5	0.00	86.33	-	-	0.00	0.00	-	0.00
T41	6,472	6,473	10.77	108.5	0.00	87.22	-	-	0.00	0.00	-	0.00
T42	5,442	5,443	12.85	108.5	0.00	85.72	-	-	0.00	0.00	-	0.00
T43	5,111	5,111	13.60	108.5	0.00	85.17	-	-	0.00	0.00	-	0.00
T44	5,902	5,902	11.87	108.5	0.00	86.42	-	-	0.00	0.00	-	0.00
T45	6,232	6,232	11.22	108.5	0.00	86.89	-	-	0.00	0.00	-	0.00
T46	5,010	5,011	13.84	108.5	0.00	85.00	-	-	0.00	0.00	-	0.00
T47	4,675	4,676	14.68	108.5	0.00	84.40	-	-	0.00	0.00	-	0.00
T48 Alt	5,955	5,956	11.76	108.5	0.00	86.50	-	-	0.00	0.00	-	0.00
T49 Alt	6,262	6,263	11.16	108.5	0.00	86.94	-	-	0.00	0.00	-	0.00
T50 Alt	2,151	2,153	24.02	108.5	0.00	77.66	-	-	0.00	0.00	-	0.00
T51 Alt	1,876	1,878	25.70	108.5	0.00	76.48	-	-	0.00	0.00	-	0.00
T52 Alt	4,671	4,672	14.69	108.5	0.00	84.39	-	-	0.00	0.00	-	0.00
T53 Alt	5,291	5,292	13.18	108.5	0.00	85.47	-	-	0.00	0.00	-	0.00
T54 Alt	4,294	4,294	15.70	108.5	0.00	83.66	-	-	0.00	0.00	-	0.00
T55 Alt	2,997	2,998	20.00	108.5	0.00	80.54	-	-	0.00	0.00	-	0.00
T56 Alt	4,415	4,415	15.37	108.5	0.00	83.90	-	-	0.00	0.00	-	0.00
T57 Alt	1,899	1,901	25.56	108.5	0.00	76.58	-	-	0.00	0.00	-	0.00
T58 Alt	848	852	34.91	108.5	0.00	69.61	-	-	0.00	0.00	-	0.00
T59 Alt	1,168	1,171	31.31	108.5	0.00	72.37	-	-	0.00	0.00	-	0.00
Sum	40.62											

- Data undefined due to calculation with octave data

Noise sensitive area: H22 Noise sensitive point: User defined (103)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	4,788	4,789	14.39	108.5	0.00	84.60	-	-	0.00	0.00	-	0.00
T02	4,247	4,248	15.83	108.5	0.00	83.56	-	-	0.00	0.00	-	0.00
T03	3,752	3,753	17.32	108.5	0.00	82.49	-	-	0.00	0.00	-	0.00
T04	3,025	3,026	19.89	108.5	0.00	80.62	-	-	0.00	0.00	-	0.00
T05	3,328	3,328	18.76	108.5	0.00	81.44	-	-	0.00	0.00	-	0.00
T06	2,981	2,982	20.06	108.5	0.00	80.49	-	-	0.00	0.00	-	0.00
T07	2,357	2,358	22.88	108.5	0.00	78.45	-	-	0.00	0.00	-	0.00
T08	1,443	1,445	28.85	108.5	0.00	74.20	-	-	0.00	0.00	-	0.00
T09	1,336	1,340	29.74	108.5	0.00	73.54	-	-	0.00	0.00	-	0.00
T10	1,127	1,130	31.71	108.5	0.00	72.07	-	-	0.00	0.00	-	0.00
T11	4,608	4,609	14.85	108.5	0.00	84.27	-	-	0.00	0.00	-	0.00
T12	4,162	4,163	16.08	108.5	0.00	83.39	-	-	0.00	0.00	-	0.00
T13	3,918	3,919	16.81	108.5	0.00	82.86	-	-	0.00	0.00	-	0.00
T14	3,409	3,410	18.47	108.5	0.00	81.65	-	-	0.00	0.00	-	0.00
T15	4,880	4,881	14.16	108.5	0.00	84.77	-	-	0.00	0.00	-	0.00
T16	5,721	5,722	12.24	108.5	0.00	86.15	-	-	0.00	0.00	-	0.00
T17	5,207	5,208	13.38	108.5	0.00	85.33	-	-	0.00	0.00	-	0.00
T18	4,804	4,805	14.35	108.5	0.00	84.63	-	-	0.00	0.00	-	0.00
T19	4,065	4,066	16.36	108.5	0.00	83.18	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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Description:
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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T20	3,975	3,976	16.63	108.5	0.00	82.99	-	-	0.00	0.00	-	0.00
T21	3,457	3,458	18.31	108.5	0.00	81.78	-	-	0.00	0.00	-	0.00
T22	4,896	4,897	14.12	108.5	0.00	84.80	-	-	0.00	0.00	-	0.00
T23	4,578	4,579	14.93	108.5	0.00	84.22	-	-	0.00	0.00	-	0.00
T24	4,345	4,347	15.56	108.5	0.00	83.76	-	-	0.00	0.00	-	0.00
T25	6,406	6,407	10.89	108.5	0.00	87.13	-	-	0.00	0.00	-	0.00
T26	6,111	6,112	11.45	108.5	0.00	86.72	-	-	0.00	0.00	-	0.00
T27	5,893	5,894	11.89	108.5	0.00	86.41	-	-	0.00	0.00	-	0.00
T28	5,776	5,777	12.13	108.5	0.00	86.23	-	-	0.00	0.00	-	0.00
T29	5,957	5,958	11.76	108.5	0.00	86.50	-	-	0.00	0.00	-	0.00
T30	5,652	5,654	12.39	108.5	0.00	86.05	-	-	0.00	0.00	-	0.00
T31	5,573	5,574	12.56	108.5	0.00	85.92	-	-	0.00	0.00	-	0.00
T32	5,196	5,196	13.40	108.5	0.00	85.31	-	-	0.00	0.00	-	0.00
T33	5,228	5,229	13.33	108.5	0.00	85.37	-	-	0.00	0.00	-	0.00
T34	6,557	6,558	10.61	108.5	0.00	87.34	-	-	0.00	0.00	-	0.00
T35	7,065	7,065	9.73	108.5	0.00	87.98	-	-	0.00	0.00	-	0.00
T36	6,594	6,595	10.54	108.5	0.00	87.38	-	-	0.00	0.00	-	0.00
T37	6,273	6,274	11.14	108.5	0.00	86.95	-	-	0.00	0.00	-	0.00
T38	6,168	6,169	11.34	108.5	0.00	86.80	-	-	0.00	0.00	-	0.00
T39	7,673	7,674	8.75	108.5	0.00	88.70	-	-	0.00	0.00	-	0.00
T40	7,432	7,432	9.12	108.5	0.00	88.42	-	-	0.00	0.00	-	0.00
T41	8,073	8,073	8.15	108.5	0.00	89.14	-	-	0.00	0.00	-	0.00
T42	7,047	7,048	9.75	108.5	0.00	87.96	-	-	0.00	0.00	-	0.00
T43	6,707	6,707	10.34	108.5	0.00	87.53	-	-	0.00	0.00	-	0.00
T44	7,475	7,476	9.06	108.5	0.00	88.47	-	-	0.00	0.00	-	0.00
T45	7,788	7,789	8.57	108.5	0.00	88.83	-	-	0.00	0.00	-	0.00
T46	6,565	6,566	10.60	108.5	0.00	87.35	-	-	0.00	0.00	-	0.00
T47	6,161	6,161	11.36	108.5	0.00	86.79	-	-	0.00	0.00	-	0.00
T48 Alt	7,474	7,475	9.06	108.5	0.00	88.47	-	-	0.00	0.00	-	0.00
T49 Alt	7,756	7,757	8.62	108.5	0.00	88.79	-	-	0.00	0.00	-	0.00
T50 Alt	3,744	3,745	17.35	108.5	0.00	82.47	-	-	0.00	0.00	-	0.00
T51 Alt	3,413	3,414	18.46	108.5	0.00	81.67	-	-	0.00	0.00	-	0.00
T52 Alt	4,376	4,377	15.47	108.5	0.00	83.82	-	-	0.00	0.00	-	0.00
T53 Alt	4,701	4,702	14.61	108.5	0.00	84.44	-	-	0.00	0.00	-	0.00
T54 Alt	4,236	4,237	15.87	108.5	0.00	83.54	-	-	0.00	0.00	-	0.00
T55 Alt	3,286	3,287	18.91	108.5	0.00	81.34	-	-	0.00	0.00	-	0.00
T56 Alt	5,986	5,986	11.70	108.5	0.00	86.54	-	-	0.00	0.00	-	0.00
T57 Alt	2,106	2,108	24.28	108.5	0.00	77.48	-	-	0.00	0.00	-	0.00
T58 Alt	2,441	2,442	22.43	108.5	0.00	78.76	-	-	0.00	0.00	-	0.00
T59 Alt	2,772	2,773	20.91	108.5	0.00	79.86	-	-	0.00	0.00	-	0.00

Sum 37.41

- Data undefined due to calculation with octave data

Noise sensitive area: H23 Noise sensitive point: User defined (104)

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	4,552	4,553	15.00	108.5	0.00	84.17	-	-	0.00	0.00	-	0.00
T02	4,007	4,008	16.53	108.5	0.00	83.06	-	-	0.00	0.00	-	0.00
T03	3,512	3,513	18.12	108.5	0.00	81.91	-	-	0.00	0.00	-	0.00
T04	2,783	2,784	20.86	108.5	0.00	79.89	-	-	0.00	0.00	-	0.00
T05	3,104	3,105	19.58	108.5	0.00	80.84	-	-	0.00	0.00	-	0.00
T06	2,772	2,773	20.91	108.5	0.00	79.86	-	-	0.00	0.00	-	0.00
T07	2,182	2,183	23.85	108.5	0.00	77.78	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
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 Finley, ND 58230

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T08	1,220	1,223	30.80	108.5	0.00	72.75	-	-	0.00	0.00	-	0.00
T09	1,216	1,220	30.83	108.5	0.00	72.73	-	-	0.00	0.00	-	0.00
T10	1,084	1,088	32.15	108.5	0.00	71.73	-	-	0.00	0.00	-	0.00
T11	4,427	4,428	15.33	108.5	0.00	83.92	-	-	0.00	0.00	-	0.00
T12	3,988	3,989	16.59	108.5	0.00	83.02	-	-	0.00	0.00	-	0.00
T13	3,793	3,794	17.20	108.5	0.00	82.58	-	-	0.00	0.00	-	0.00
T14	3,297	3,298	18.87	108.5	0.00	81.36	-	-	0.00	0.00	-	0.00
T15	4,765	4,766	14.45	108.5	0.00	84.56	-	-	0.00	0.00	-	0.00
T16	5,634	5,635	12.43	108.5	0.00	86.02	-	-	0.00	0.00	-	0.00
T17	5,134	5,134	13.55	108.5	0.00	85.21	-	-	0.00	0.00	-	0.00
T18	4,749	4,749	14.49	108.5	0.00	84.53	-	-	0.00	0.00	-	0.00
T19	4,021	4,022	16.49	108.5	0.00	83.09	-	-	0.00	0.00	-	0.00
T20	3,966	3,968	16.66	108.5	0.00	82.97	-	-	0.00	0.00	-	0.00
T21	3,467	3,468	18.27	108.5	0.00	81.80	-	-	0.00	0.00	-	0.00
T22	4,894	4,895	14.12	108.5	0.00	84.80	-	-	0.00	0.00	-	0.00
T23	4,600	4,601	14.87	108.5	0.00	84.26	-	-	0.00	0.00	-	0.00
T24	4,391	4,393	15.43	108.5	0.00	83.85	-	-	0.00	0.00	-	0.00
T25	6,353	6,354	10.99	108.5	0.00	87.06	-	-	0.00	0.00	-	0.00
T26	6,072	6,073	11.53	108.5	0.00	86.67	-	-	0.00	0.00	-	0.00
T27	5,868	5,869	11.94	108.5	0.00	86.37	-	-	0.00	0.00	-	0.00
T28	5,769	5,770	12.14	108.5	0.00	86.22	-	-	0.00	0.00	-	0.00
T29	5,985	5,986	11.70	108.5	0.00	86.54	-	-	0.00	0.00	-	0.00
T30	5,695	5,697	12.30	108.5	0.00	86.11	-	-	0.00	0.00	-	0.00
T31	5,635	5,636	12.43	108.5	0.00	86.02	-	-	0.00	0.00	-	0.00
T32	5,295	5,296	13.17	108.5	0.00	85.48	-	-	0.00	0.00	-	0.00
T33	5,347	5,348	13.06	108.5	0.00	85.56	-	-	0.00	0.00	-	0.00
T34	6,566	6,567	10.60	108.5	0.00	87.35	-	-	0.00	0.00	-	0.00
T35	7,089	7,089	9.68	108.5	0.00	88.01	-	-	0.00	0.00	-	0.00
T36	6,647	6,648	10.45	108.5	0.00	87.45	-	-	0.00	0.00	-	0.00
T37	6,350	6,350	11.00	108.5	0.00	87.06	-	-	0.00	0.00	-	0.00
T38	6,265	6,266	11.16	108.5	0.00	86.94	-	-	0.00	0.00	-	0.00
T39	7,710	7,710	8.69	108.5	0.00	88.74	-	-	0.00	0.00	-	0.00
T40	7,492	7,493	9.03	108.5	0.00	88.49	-	-	0.00	0.00	-	0.00
T41	8,142	8,142	8.05	108.5	0.00	89.21	-	-	0.00	0.00	-	0.00
T42	7,132	7,132	9.61	108.5	0.00	88.06	-	-	0.00	0.00	-	0.00
T43	6,812	6,813	10.16	108.5	0.00	87.67	-	-	0.00	0.00	-	0.00
T44	7,598	7,599	8.86	108.5	0.00	88.61	-	-	0.00	0.00	-	0.00
T45	7,920	7,920	8.37	108.5	0.00	88.97	-	-	0.00	0.00	-	0.00
T46	6,697	6,698	10.36	108.5	0.00	87.52	-	-	0.00	0.00	-	0.00
T47	6,315	6,316	11.06	108.5	0.00	87.01	-	-	0.00	0.00	-	0.00
T48 Alt	7,620	7,621	8.83	108.5	0.00	88.64	-	-	0.00	0.00	-	0.00
T49 Alt	7,910	7,911	8.39	108.5	0.00	88.96	-	-	0.00	0.00	-	0.00
T50 Alt	3,812	3,813	17.14	108.5	0.00	82.62	-	-	0.00	0.00	-	0.00
T51 Alt	3,453	3,454	18.32	108.5	0.00	81.77	-	-	0.00	0.00	-	0.00
T52 Alt	4,149	4,150	16.12	108.5	0.00	83.36	-	-	0.00	0.00	-	0.00
T53 Alt	4,462	4,462	15.24	108.5	0.00	83.99	-	-	0.00	0.00	-	0.00
T54 Alt	4,026	4,027	16.48	108.5	0.00	83.10	-	-	0.00	0.00	-	0.00
T55 Alt	3,119	3,120	19.53	108.5	0.00	80.88	-	-	0.00	0.00	-	0.00
T56 Alt	6,110	6,110	11.46	108.5	0.00	86.72	-	-	0.00	0.00	-	0.00
T57 Alt	1,960	1,962	25.17	108.5	0.00	76.85	-	-	0.00	0.00	-	0.00
T58 Alt	2,517	2,518	22.05	108.5	0.00	79.02	-	-	0.00	0.00	-	0.00
T59 Alt	2,868	2,869	20.51	108.5	0.00	80.15	-	-	0.00	0.00	-	0.00

Sum 38.18

- Data undefined due to calculation with octave data

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

Noise sensitive area: H24 Noise sensitive point: User defined (105)

WTG No.	95% rated power											
	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	3,086	3,087	19.65	108.5	0.00	80.79	-	-	0.00	0.00	-	0.00
T02	3,156	3,157	19.39	108.5	0.00	80.99	-	-	0.00	0.00	-	0.00
T03	3,082	3,083	19.67	108.5	0.00	80.78	-	-	0.00	0.00	-	0.00
T04	3,077	3,078	19.69	108.5	0.00	80.77	-	-	0.00	0.00	-	0.00
T05	4,291	4,292	15.71	108.5	0.00	83.65	-	-	0.00	0.00	-	0.00
T06	4,473	4,474	15.21	108.5	0.00	84.01	-	-	0.00	0.00	-	0.00
T07	4,628	4,628	14.80	108.5	0.00	84.31	-	-	0.00	0.00	-	0.00
T08	3,698	3,699	17.50	108.5	0.00	82.36	-	-	0.00	0.00	-	0.00
T09	4,453	4,454	15.26	108.5	0.00	83.97	-	-	0.00	0.00	-	0.00
T10	4,618	4,618	14.83	108.5	0.00	84.29	-	-	0.00	0.00	-	0.00
T11	6,108	6,108	11.46	108.5	0.00	86.72	-	-	0.00	0.00	-	0.00
T12	5,878	5,879	11.92	108.5	0.00	86.39	-	-	0.00	0.00	-	0.00
T13	6,332	6,332	11.03	108.5	0.00	87.03	-	-	0.00	0.00	-	0.00
T14	6,042	6,043	11.59	108.5	0.00	86.62	-	-	0.00	0.00	-	0.00
T15	7,260	7,260	9.40	108.5	0.00	88.22	-	-	0.00	0.00	-	0.00
T16	8,317	8,317	7.80	108.5	0.00	89.40	-	-	0.00	0.00	-	0.00
T17	7,984	7,985	8.28	108.5	0.00	89.05	-	-	0.00	0.00	-	0.00
T18	7,764	7,765	8.61	108.5	0.00	88.80	-	-	0.00	0.00	-	0.00
T19	7,173	7,173	9.54	108.5	0.00	88.11	-	-	0.00	0.00	-	0.00
T20	7,318	7,319	9.31	108.5	0.00	88.29	-	-	0.00	0.00	-	0.00
T21	6,930	6,930	9.95	108.5	0.00	87.81	-	-	0.00	0.00	-	0.00
T22	8,237	8,238	7.91	108.5	0.00	89.32	-	-	0.00	0.00	-	0.00
T23	8,070	8,071	8.15	108.5	0.00	89.14	-	-	0.00	0.00	-	0.00
T24	7,957	7,958	8.32	108.5	0.00	89.02	-	-	0.00	0.00	-	0.00
T25	9,294	9,295	6.50	108.5	0.00	90.36	-	-	0.00	0.00	-	0.00
T26	9,135	9,136	6.70	108.5	0.00	90.21	-	-	0.00	0.00	-	0.00
T27	9,037	9,037	6.83	108.5	0.00	90.12	-	-	0.00	0.00	-	0.00
T28	9,047	9,048	6.81	108.5	0.00	90.13	-	-	0.00	0.00	-	0.00
T29	9,441	9,442	6.31	108.5	0.00	90.50	-	-	0.00	0.00	-	0.00
T30	9,224	9,225	6.58	108.5	0.00	90.30	-	-	0.00	0.00	-	0.00
T31	9,233	9,233	6.57	108.5	0.00	90.31	-	-	0.00	0.00	-	0.00
T32	8,993	8,994	6.88	108.5	0.00	90.08	-	-	0.00	0.00	-	0.00
T33	9,071	9,071	6.78	108.5	0.00	90.15	-	-	0.00	0.00	-	0.00
T34	9,914	9,915	5.74	108.5	0.00	90.93	-	-	0.00	0.00	-	0.00
T35	10,507	10,508	5.07	108.5	0.00	91.43	-	-	0.00	0.00	-	0.00
T36	10,203	10,204	5.41	108.5	0.00	91.18	-	-	0.00	0.00	-	0.00
T37	9,987	9,988	5.66	108.5	0.00	90.99	-	-	0.00	0.00	-	0.00
T38	9,953	9,954	5.70	108.5	0.00	90.96	-	-	0.00	0.00	-	0.00
T39	11,179	11,180	4.35	108.5	0.00	91.97	-	-	0.00	0.00	-	0.00
T40	11,066	11,067	4.47	108.5	0.00	91.88	-	-	0.00	0.00	-	0.00
T41	11,742	11,742	3.78	108.5	0.00	92.39	-	-	0.00	0.00	-	0.00
T42	10,787	10,788	4.76	108.5	0.00	91.66	-	-	0.00	0.00	-	0.00
T43	10,516	10,516	5.06	108.5	0.00	91.44	-	-	0.00	0.00	-	0.00
T44	11,324	11,324	4.20	108.5	0.00	92.08	-	-	0.00	0.00	-	0.00
T45	11,651	11,652	3.87	108.5	0.00	92.33	-	-	0.00	0.00	-	0.00
T46	10,429	10,429	5.16	108.5	0.00	91.36	-	-	0.00	0.00	-	0.00
T47	10,040	10,041	5.60	108.5	0.00	91.04	-	-	0.00	0.00	-	0.00
T48 Alt	11,352	11,352	4.17	108.5	0.00	92.10	-	-	0.00	0.00	-	0.00
T49 Alt	11,636	11,636	3.89	108.5	0.00	92.32	-	-	0.00	0.00	-	0.00
T50 Alt	7,453	7,453	9.09	108.5	0.00	88.45	-	-	0.00	0.00	-	0.00
T51 Alt	7,023	7,024	9.80	108.5	0.00	87.93	-	-	0.00	0.00	-	0.00
T52 Alt	4,790	4,791	14.38	108.5	0.00	84.61	-	-	0.00	0.00	-	0.00
T53 Alt	4,239	4,240	15.86	108.5	0.00	83.55	-	-	0.00	0.00	-	0.00
T54 Alt	5,214	5,215	13.36	108.5	0.00	85.35	-	-	0.00	0.00	-	0.00
T55 Alt	5,325	5,325	13.11	108.5	0.00	85.53	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T56 Alt	9,837	9,837	5.84	108.5	0.00	90.86	-	-	0.00	0.00	-	0.00
T57 Alt	4,762	4,763	14.45	108.5	0.00	84.56	-	-	0.00	0.00	-	0.00
T58 Alt	6,199	6,200	11.28	108.5	0.00	86.85	-	-	0.00	0.00	-	0.00
T59 Alt	6,576	6,576	10.58	108.5	0.00	87.36	-	-	0.00	0.00	-	0.00

Sum 29.96

- Data undefined due to calculation with octave data

Noise sensitive area: H25 Noise sensitive point: User defined (106)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	3,291	3,292	18.89	108.5	0.00	81.35	-	-	0.00	0.00	-	0.00
T02	3,055	3,056	19.77	108.5	0.00	80.70	-	-	0.00	0.00	-	0.00
T03	2,758	2,759	20.97	108.5	0.00	79.82	-	-	0.00	0.00	-	0.00
T04	2,410	2,411	22.60	108.5	0.00	78.64	-	-	0.00	0.00	-	0.00
T05	3,490	3,490	18.19	108.5	0.00	81.86	-	-	0.00	0.00	-	0.00
T06	3,522	3,523	18.08	108.5	0.00	81.94	-	-	0.00	0.00	-	0.00
T07	3,479	3,480	18.23	108.5	0.00	81.83	-	-	0.00	0.00	-	0.00
T08	2,438	2,439	22.45	108.5	0.00	78.74	-	-	0.00	0.00	-	0.00
T09	3,123	3,124	19.51	108.5	0.00	80.90	-	-	0.00	0.00	-	0.00
T10	3,244	3,246	19.06	108.5	0.00	81.23	-	-	0.00	0.00	-	0.00
T11	5,278	5,279	13.21	108.5	0.00	85.45	-	-	0.00	0.00	-	0.00
T12	4,970	4,970	13.94	108.5	0.00	84.93	-	-	0.00	0.00	-	0.00
T13	5,246	5,246	13.29	108.5	0.00	85.40	-	-	0.00	0.00	-	0.00
T14	4,888	4,889	14.14	108.5	0.00	84.78	-	-	0.00	0.00	-	0.00
T15	6,213	6,213	11.26	108.5	0.00	86.87	-	-	0.00	0.00	-	0.00
T16	7,232	7,233	9.45	108.5	0.00	88.19	-	-	0.00	0.00	-	0.00
T17	6,843	6,844	10.10	108.5	0.00	87.71	-	-	0.00	0.00	-	0.00
T18	6,571	6,571	10.59	108.5	0.00	87.35	-	-	0.00	0.00	-	0.00
T19	5,932	5,932	11.81	108.5	0.00	86.46	-	-	0.00	0.00	-	0.00
T20	6,023	6,024	11.63	108.5	0.00	86.60	-	-	0.00	0.00	-	0.00
T21	5,601	5,601	12.50	108.5	0.00	85.97	-	-	0.00	0.00	-	0.00
T22	6,952	6,953	9.92	108.5	0.00	87.84	-	-	0.00	0.00	-	0.00
T23	6,746	6,747	10.27	108.5	0.00	87.58	-	-	0.00	0.00	-	0.00
T24	6,605	6,606	10.53	108.5	0.00	87.40	-	-	0.00	0.00	-	0.00
T25	8,141	8,142	8.05	108.5	0.00	89.21	-	-	0.00	0.00	-	0.00
T26	7,942	7,943	8.34	108.5	0.00	89.00	-	-	0.00	0.00	-	0.00
T27	7,810	7,811	8.54	108.5	0.00	88.85	-	-	0.00	0.00	-	0.00
T28	7,787	7,788	8.57	108.5	0.00	88.83	-	-	0.00	0.00	-	0.00
T29	8,128	8,129	8.07	108.5	0.00	89.20	-	-	0.00	0.00	-	0.00
T30	7,888	7,889	8.42	108.5	0.00	88.94	-	-	0.00	0.00	-	0.00
T31	7,874	7,875	8.44	108.5	0.00	88.92	-	-	0.00	0.00	-	0.00
T32	7,601	7,601	8.86	108.5	0.00	88.62	-	-	0.00	0.00	-	0.00
T33	7,668	7,668	8.76	108.5	0.00	88.69	-	-	0.00	0.00	-	0.00
T34	8,637	8,638	7.35	108.5	0.00	89.73	-	-	0.00	0.00	-	0.00
T35	9,210	9,210	6.60	108.5	0.00	90.29	-	-	0.00	0.00	-	0.00
T36	8,861	8,861	7.06	108.5	0.00	89.95	-	-	0.00	0.00	-	0.00
T37	8,617	8,617	7.38	108.5	0.00	89.71	-	-	0.00	0.00	-	0.00
T38	8,565	8,565	7.45	108.5	0.00	89.65	-	-	0.00	0.00	-	0.00
T39	9,867	9,868	5.80	108.5	0.00	90.88	-	-	0.00	0.00	-	0.00
T40	9,719	9,719	5.98	108.5	0.00	90.75	-	-	0.00	0.00	-	0.00
T41	10,386	10,387	5.20	108.5	0.00	91.33	-	-	0.00	0.00	-	0.00
T42	9,411	9,412	6.35	108.5	0.00	90.47	-	-	0.00	0.00	-	0.00
T43	9,122	9,123	6.72	108.5	0.00	90.20	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T44	9,921	9,921	5.74	108.5	0.00	90.93	-	-	0.00	0.00	-	0.00
T45	10,245	10,245	5.36	108.5	0.00	91.21	-	-	0.00	0.00	-	0.00
T46	9,022	9,022	6.85	108.5	0.00	90.11	-	-	0.00	0.00	-	0.00
T47	8,630	8,630	7.36	108.5	0.00	89.72	-	-	0.00	0.00	-	0.00
T48 Alt	9,942	9,942	5.71	108.5	0.00	90.95	-	-	0.00	0.00	-	0.00
T49 Alt	10,226	10,226	5.39	108.5	0.00	91.19	-	-	0.00	0.00	-	0.00
T50 Alt	6,077	6,077	11.52	108.5	0.00	86.67	-	-	0.00	0.00	-	0.00
T51 Alt	5,666	5,666	12.36	108.5	0.00	86.07	-	-	0.00	0.00	-	0.00
T52 Alt	4,239	4,240	15.86	108.5	0.00	83.55	-	-	0.00	0.00	-	0.00
T53 Alt	3,985	3,986	16.60	108.5	0.00	83.01	-	-	0.00	0.00	-	0.00
T54 Alt	4,498	4,499	15.14	108.5	0.00	84.06	-	-	0.00	0.00	-	0.00
T55 Alt	4,290	4,291	15.71	108.5	0.00	83.65	-	-	0.00	0.00	-	0.00
T56 Alt	8,433	8,433	7.64	108.5	0.00	89.52	-	-	0.00	0.00	-	0.00
T57 Alt	3,537	3,538	18.03	108.5	0.00	81.98	-	-	0.00	0.00	-	0.00
T58 Alt	4,808	4,809	14.34	108.5	0.00	84.64	-	-	0.00	0.00	-	0.00
T59 Alt	5,178	5,179	13.44	108.5	0.00	85.28	-	-	0.00	0.00	-	0.00

Sum 32.24

- Data undefined due to calculation with octave data

Noise sensitive area: H26 Noise sensitive point: User defined (107)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	4,648	4,649	14.74	108.5	0.00	84.35	-	-	0.00	0.00	-	0.00
T02	5,095	5,096	13.64	108.5	0.00	85.14	-	-	0.00	0.00	-	0.00
T03	5,282	5,283	13.20	108.5	0.00	85.46	-	-	0.00	0.00	-	0.00
T04	5,585	5,586	12.53	108.5	0.00	85.94	-	-	0.00	0.00	-	0.00
T05	6,782	6,783	10.21	108.5	0.00	87.63	-	-	0.00	0.00	-	0.00
T06	7,087	7,087	9.69	108.5	0.00	88.01	-	-	0.00	0.00	-	0.00
T07	7,396	7,396	9.18	108.5	0.00	88.38	-	-	0.00	0.00	-	0.00
T08	6,559	6,560	10.61	108.5	0.00	87.34	-	-	0.00	0.00	-	0.00
T09	7,342	7,342	9.27	108.5	0.00	88.32	-	-	0.00	0.00	-	0.00
T10	7,524	7,525	8.98	108.5	0.00	88.53	-	-	0.00	0.00	-	0.00
T11	8,514	8,515	7.52	108.5	0.00	89.60	-	-	0.00	0.00	-	0.00
T12	8,381	8,382	7.71	108.5	0.00	89.47	-	-	0.00	0.00	-	0.00
T13	9,002	9,002	6.87	108.5	0.00	90.09	-	-	0.00	0.00	-	0.00
T14	8,783	8,783	7.16	108.5	0.00	89.87	-	-	0.00	0.00	-	0.00
T15	9,867	9,868	5.80	108.5	0.00	90.88	-	-	0.00	0.00	-	0.00
T16	10,946	10,946	4.60	108.5	0.00	91.79	-	-	0.00	0.00	-	0.00
T17	10,680	10,681	4.88	108.5	0.00	91.57	-	-	0.00	0.00	-	0.00
T18	10,517	10,517	5.06	108.5	0.00	91.44	-	-	0.00	0.00	-	0.00
T19	9,976	9,977	5.67	108.5	0.00	90.98	-	-	0.00	0.00	-	0.00
T20	10,168	10,168	5.45	108.5	0.00	91.14	-	-	0.00	0.00	-	0.00
T21	9,806	9,807	5.87	108.5	0.00	90.83	-	-	0.00	0.00	-	0.00
T22	11,073	11,074	4.46	108.5	0.00	91.89	-	-	0.00	0.00	-	0.00
T23	10,939	10,940	4.60	108.5	0.00	91.78	-	-	0.00	0.00	-	0.00
T24	10,847	10,848	4.70	108.5	0.00	91.71	-	-	0.00	0.00	-	0.00
T25	11,987	11,988	3.54	108.5	0.00	92.58	-	-	0.00	0.00	-	0.00
T26	11,873	11,874	3.65	108.5	0.00	92.49	-	-	0.00	0.00	-	0.00
T27	11,811	11,812	3.72	108.5	0.00	92.45	-	-	0.00	0.00	-	0.00
T28	11,855	11,856	3.67	108.5	0.00	92.48	-	-	0.00	0.00	-	0.00
T29	12,297	12,298	3.25	108.5	0.00	92.80	-	-	0.00	0.00	-	0.00
T30	12,101	12,102	3.43	108.5	0.00	92.66	-	-	0.00	0.00	-	0.00
T31	12,126	12,126	3.41	108.5	0.00	92.67	-	-	0.00	0.00	-	0.00

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	11,904	11,904	3.63	108.5	0.00	92.51	-	-	0.00	0.00	-	0.00
T33	11,980	11,981	3.55	108.5	0.00	92.57	-	-	0.00	0.00	-	0.00
T34	12,735	12,736	2.84	108.5	0.00	93.10	-	-	0.00	0.00	-	0.00
T35	13,346	13,346	2.30	108.5	0.00	93.51	-	-	0.00	0.00	-	0.00
T36	13,084	13,084	2.53	108.5	0.00	93.33	-	-	0.00	0.00	-	0.00
T37	12,888	12,888	2.71	108.5	0.00	93.20	-	-	0.00	0.00	-	0.00
T38	12,862	12,862	2.73	108.5	0.00	93.19	-	-	0.00	0.00	-	0.00
T39	14,030	14,031	1.73	108.5	0.00	93.94	-	-	0.00	0.00	-	0.00
T40	13,949	13,949	1.79	108.5	0.00	93.89	-	-	0.00	0.00	-	0.00
T41	14,630	14,631	1.24	108.5	0.00	94.31	-	-	0.00	0.00	-	0.00
T42	13,690	13,691	2.01	108.5	0.00	93.73	-	-	0.00	0.00	-	0.00
T43	13,426	13,427	2.23	108.5	0.00	93.56	-	-	0.00	0.00	-	0.00
T44	14,233	14,234	1.56	108.5	0.00	94.07	-	-	0.00	0.00	-	0.00
T45	14,558	14,558	1.30	108.5	0.00	94.26	-	-	0.00	0.00	-	0.00
T46	13,335	13,335	2.31	108.5	0.00	93.50	-	-	0.00	0.00	-	0.00
T47	12,930	12,930	2.67	108.5	0.00	93.23	-	-	0.00	0.00	-	0.00
T48 Alt	14,249	14,249	1.55	108.5	0.00	94.08	-	-	0.00	0.00	-	0.00
T49 Alt	14,525	14,525	1.33	108.5	0.00	94.24	-	-	0.00	0.00	-	0.00
T50 Alt	10,357	10,358	5.24	108.5	0.00	91.31	-	-	0.00	0.00	-	0.00
T51 Alt	9,919	9,919	5.74	108.5	0.00	90.93	-	-	0.00	0.00	-	0.00
T52 Alt	6,973	6,974	9.88	108.5	0.00	87.87	-	-	0.00	0.00	-	0.00
T53 Alt	6,138	6,138	11.40	108.5	0.00	86.76	-	-	0.00	0.00	-	0.00
T54 Alt	7,547	7,548	8.94	108.5	0.00	88.56	-	-	0.00	0.00	-	0.00
T55 Alt	7,975	7,976	8.29	108.5	0.00	89.04	-	-	0.00	0.00	-	0.00
T56 Alt	12,746	12,746	2.84	108.5	0.00	93.11	-	-	0.00	0.00	-	0.00
T57 Alt	7,584	7,584	8.89	108.5	0.00	88.60	-	-	0.00	0.00	-	0.00
T58 Alt	9,109	9,110	6.73	108.5	0.00	90.19	-	-	0.00	0.00	-	0.00
T59 Alt	9,487	9,487	6.26	108.5	0.00	90.54	-	-	0.00	0.00	-	0.00
Sum	24.94											

- Data undefined due to calculation with octave data

Noise sensitive area: H27 Noise sensitive point: User defined (108)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	4,957	4,957	13.97	108.5	0.00	84.91	-	-	0.00	0.00	-	0.00
T02	5,098	5,099	13.63	108.5	0.00	85.15	-	-	0.00	0.00	-	0.00
T03	5,040	5,041	13.77	108.5	0.00	85.05	-	-	0.00	0.00	-	0.00
T04	4,999	5,000	13.87	108.5	0.00	84.98	-	-	0.00	0.00	-	0.00
T05	6,195	6,196	11.29	108.5	0.00	86.84	-	-	0.00	0.00	-	0.00
T06	6,322	6,323	11.05	108.5	0.00	87.02	-	-	0.00	0.00	-	0.00
T07	6,354	6,354	10.99	108.5	0.00	87.06	-	-	0.00	0.00	-	0.00
T08	5,313	5,314	13.13	108.5	0.00	85.51	-	-	0.00	0.00	-	0.00
T09	5,956	5,957	11.76	108.5	0.00	86.50	-	-	0.00	0.00	-	0.00
T10	6,014	6,014	11.65	108.5	0.00	86.58	-	-	0.00	0.00	-	0.00
T11	8,015	8,015	8.23	108.5	0.00	89.08	-	-	0.00	0.00	-	0.00
T12	7,755	7,756	8.62	108.5	0.00	88.79	-	-	0.00	0.00	-	0.00
T13	8,111	8,112	8.09	108.5	0.00	89.18	-	-	0.00	0.00	-	0.00
T14	7,766	7,766	8.61	108.5	0.00	88.80	-	-	0.00	0.00	-	0.00
T15	9,069	9,069	6.78	108.5	0.00	90.15	-	-	0.00	0.00	-	0.00
T16	10,101	10,101	5.53	108.5	0.00	91.09	-	-	0.00	0.00	-	0.00
T17	9,721	9,722	5.97	108.5	0.00	90.75	-	-	0.00	0.00	-	0.00
T18	9,448	9,449	6.31	108.5	0.00	90.51	-	-	0.00	0.00	-	0.00
T19	8,800	8,800	7.14	108.5	0.00	89.89	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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Description:
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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T20	8,862	8,862	7.05	108.5	0.00	89.95	-	-	0.00	0.00	-	0.00
T21	8,409	8,409	7.67	108.5	0.00	89.50	-	-	0.00	0.00	-	0.00
T22	9,794	9,795	5.89	108.5	0.00	90.82	-	-	0.00	0.00	-	0.00
T23	9,553	9,554	6.18	108.5	0.00	90.60	-	-	0.00	0.00	-	0.00
T24	9,370	9,370	6.40	108.5	0.00	90.43	-	-	0.00	0.00	-	0.00
T25	11,020	11,021	4.52	108.5	0.00	91.84	-	-	0.00	0.00	-	0.00
T26	10,819	10,819	4.73	108.5	0.00	91.68	-	-	0.00	0.00	-	0.00
T27	10,680	10,680	4.88	108.5	0.00	91.57	-	-	0.00	0.00	-	0.00
T28	10,643	10,643	4.92	108.5	0.00	91.54	-	-	0.00	0.00	-	0.00
T29	10,940	10,940	4.60	108.5	0.00	91.78	-	-	0.00	0.00	-	0.00
T30	10,670	10,671	4.89	108.5	0.00	91.56	-	-	0.00	0.00	-	0.00
T31	10,617	10,617	4.95	108.5	0.00	91.52	-	-	0.00	0.00	-	0.00
T32	10,239	10,240	5.37	108.5	0.00	91.21	-	-	0.00	0.00	-	0.00
T33	10,242	10,243	5.37	108.5	0.00	91.21	-	-	0.00	0.00	-	0.00
T34	11,480	11,480	4.04	108.5	0.00	92.20	-	-	0.00	0.00	-	0.00
T35	12,035	12,035	3.50	108.5	0.00	92.61	-	-	0.00	0.00	-	0.00
T36	11,628	11,628	3.90	108.5	0.00	92.31	-	-	0.00	0.00	-	0.00
T37	11,325	11,326	4.20	108.5	0.00	92.08	-	-	0.00	0.00	-	0.00
T38	11,214	11,214	4.32	108.5	0.00	92.00	-	-	0.00	0.00	-	0.00
T39	12,674	12,675	2.90	108.5	0.00	93.06	-	-	0.00	0.00	-	0.00
T40	12,474	12,475	3.08	108.5	0.00	92.92	-	-	0.00	0.00	-	0.00
T41	13,122	13,123	2.50	108.5	0.00	93.36	-	-	0.00	0.00	-	0.00
T42	12,099	12,099	3.44	108.5	0.00	92.66	-	-	0.00	0.00	-	0.00
T43	11,740	11,740	3.79	108.5	0.00	92.39	-	-	0.00	0.00	-	0.00
T44	12,468	12,468	3.09	108.5	0.00	92.92	-	-	0.00	0.00	-	0.00
T45	12,750	12,750	2.83	108.5	0.00	93.11	-	-	0.00	0.00	-	0.00
T46	11,535	11,535	3.99	108.5	0.00	92.24	-	-	0.00	0.00	-	0.00
T47	11,035	11,035	4.50	108.5	0.00	91.86	-	-	0.00	0.00	-	0.00
T48 Alt	12,377	12,377	3.17	108.5	0.00	92.85	-	-	0.00	0.00	-	0.00
T49 Alt	12,613	12,613	2.96	108.5	0.00	93.02	-	-	0.00	0.00	-	0.00
T50 Alt	8,792	8,793	7.15	108.5	0.00	89.88	-	-	0.00	0.00	-	0.00
T51 Alt	8,429	8,429	7.64	108.5	0.00	89.52	-	-	0.00	0.00	-	0.00
T52 Alt	6,744	6,745	10.28	108.5	0.00	87.58	-	-	0.00	0.00	-	0.00
T53 Alt	6,189	6,190	11.30	108.5	0.00	86.83	-	-	0.00	0.00	-	0.00
T54 Alt	7,147	7,147	9.59	108.5	0.00	88.08	-	-	0.00	0.00	-	0.00
T55 Alt	7,135	7,136	9.61	108.5	0.00	88.07	-	-	0.00	0.00	-	0.00
T56 Alt	10,984	10,984	4.56	108.5	0.00	91.82	-	-	0.00	0.00	-	0.00
T57 Alt	6,414	6,415	10.87	108.5	0.00	87.14	-	-	0.00	0.00	-	0.00
T58 Alt	7,492	7,493	9.03	108.5	0.00	88.49	-	-	0.00	0.00	-	0.00
T59 Alt	7,822	7,822	8.52	108.5	0.00	88.87	-	-	0.00	0.00	-	0.00

Sum 26.08

- Data undefined due to calculation with octave data

Noise sensitive area: H28 Noise sensitive point: User defined (109)

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	8,878	8,878	7.03	108.5	0.00	89.97	-	-	0.00	0.00	-	0.00
T02	8,258	8,259	7.88	108.5	0.00	89.34	-	-	0.00	0.00	-	0.00
T03	7,741	7,741	8.64	108.5	0.00	88.78	-	-	0.00	0.00	-	0.00
T04	6,985	6,985	9.86	108.5	0.00	87.88	-	-	0.00	0.00	-	0.00
T05	6,736	6,737	10.29	108.5	0.00	87.57	-	-	0.00	0.00	-	0.00
T06	6,214	6,214	11.25	108.5	0.00	86.87	-	-	0.00	0.00	-	0.00
T07	5,370	5,370	13.01	108.5	0.00	85.60	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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Finley, ND 58230

Description:
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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Crnet [dB]
T08	5,234	5,235	13.31	108.5	0.00	85.38	-	-	0.00	0.00	-	0.00
T09	4,481	4,482	15.19	108.5	0.00	84.03	-	-	0.00	0.00	-	0.00
T10	4,069	4,070	16.35	108.5	0.00	83.19	-	-	0.00	0.00	-	0.00
T11	7,066	7,066	9.72	108.5	0.00	87.98	-	-	0.00	0.00	-	0.00
T12	6,608	6,608	10.52	108.5	0.00	87.40	-	-	0.00	0.00	-	0.00
T13	5,717	5,717	12.25	108.5	0.00	86.14	-	-	0.00	0.00	-	0.00
T14	5,236	5,237	13.31	108.5	0.00	85.38	-	-	0.00	0.00	-	0.00
T15	6,234	6,235	11.22	108.5	0.00	86.90	-	-	0.00	0.00	-	0.00
T16	6,404	6,405	10.89	108.5	0.00	87.13	-	-	0.00	0.00	-	0.00
T17	5,800	5,801	12.08	108.5	0.00	86.27	-	-	0.00	0.00	-	0.00
T18	5,260	5,261	13.25	108.5	0.00	85.42	-	-	0.00	0.00	-	0.00
T19	4,662	4,663	14.71	108.5	0.00	84.37	-	-	0.00	0.00	-	0.00
T20	4,108	4,109	16.24	108.5	0.00	83.27	-	-	0.00	0.00	-	0.00
T21	3,666	3,667	17.60	108.5	0.00	82.29	-	-	0.00	0.00	-	0.00
T22	4,454	4,455	15.26	108.5	0.00	83.98	-	-	0.00	0.00	-	0.00
T23	3,887	3,888	16.90	108.5	0.00	82.80	-	-	0.00	0.00	-	0.00
T24	3,395	3,397	18.52	108.5	0.00	81.62	-	-	0.00	0.00	-	0.00
T25	6,332	6,333	11.03	108.5	0.00	87.03	-	-	0.00	0.00	-	0.00
T26	5,869	5,870	11.94	108.5	0.00	86.37	-	-	0.00	0.00	-	0.00
T27	5,474	5,475	12.77	108.5	0.00	85.77	-	-	0.00	0.00	-	0.00
T28	5,102	5,103	13.62	108.5	0.00	85.16	-	-	0.00	0.00	-	0.00
T29	4,615	4,616	14.83	108.5	0.00	84.29	-	-	0.00	0.00	-	0.00
T30	4,136	4,137	16.15	108.5	0.00	83.33	-	-	0.00	0.00	-	0.00
T31	3,746	3,748	17.34	108.5	0.00	82.48	-	-	0.00	0.00	-	0.00
T32	2,799	2,800	20.80	108.5	0.00	79.94	-	-	0.00	0.00	-	0.00
T33	2,440	2,442	22.44	108.5	0.00	78.75	-	-	0.00	0.00	-	0.00
T34	5,376	5,377	12.99	108.5	0.00	85.61	-	-	0.00	0.00	-	0.00
T35	5,495	5,496	12.73	108.5	0.00	85.80	-	-	0.00	0.00	-	0.00
T36	4,608	4,609	14.85	108.5	0.00	84.27	-	-	0.00	0.00	-	0.00
T37	3,943	3,944	16.73	108.5	0.00	82.92	-	-	0.00	0.00	-	0.00
T38	3,492	3,494	18.18	108.5	0.00	81.87	-	-	0.00	0.00	-	0.00
T39	5,767	5,768	12.15	108.5	0.00	86.22	-	-	0.00	0.00	-	0.00
T40	5,144	5,145	13.52	108.5	0.00	85.23	-	-	0.00	0.00	-	0.00
T41	5,533	5,533	12.65	108.5	0.00	85.86	-	-	0.00	0.00	-	0.00
T42	4,393	4,394	15.43	108.5	0.00	83.86	-	-	0.00	0.00	-	0.00
T43	3,738	3,739	17.37	108.5	0.00	82.46	-	-	0.00	0.00	-	0.00
T44	4,086	4,087	16.30	108.5	0.00	83.23	-	-	0.00	0.00	-	0.00
T45	4,226	4,227	15.89	108.5	0.00	83.52	-	-	0.00	0.00	-	0.00
T46	3,155	3,156	19.39	108.5	0.00	80.98	-	-	0.00	0.00	-	0.00
T47	2,414	2,415	22.57	108.5	0.00	78.66	-	-	0.00	0.00	-	0.00
T48 Alt	3,722	3,723	17.42	108.5	0.00	82.42	-	-	0.00	0.00	-	0.00
T49 Alt	3,873	3,874	16.95	108.5	0.00	82.76	-	-	0.00	0.00	-	0.00
T50 Alt	2,873	2,874	20.49	108.5	0.00	80.17	-	-	0.00	0.00	-	0.00
T51 Alt	3,242	3,243	19.07	108.5	0.00	81.22	-	-	0.00	0.00	-	0.00
T52 Alt	7,718	7,719	8.68	108.5	0.00	88.75	-	-	0.00	0.00	-	0.00
T53 Alt	8,398	8,399	7.68	108.5	0.00	89.48	-	-	0.00	0.00	-	0.00
T54 Alt	7,262	7,262	9.40	108.5	0.00	88.22	-	-	0.00	0.00	-	0.00
T55 Alt	5,881	5,882	11.91	108.5	0.00	86.39	-	-	0.00	0.00	-	0.00
T56 Alt	2,845	2,846	20.61	108.5	0.00	80.08	-	-	0.00	0.00	-	0.00
T57 Alt	4,948	4,949	13.99	108.5	0.00	84.89	-	-	0.00	0.00	-	0.00
T58 Alt	2,874	2,875	20.49	108.5	0.00	80.17	-	-	0.00	0.00	-	0.00
T59 Alt	2,532	2,533	21.97	108.5	0.00	79.07	-	-	0.00	0.00	-	0.00

Sum 33.96

- Data undefined due to calculation with octave data

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20131290 Rolette Power Development

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

Noise sensitive area: H29 Noise sensitive point: User defined (110)

WTG No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	11,073	11,073	4.46	108.5	0.00	91.89	-	-	0.00	0.00	-	0.00
T02	10,435	10,436	5.15	108.5	0.00	91.37	-	-	0.00	0.00	-	0.00
T03	9,918	9,919	5.74	108.5	0.00	90.93	-	-	0.00	0.00	-	0.00
T04	9,166	9,167	6.66	108.5	0.00	90.24	-	-	0.00	0.00	-	0.00
T05	8,798	8,798	7.14	108.5	0.00	89.89	-	-	0.00	0.00	-	0.00
T06	8,261	8,261	7.88	108.5	0.00	89.34	-	-	0.00	0.00	-	0.00
T07	7,429	7,429	9.13	108.5	0.00	88.42	-	-	0.00	0.00	-	0.00
T08	7,431	7,432	9.13	108.5	0.00	88.42	-	-	0.00	0.00	-	0.00
T09	6,643	6,644	10.46	108.5	0.00	87.45	-	-	0.00	0.00	-	0.00
T10	6,254	6,254	11.18	108.5	0.00	86.92	-	-	0.00	0.00	-	0.00
T11	8,853	8,853	7.07	108.5	0.00	89.94	-	-	0.00	0.00	-	0.00
T12	8,426	8,427	7.65	108.5	0.00	89.51	-	-	0.00	0.00	-	0.00
T13	7,436	7,436	9.12	108.5	0.00	88.43	-	-	0.00	0.00	-	0.00
T14	7,029	7,029	9.79	108.5	0.00	87.94	-	-	0.00	0.00	-	0.00
T15	7,741	7,741	8.64	108.5	0.00	88.78	-	-	0.00	0.00	-	0.00
T16	7,630	7,631	8.81	108.5	0.00	88.65	-	-	0.00	0.00	-	0.00
T17	7,080	7,081	9.70	108.5	0.00	88.00	-	-	0.00	0.00	-	0.00
T18	6,581	6,581	10.57	108.5	0.00	87.37	-	-	0.00	0.00	-	0.00
T19	6,163	6,163	11.35	108.5	0.00	86.80	-	-	0.00	0.00	-	0.00
T20	5,571	5,572	12.56	108.5	0.00	85.92	-	-	0.00	0.00	-	0.00
T21	5,295	5,296	13.17	108.5	0.00	85.48	-	-	0.00	0.00	-	0.00
T22	5,567	5,568	12.57	108.5	0.00	85.91	-	-	0.00	0.00	-	0.00
T23	5,054	5,055	13.74	108.5	0.00	85.07	-	-	0.00	0.00	-	0.00
T24	4,618	4,620	14.82	108.5	0.00	84.29	-	-	0.00	0.00	-	0.00
T25	7,230	7,231	9.45	108.5	0.00	88.18	-	-	0.00	0.00	-	0.00
T26	6,762	6,763	10.24	108.5	0.00	87.60	-	-	0.00	0.00	-	0.00
T27	6,355	6,356	10.99	108.5	0.00	87.06	-	-	0.00	0.00	-	0.00
T28	5,933	5,934	11.81	108.5	0.00	86.47	-	-	0.00	0.00	-	0.00
T29	5,192	5,193	13.41	108.5	0.00	85.31	-	-	0.00	0.00	-	0.00
T30	4,752	4,754	14.48	108.5	0.00	84.54	-	-	0.00	0.00	-	0.00
T31	4,300	4,302	15.68	108.5	0.00	83.67	-	-	0.00	0.00	-	0.00
T32	3,391	3,392	18.54	108.5	0.00	81.61	-	-	0.00	0.00	-	0.00
T33	2,930	2,931	20.27	108.5	0.00	80.34	-	-	0.00	0.00	-	0.00
T34	5,859	5,860	11.96	108.5	0.00	86.36	-	-	0.00	0.00	-	0.00
T35	5,710	5,710	12.27	108.5	0.00	86.13	-	-	0.00	0.00	-	0.00
T36	4,757	4,757	14.47	108.5	0.00	84.55	-	-	0.00	0.00	-	0.00
T37	4,045	4,046	16.42	108.5	0.00	83.14	-	-	0.00	0.00	-	0.00
T38	3,480	3,481	18.23	108.5	0.00	81.83	-	-	0.00	0.00	-	0.00
T39	5,697	5,698	12.29	108.5	0.00	86.11	-	-	0.00	0.00	-	0.00
T40	4,923	4,924	14.05	108.5	0.00	84.85	-	-	0.00	0.00	-	0.00
T41	5,025	5,026	13.80	108.5	0.00	85.02	-	-	0.00	0.00	-	0.00
T42	4,067	4,068	16.36	108.5	0.00	83.19	-	-	0.00	0.00	-	0.00
T43	3,337	3,338	18.73	108.5	0.00	81.47	-	-	0.00	0.00	-	0.00
T44	3,095	3,096	19.62	108.5	0.00	80.82	-	-	0.00	0.00	-	0.00
T45	2,981	2,982	20.06	108.5	0.00	80.49	-	-	0.00	0.00	-	0.00
T46	2,503	2,504	22.12	108.5	0.00	78.97	-	-	0.00	0.00	-	0.00
T47	1,727	1,729	26.71	108.5	0.00	75.76	-	-	0.00	0.00	-	0.00
T48 Alt	2,349	2,351	22.92	108.5	0.00	78.42	-	-	0.00	0.00	-	0.00
T49 Alt	2,253	2,255	23.44	108.5	0.00	78.06	-	-	0.00	0.00	-	0.00
T50 Alt	4,375	4,376	15.48	108.5	0.00	83.82	-	-	0.00	0.00	-	0.00
T51 Alt	4,881	4,881	14.16	108.5	0.00	84.77	-	-	0.00	0.00	-	0.00
T52 Alt	9,725	9,725	5.97	108.5	0.00	90.76	-	-	0.00	0.00	-	0.00
T53 Alt	10,484	10,485	5.10	108.5	0.00	91.41	-	-	0.00	0.00	-	0.00
T54 Alt	9,201	9,201	6.62	108.5	0.00	90.28	-	-	0.00	0.00	-	0.00
T55 Alt	7,802	7,803	8.55	108.5	0.00	88.84	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:
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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T56 Alt	2,697	2,698	21.23	108.5	0.00	79.62	-	-	0.00	0.00	-	0.00
T57 Alt	7,014	7,014	9.81	108.5	0.00	87.92	-	-	0.00	0.00	-	0.00
T58 Alt	4,873	4,873	14.18	108.5	0.00	84.76	-	-	0.00	0.00	-	0.00
T59 Alt	4,472	4,473	15.21	108.5	0.00	84.01	-	-	0.00	0.00	-	0.00

Sum 33.88

- Data undefined due to calculation with octave data

Noise sensitive area: H30 Noise sensitive point: User defined (111)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	11,760	11,760	3.77	108.5	0.00	92.41	-	-	0.00	0.00	-	0.00
T02	11,128	11,128	4.40	108.5	0.00	91.93	-	-	0.00	0.00	-	0.00
T03	10,611	10,611	4.96	108.5	0.00	91.52	-	-	0.00	0.00	-	0.00
T04	9,857	9,857	5.81	108.5	0.00	90.87	-	-	0.00	0.00	-	0.00
T05	9,516	9,516	6.22	108.5	0.00	90.57	-	-	0.00	0.00	-	0.00
T06	8,980	8,980	6.90	108.5	0.00	90.07	-	-	0.00	0.00	-	0.00
T07	8,145	8,145	8.04	108.5	0.00	89.22	-	-	0.00	0.00	-	0.00
T08	8,114	8,115	8.09	108.5	0.00	89.19	-	-	0.00	0.00	-	0.00
T09	7,337	7,337	9.28	108.5	0.00	88.31	-	-	0.00	0.00	-	0.00
T10	6,940	6,941	9.94	108.5	0.00	87.83	-	-	0.00	0.00	-	0.00
T11	9,590	9,590	6.13	108.5	0.00	90.64	-	-	0.00	0.00	-	0.00
T12	9,163	9,163	6.66	108.5	0.00	90.24	-	-	0.00	0.00	-	0.00
T13	8,174	8,174	8.00	108.5	0.00	89.25	-	-	0.00	0.00	-	0.00
T14	7,765	7,765	8.61	108.5	0.00	88.80	-	-	0.00	0.00	-	0.00
T15	8,474	8,475	7.58	108.5	0.00	89.56	-	-	0.00	0.00	-	0.00
T16	8,347	8,347	7.76	108.5	0.00	89.43	-	-	0.00	0.00	-	0.00
T17	7,803	7,803	8.55	108.5	0.00	88.85	-	-	0.00	0.00	-	0.00
T18	7,307	7,308	9.32	108.5	0.00	88.28	-	-	0.00	0.00	-	0.00
T19	6,898	6,899	10.01	108.5	0.00	87.78	-	-	0.00	0.00	-	0.00
T20	6,306	6,307	11.08	108.5	0.00	87.00	-	-	0.00	0.00	-	0.00
T21	6,033	6,033	11.61	108.5	0.00	86.61	-	-	0.00	0.00	-	0.00
T22	6,284	6,285	11.12	108.5	0.00	86.97	-	-	0.00	0.00	-	0.00
T23	5,778	5,779	12.12	108.5	0.00	86.24	-	-	0.00	0.00	-	0.00
T24	5,348	5,349	13.05	108.5	0.00	85.57	-	-	0.00	0.00	-	0.00
T25	7,916	7,916	8.38	108.5	0.00	88.97	-	-	0.00	0.00	-	0.00
T26	7,451	7,452	9.09	108.5	0.00	88.45	-	-	0.00	0.00	-	0.00
T27	7,045	7,046	9.76	108.5	0.00	87.96	-	-	0.00	0.00	-	0.00
T28	6,621	6,622	10.50	108.5	0.00	87.42	-	-	0.00	0.00	-	0.00
T29	5,858	5,859	11.96	108.5	0.00	86.36	-	-	0.00	0.00	-	0.00
T30	5,430	5,431	12.87	108.5	0.00	85.70	-	-	0.00	0.00	-	0.00
T31	4,979	4,980	13.92	108.5	0.00	84.94	-	-	0.00	0.00	-	0.00
T32	4,094	4,094	16.28	108.5	0.00	83.24	-	-	0.00	0.00	-	0.00
T33	3,636	3,637	17.70	108.5	0.00	82.21	-	-	0.00	0.00	-	0.00
T34	6,502	6,503	10.71	108.5	0.00	87.26	-	-	0.00	0.00	-	0.00
T35	6,310	6,311	11.07	108.5	0.00	87.00	-	-	0.00	0.00	-	0.00
T36	5,365	5,366	13.02	108.5	0.00	85.59	-	-	0.00	0.00	-	0.00
T37	4,665	4,665	14.70	108.5	0.00	84.38	-	-	0.00	0.00	-	0.00
T38	4,101	4,102	16.26	108.5	0.00	83.26	-	-	0.00	0.00	-	0.00
T39	6,242	6,243	11.20	108.5	0.00	86.91	-	-	0.00	0.00	-	0.00
T40	5,454	5,454	12.82	108.5	0.00	85.73	-	-	0.00	0.00	-	0.00
T41	5,482	5,482	12.76	108.5	0.00	85.78	-	-	0.00	0.00	-	0.00
T42	4,601	4,602	14.87	108.5	0.00	84.26	-	-	0.00	0.00	-	0.00
T43	3,888	3,889	16.90	108.5	0.00	82.80	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

Description:
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T44	3,497	3,498	18.17	108.5	0.00	81.88	-	-	0.00	0.00	-	0.00
T45	3,297	3,298	18.87	108.5	0.00	81.37	-	-	0.00	0.00	-	0.00
T46	3,053	3,054	19.78	108.5	0.00	80.70	-	-	0.00	0.00	-	0.00
T47	2,356	2,358	22.88	108.5	0.00	78.45	-	-	0.00	0.00	-	0.00
T48 Alt	2,673	2,675	21.33	108.5	0.00	79.55	-	-	0.00	0.00	-	0.00
T49 Alt	2,464	2,465	22.32	108.5	0.00	78.84	-	-	0.00	0.00	-	0.00
T50 Alt	5,112	5,113	13.60	108.5	0.00	85.17	-	-	0.00	0.00	-	0.00
T51 Alt	5,618	5,618	12.46	108.5	0.00	85.99	-	-	0.00	0.00	-	0.00
T52 Alt	10,450	10,450	5.13	108.5	0.00	91.38	-	-	0.00	0.00	-	0.00
T53 Alt	11,199	11,200	4.33	108.5	0.00	91.98	-	-	0.00	0.00	-	0.00
T54 Alt	9,932	9,932	5.72	108.5	0.00	90.94	-	-	0.00	0.00	-	0.00
T55 Alt	8,533	8,534	7.50	108.5	0.00	89.62	-	-	0.00	0.00	-	0.00
T56 Alt	3,336	3,337	18.73	108.5	0.00	81.47	-	-	0.00	0.00	-	0.00
T57 Alt	7,728	7,729	8.66	108.5	0.00	88.76	-	-	0.00	0.00	-	0.00
T58 Alt	5,590	5,591	12.52	108.5	0.00	85.95	-	-	0.00	0.00	-	0.00
T59 Alt	5,194	5,195	13.41	108.5	0.00	85.31	-	-	0.00	0.00	-	0.00
Sum	31.90											

- Data undefined due to calculation with octave data

Noise sensitive area: H31 Noise sensitive point: User defined (112)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	13,173	13,174	2.45	108.5	0.00	93.39	-	-	0.00	0.00	-	0.00
T02	12,517	12,517	3.04	108.5	0.00	92.95	-	-	0.00	0.00	-	0.00
T03	12,004	12,004	3.53	108.5	0.00	92.59	-	-	0.00	0.00	-	0.00
T04	11,262	11,263	4.27	108.5	0.00	92.03	-	-	0.00	0.00	-	0.00
T05	10,774	10,774	4.78	108.5	0.00	91.65	-	-	0.00	0.00	-	0.00
T06	10,231	10,232	5.38	108.5	0.00	91.20	-	-	0.00	0.00	-	0.00
T07	9,425	9,425	6.33	108.5	0.00	90.49	-	-	0.00	0.00	-	0.00
T08	9,560	9,560	6.17	108.5	0.00	90.61	-	-	0.00	0.00	-	0.00
T09	8,746	8,746	7.21	108.5	0.00	89.84	-	-	0.00	0.00	-	0.00
T10	8,383	8,384	7.70	108.5	0.00	89.47	-	-	0.00	0.00	-	0.00
T11	10,577	10,577	4.99	108.5	0.00	91.49	-	-	0.00	0.00	-	0.00
T12	10,190	10,190	5.43	108.5	0.00	91.16	-	-	0.00	0.00	-	0.00
T13	9,148	9,148	6.68	108.5	0.00	90.23	-	-	0.00	0.00	-	0.00
T14	8,815	8,815	7.12	108.5	0.00	89.90	-	-	0.00	0.00	-	0.00
T15	9,266	9,266	6.53	108.5	0.00	90.34	-	-	0.00	0.00	-	0.00
T16	8,927	8,928	6.97	108.5	0.00	90.01	-	-	0.00	0.00	-	0.00
T17	8,455	8,456	7.60	108.5	0.00	89.54	-	-	0.00	0.00	-	0.00
T18	8,021	8,021	8.22	108.5	0.00	89.08	-	-	0.00	0.00	-	0.00
T19	7,769	7,769	8.60	108.5	0.00	88.81	-	-	0.00	0.00	-	0.00
T20	7,193	7,194	9.51	108.5	0.00	88.14	-	-	0.00	0.00	-	0.00
T21	7,053	7,053	9.75	108.5	0.00	87.97	-	-	0.00	0.00	-	0.00
T22	6,934	6,935	9.95	108.5	0.00	87.82	-	-	0.00	0.00	-	0.00
T23	6,516	6,517	10.69	108.5	0.00	87.28	-	-	0.00	0.00	-	0.00
T24	6,172	6,173	11.33	108.5	0.00	86.81	-	-	0.00	0.00	-	0.00
T25	8,275	8,276	7.86	108.5	0.00	89.36	-	-	0.00	0.00	-	0.00
T26	7,842	7,843	8.49	108.5	0.00	88.89	-	-	0.00	0.00	-	0.00
T27	7,460	7,461	9.08	108.5	0.00	88.46	-	-	0.00	0.00	-	0.00
T28	7,040	7,041	9.77	108.5	0.00	87.95	-	-	0.00	0.00	-	0.00
T29	6,186	6,187	11.31	108.5	0.00	86.83	-	-	0.00	0.00	-	0.00
T30	5,848	5,849	11.98	108.5	0.00	86.34	-	-	0.00	0.00	-	0.00
T31	5,431	5,432	12.87	108.5	0.00	85.70	-	-	0.00	0.00	-	0.00

To be continued on next page...

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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	4,762	4,763	14.45	108.5	0.00	84.56	-	-	0.00	0.00	-	0.00
T33	4,375	4,376	15.48	108.5	0.00	83.82	-	-	0.00	0.00	-	0.00
T34	6,683	6,684	10.38	108.5	0.00	87.50	-	-	0.00	0.00	-	0.00
T35	6,314	6,315	11.06	108.5	0.00	87.01	-	-	0.00	0.00	-	0.00
T36	5,460	5,461	12.80	108.5	0.00	85.75	-	-	0.00	0.00	-	0.00
T37	4,867	4,868	14.19	108.5	0.00	84.75	-	-	0.00	0.00	-	0.00
T38	4,368	4,368	15.50	108.5	0.00	83.81	-	-	0.00	0.00	-	0.00
T39	6,034	6,035	11.60	108.5	0.00	86.61	-	-	0.00	0.00	-	0.00
T40	5,247	5,248	13.28	108.5	0.00	85.40	-	-	0.00	0.00	-	0.00
T41	5,031	5,032	13.79	108.5	0.00	85.03	-	-	0.00	0.00	-	0.00
T42	4,488	4,489	15.17	108.5	0.00	84.04	-	-	0.00	0.00	-	0.00
T43	3,923	3,924	16.79	108.5	0.00	82.87	-	-	0.00	0.00	-	0.00
T44	3,139	3,140	19.45	108.5	0.00	80.94	-	-	0.00	0.00	-	0.00
T45	2,745	2,746	21.02	108.5	0.00	79.78	-	-	0.00	0.00	-	0.00
T46	3,239	3,240	19.08	108.5	0.00	81.21	-	-	0.00	0.00	-	0.00
T47	2,979	2,980	20.07	108.5	0.00	80.48	-	-	0.00	0.00	-	0.00
T48 Alt	2,327	2,328	23.04	108.5	0.00	78.34	-	-	0.00	0.00	-	0.00
T49 Alt	1,912	1,913	25.48	108.5	0.00	76.64	-	-	0.00	0.00	-	0.00
T50 Alt	6,134	6,134	11.41	108.5	0.00	86.76	-	-	0.00	0.00	-	0.00
T51 Alt	6,676	6,677	10.40	108.5	0.00	87.49	-	-	0.00	0.00	-	0.00
T52 Alt	11,633	11,633	3.89	108.5	0.00	92.31	-	-	0.00	0.00	-	0.00
T53 Alt	12,465	12,465	3.09	108.5	0.00	92.91	-	-	0.00	0.00	-	0.00
T54 Alt	11,054	11,054	4.48	108.5	0.00	91.87	-	-	0.00	0.00	-	0.00
T55 Alt	9,670	9,670	6.04	108.5	0.00	90.71	-	-	0.00	0.00	-	0.00
T56 Alt	3,781	3,781	17.24	108.5	0.00	82.55	-	-	0.00	0.00	-	0.00
T57 Alt	9,024	9,024	6.84	108.5	0.00	90.11	-	-	0.00	0.00	-	0.00
T58 Alt	6,898	6,898	10.01	108.5	0.00	87.77	-	-	0.00	0.00	-	0.00
T59 Alt	6,482	6,482	10.75	108.5	0.00	87.23	-	-	0.00	0.00	-	0.00

Sum 32.01

- Data undefined due to calculation with octave data

Noise sensitive area: H32 Noise sensitive point: User defined (113)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	11,986	11,986	3.55	108.5	0.00	92.57	-	-	0.00	0.00	-	0.00
T02	11,361	11,362	4.16	108.5	0.00	92.11	-	-	0.00	0.00	-	0.00
T03	10,844	10,844	4.70	108.5	0.00	91.70	-	-	0.00	0.00	-	0.00
T04	10,088	10,089	5.54	108.5	0.00	91.08	-	-	0.00	0.00	-	0.00
T05	9,779	9,779	5.90	108.5	0.00	90.81	-	-	0.00	0.00	-	0.00
T06	9,246	9,247	6.56	108.5	0.00	90.32	-	-	0.00	0.00	-	0.00
T07	8,408	8,408	7.67	108.5	0.00	89.49	-	-	0.00	0.00	-	0.00
T08	8,341	8,341	7.77	108.5	0.00	89.42	-	-	0.00	0.00	-	0.00
T09	7,574	7,575	8.90	108.5	0.00	88.59	-	-	0.00	0.00	-	0.00
T10	7,171	7,171	9.55	108.5	0.00	88.11	-	-	0.00	0.00	-	0.00
T11	9,896	9,896	5.77	108.5	0.00	90.91	-	-	0.00	0.00	-	0.00
T12	9,464	9,464	6.29	108.5	0.00	90.52	-	-	0.00	0.00	-	0.00
T13	8,484	8,484	7.56	108.5	0.00	89.57	-	-	0.00	0.00	-	0.00
T14	8,067	8,067	8.16	108.5	0.00	89.13	-	-	0.00	0.00	-	0.00
T15	8,804	8,805	7.13	108.5	0.00	89.89	-	-	0.00	0.00	-	0.00
T16	8,693	8,694	7.28	108.5	0.00	89.78	-	-	0.00	0.00	-	0.00
T17	8,145	8,146	8.04	108.5	0.00	89.22	-	-	0.00	0.00	-	0.00
T18	7,646	7,647	8.79	108.5	0.00	88.67	-	-	0.00	0.00	-	0.00
T19	7,224	7,225	9.46	108.5	0.00	88.18	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:
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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T20	6,632	6,633	10.48	108.5	0.00	87.43	-	-	0.00	0.00	-	0.00
T21	6,344	6,345	11.01	108.5	0.00	87.05	-	-	0.00	0.00	-	0.00
T22	6,630	6,631	10.48	108.5	0.00	87.43	-	-	0.00	0.00	-	0.00
T23	6,119	6,120	11.44	108.5	0.00	86.74	-	-	0.00	0.00	-	0.00
T24	5,684	5,685	12.32	108.5	0.00	86.09	-	-	0.00	0.00	-	0.00
T25	8,274	8,275	7.86	108.5	0.00	89.35	-	-	0.00	0.00	-	0.00
T26	7,808	7,809	8.54	108.5	0.00	88.85	-	-	0.00	0.00	-	0.00
T27	7,402	7,403	9.17	108.5	0.00	88.39	-	-	0.00	0.00	-	0.00
T28	6,978	6,979	9.87	108.5	0.00	87.88	-	-	0.00	0.00	-	0.00
T29	6,219	6,220	11.24	108.5	0.00	86.88	-	-	0.00	0.00	-	0.00
T30	5,789	5,790	12.10	108.5	0.00	86.25	-	-	0.00	0.00	-	0.00
T31	5,338	5,339	13.08	108.5	0.00	85.55	-	-	0.00	0.00	-	0.00
T32	4,446	4,447	15.28	108.5	0.00	83.96	-	-	0.00	0.00	-	0.00
T33	3,987	3,988	16.60	108.5	0.00	83.01	-	-	0.00	0.00	-	0.00
T34	6,866	6,867	10.06	108.5	0.00	87.74	-	-	0.00	0.00	-	0.00
T35	6,675	6,675	10.40	108.5	0.00	87.49	-	-	0.00	0.00	-	0.00
T36	5,729	5,730	12.23	108.5	0.00	86.16	-	-	0.00	0.00	-	0.00
T37	5,029	5,030	13.80	108.5	0.00	85.03	-	-	0.00	0.00	-	0.00
T38	4,465	4,466	15.23	108.5	0.00	84.00	-	-	0.00	0.00	-	0.00
T39	6,603	6,603	10.53	108.5	0.00	87.40	-	-	0.00	0.00	-	0.00
T40	5,813	5,814	12.05	108.5	0.00	86.29	-	-	0.00	0.00	-	0.00
T41	5,831	5,832	12.02	108.5	0.00	86.32	-	-	0.00	0.00	-	0.00
T42	4,962	4,963	13.96	108.5	0.00	84.91	-	-	0.00	0.00	-	0.00
T43	4,250	4,251	15.83	108.5	0.00	83.57	-	-	0.00	0.00	-	0.00
T44	3,841	3,842	17.04	108.5	0.00	82.69	-	-	0.00	0.00	-	0.00
T45	3,625	3,626	17.74	108.5	0.00	82.19	-	-	0.00	0.00	-	0.00
T46	3,416	3,417	18.45	108.5	0.00	81.67	-	-	0.00	0.00	-	0.00
T47	2,719	2,721	21.13	108.5	0.00	79.69	-	-	0.00	0.00	-	0.00
T48 Alt	3,007	3,009	19.96	108.5	0.00	80.57	-	-	0.00	0.00	-	0.00
T49 Alt	2,775	2,776	20.90	108.5	0.00	79.87	-	-	0.00	0.00	-	0.00
T50 Alt	5,428	5,429	12.88	108.5	0.00	85.69	-	-	0.00	0.00	-	0.00
T51 Alt	5,926	5,927	11.82	108.5	0.00	86.46	-	-	0.00	0.00	-	0.00
T52 Alt	10,725	10,726	4.83	108.5	0.00	91.61	-	-	0.00	0.00	-	0.00
T53 Alt	11,458	11,459	4.07	108.5	0.00	92.18	-	-	0.00	0.00	-	0.00
T54 Alt	10,218	10,218	5.39	108.5	0.00	91.19	-	-	0.00	0.00	-	0.00
T55 Alt	8,820	8,821	7.11	108.5	0.00	89.91	-	-	0.00	0.00	-	0.00
T56 Alt	3,699	3,700	17.50	108.5	0.00	82.36	-	-	0.00	0.00	-	0.00
T57 Alt	7,990	7,990	8.27	108.5	0.00	89.05	-	-	0.00	0.00	-	0.00
T58 Alt	5,858	5,859	11.96	108.5	0.00	86.36	-	-	0.00	0.00	-	0.00
T59 Alt	5,468	5,469	12.79	108.5	0.00	85.76	-	-	0.00	0.00	-	0.00

Sum 30.82

- Data undefined due to calculation with octave data

Noise sensitive area: H33 Noise sensitive point: User defined (114)

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	9,117	9,118	6.72	108.5	0.00	90.20	-	-	0.00	0.00	-	0.00
T02	8,554	8,554	7.47	108.5	0.00	89.64	-	-	0.00	0.00	-	0.00
T03	8,047	8,047	8.19	108.5	0.00	89.11	-	-	0.00	0.00	-	0.00
T04	7,298	7,299	9.34	108.5	0.00	88.26	-	-	0.00	0.00	-	0.00
T05	7,285	7,285	9.36	108.5	0.00	88.25	-	-	0.00	0.00	-	0.00
T06	6,801	6,801	10.18	108.5	0.00	87.65	-	-	0.00	0.00	-	0.00
T07	5,972	5,972	11.73	108.5	0.00	86.52	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T08	5,568	5,569	12.57	108.5	0.00	85.92	-	-	0.00	0.00	-	0.00
T09	4,942	4,943	14.01	108.5	0.00	84.88	-	-	0.00	0.00	-	0.00
T10	4,503	4,504	15.13	108.5	0.00	84.07	-	-	0.00	0.00	-	0.00
T11	7,917	7,917	8.38	108.5	0.00	88.97	-	-	0.00	0.00	-	0.00
T12	7,443	7,444	9.11	108.5	0.00	88.44	-	-	0.00	0.00	-	0.00
T13	6,664	6,664	10.42	108.5	0.00	87.47	-	-	0.00	0.00	-	0.00
T14	6,142	6,142	11.39	108.5	0.00	86.77	-	-	0.00	0.00	-	0.00
T15	7,306	7,307	9.33	108.5	0.00	88.27	-	-	0.00	0.00	-	0.00
T16	7,609	7,610	8.85	108.5	0.00	88.63	-	-	0.00	0.00	-	0.00
T17	6,997	6,998	9.84	108.5	0.00	87.90	-	-	0.00	0.00	-	0.00
T18	6,455	6,456	10.80	108.5	0.00	87.20	-	-	0.00	0.00	-	0.00
T19	5,791	5,792	12.10	108.5	0.00	86.26	-	-	0.00	0.00	-	0.00
T20	5,280	5,281	13.21	108.5	0.00	85.45	-	-	0.00	0.00	-	0.00
T21	4,772	4,773	14.43	108.5	0.00	84.58	-	-	0.00	0.00	-	0.00
T22	5,751	5,752	12.18	108.5	0.00	86.20	-	-	0.00	0.00	-	0.00
T23	5,187	5,188	13.42	108.5	0.00	85.30	-	-	0.00	0.00	-	0.00
T24	4,699	4,700	14.61	108.5	0.00	84.44	-	-	0.00	0.00	-	0.00
T25	7,648	7,649	8.78	108.5	0.00	88.67	-	-	0.00	0.00	-	0.00
T26	7,194	7,195	9.51	108.5	0.00	88.14	-	-	0.00	0.00	-	0.00
T27	6,809	6,810	10.16	108.5	0.00	87.66	-	-	0.00	0.00	-	0.00
T28	6,456	6,457	10.80	108.5	0.00	87.20	-	-	0.00	0.00	-	0.00
T29	6,020	6,021	11.63	108.5	0.00	86.59	-	-	0.00	0.00	-	0.00
T30	5,543	5,544	12.62	108.5	0.00	85.88	-	-	0.00	0.00	-	0.00
T31	5,166	5,167	13.47	108.5	0.00	85.26	-	-	0.00	0.00	-	0.00
T32	4,228	4,229	15.89	108.5	0.00	83.53	-	-	0.00	0.00	-	0.00
T33	3,873	3,874	16.95	108.5	0.00	82.76	-	-	0.00	0.00	-	0.00
T34	6,783	6,784	10.21	108.5	0.00	87.63	-	-	0.00	0.00	-	0.00
T35	6,923	6,924	9.97	108.5	0.00	87.81	-	-	0.00	0.00	-	0.00
T36	6,041	6,042	11.59	108.5	0.00	86.62	-	-	0.00	0.00	-	0.00
T37	5,375	5,376	12.99	108.5	0.00	85.61	-	-	0.00	0.00	-	0.00
T38	4,916	4,917	14.07	108.5	0.00	84.83	-	-	0.00	0.00	-	0.00
T39	7,200	7,200	9.50	108.5	0.00	88.15	-	-	0.00	0.00	-	0.00
T40	6,569	6,570	10.59	108.5	0.00	87.35	-	-	0.00	0.00	-	0.00
T41	6,936	6,937	9.94	108.5	0.00	87.82	-	-	0.00	0.00	-	0.00
T42	5,803	5,804	12.07	108.5	0.00	86.27	-	-	0.00	0.00	-	0.00
T43	5,129	5,129	13.56	108.5	0.00	85.20	-	-	0.00	0.00	-	0.00
T44	5,377	5,378	12.99	108.5	0.00	85.61	-	-	0.00	0.00	-	0.00
T45	5,453	5,454	12.82	108.5	0.00	85.73	-	-	0.00	0.00	-	0.00
T46	4,483	4,484	15.18	108.5	0.00	84.03	-	-	0.00	0.00	-	0.00
T47	3,678	3,679	17.56	108.5	0.00	82.32	-	-	0.00	0.00	-	0.00
T48 Alt	4,891	4,891	14.13	108.5	0.00	84.79	-	-	0.00	0.00	-	0.00
T49 Alt	4,957	4,957	13.97	108.5	0.00	84.90	-	-	0.00	0.00	-	0.00
T50 Alt	4,102	4,103	16.25	108.5	0.00	83.26	-	-	0.00	0.00	-	0.00
T51 Alt	4,371	4,372	15.49	108.5	0.00	83.81	-	-	0.00	0.00	-	0.00
T52 Alt	8,320	8,320	7.79	108.5	0.00	89.40	-	-	0.00	0.00	-	0.00
T53 Alt	8,868	8,868	7.05	108.5	0.00	89.96	-	-	0.00	0.00	-	0.00
T54 Alt	7,957	7,957	8.32	108.5	0.00	89.01	-	-	0.00	0.00	-	0.00
T55 Alt	6,638	6,639	10.47	108.5	0.00	87.44	-	-	0.00	0.00	-	0.00
T56 Alt	4,241	4,242	15.85	108.5	0.00	83.55	-	-	0.00	0.00	-	0.00
T57 Alt	5,560	5,561	12.59	108.5	0.00	85.90	-	-	0.00	0.00	-	0.00
T58 Alt	3,733	3,734	17.39	108.5	0.00	82.44	-	-	0.00	0.00	-	0.00
T59 Alt	3,496	3,497	18.17	108.5	0.00	81.87	-	-	0.00	0.00	-	0.00

Sum 30.57

- Data undefined due to calculation with octave data

Project:
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 Finley, ND 58230

Description:
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Calculated:
 6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

Noise sensitive area: H34 Noise sensitive point: User defined (115)

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	7,213	7,213	9.48	108.5	0.00	88.16	-	-	0.00	0.00	-	0.00
T02	6,778	6,778	10.22	108.5	0.00	87.62	-	-	0.00	0.00	-	0.00
T03	6,325	6,326	11.04	108.5	0.00	87.02	-	-	0.00	0.00	-	0.00
T04	5,657	5,657	12.38	108.5	0.00	86.05	-	-	0.00	0.00	-	0.00
T05	6,094	6,095	11.49	108.5	0.00	86.70	-	-	0.00	0.00	-	0.00
T06	5,746	5,747	12.19	108.5	0.00	86.19	-	-	0.00	0.00	-	0.00
T07	5,074	5,074	13.69	108.5	0.00	85.11	-	-	0.00	0.00	-	0.00
T08	4,210	4,211	15.94	108.5	0.00	83.49	-	-	0.00	0.00	-	0.00
T09	3,978	3,979	16.62	108.5	0.00	83.00	-	-	0.00	0.00	-	0.00
T10	3,613	3,614	17.78	108.5	0.00	82.16	-	-	0.00	0.00	-	0.00
T11	7,314	7,314	9.31	108.5	0.00	88.28	-	-	0.00	0.00	-	0.00
T12	6,852	6,852	10.09	108.5	0.00	87.72	-	-	0.00	0.00	-	0.00
T13	6,428	6,429	10.85	108.5	0.00	87.16	-	-	0.00	0.00	-	0.00
T14	5,883	5,884	11.91	108.5	0.00	86.39	-	-	0.00	0.00	-	0.00
T15	7,317	7,318	9.31	108.5	0.00	88.29	-	-	0.00	0.00	-	0.00
T16	7,981	7,982	8.28	108.5	0.00	89.04	-	-	0.00	0.00	-	0.00
T17	7,399	7,400	9.18	108.5	0.00	88.38	-	-	0.00	0.00	-	0.00
T18	6,909	6,909	9.99	108.5	0.00	87.79	-	-	0.00	0.00	-	0.00
T19	6,144	6,145	11.39	108.5	0.00	86.77	-	-	0.00	0.00	-	0.00
T20	5,835	5,836	12.01	108.5	0.00	86.32	-	-	0.00	0.00	-	0.00
T21	5,250	5,251	13.28	108.5	0.00	85.41	-	-	0.00	0.00	-	0.00
T22	6,621	6,622	10.50	108.5	0.00	87.42	-	-	0.00	0.00	-	0.00
T23	6,143	6,144	11.39	108.5	0.00	86.77	-	-	0.00	0.00	-	0.00
T24	5,742	5,744	12.20	108.5	0.00	86.18	-	-	0.00	0.00	-	0.00
T25	8,415	8,416	7.66	108.5	0.00	89.50	-	-	0.00	0.00	-	0.00
T26	8,032	8,033	8.21	108.5	0.00	89.10	-	-	0.00	0.00	-	0.00
T27	7,722	7,723	8.67	108.5	0.00	88.76	-	-	0.00	0.00	-	0.00
T28	7,482	7,483	9.04	108.5	0.00	88.48	-	-	0.00	0.00	-	0.00
T29	7,359	7,360	9.24	108.5	0.00	88.34	-	-	0.00	0.00	-	0.00
T30	6,939	6,940	9.94	108.5	0.00	87.83	-	-	0.00	0.00	-	0.00
T31	6,691	6,692	10.37	108.5	0.00	87.51	-	-	0.00	0.00	-	0.00
T32	5,957	5,958	11.76	108.5	0.00	86.50	-	-	0.00	0.00	-	0.00
T33	5,768	5,768	12.15	108.5	0.00	86.22	-	-	0.00	0.00	-	0.00
T34	8,083	8,083	8.13	108.5	0.00	89.15	-	-	0.00	0.00	-	0.00
T35	8,428	8,428	7.64	108.5	0.00	89.51	-	-	0.00	0.00	-	0.00
T36	7,710	7,711	8.69	108.5	0.00	88.74	-	-	0.00	0.00	-	0.00
T37	7,175	7,176	9.54	108.5	0.00	88.12	-	-	0.00	0.00	-	0.00
T38	6,861	6,862	10.07	108.5	0.00	87.73	-	-	0.00	0.00	-	0.00
T39	8,890	8,890	7.02	108.5	0.00	89.98	-	-	0.00	0.00	-	0.00
T40	8,424	8,425	7.65	108.5	0.00	89.51	-	-	0.00	0.00	-	0.00
T41	8,940	8,940	6.95	108.5	0.00	90.03	-	-	0.00	0.00	-	0.00
T42	7,803	7,804	8.55	108.5	0.00	88.85	-	-	0.00	0.00	-	0.00
T43	7,247	7,248	9.42	108.5	0.00	88.20	-	-	0.00	0.00	-	0.00
T44	7,743	7,743	8.64	108.5	0.00	88.78	-	-	0.00	0.00	-	0.00
T45	7,919	7,919	8.38	108.5	0.00	88.97	-	-	0.00	0.00	-	0.00
T46	6,793	6,793	10.19	108.5	0.00	87.64	-	-	0.00	0.00	-	0.00
T47	6,109	6,110	11.46	108.5	0.00	86.72	-	-	0.00	0.00	-	0.00
T48 Alt	7,430	7,430	9.13	108.5	0.00	88.42	-	-	0.00	0.00	-	0.00
T49 Alt	7,576	7,577	8.90	108.5	0.00	88.59	-	-	0.00	0.00	-	0.00
T50 Alt	5,044	5,045	13.76	108.5	0.00	85.06	-	-	0.00	0.00	-	0.00
T51 Alt	4,998	4,998	13.87	108.5	0.00	84.98	-	-	0.00	0.00	-	0.00
T52 Alt	7,138	7,138	9.60	108.5	0.00	88.07	-	-	0.00	0.00	-	0.00
T53 Alt	7,386	7,386	9.20	108.5	0.00	88.37	-	-	0.00	0.00	-	0.00
T54 Alt	7,002	7,002	9.83	108.5	0.00	87.90	-	-	0.00	0.00	-	0.00
T55 Alt	5,969	5,969	11.74	108.5	0.00	86.52	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

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No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T56 Alt	6,374	6,374	10.95	108.5	0.00	87.09	-	-	0.00	0.00	-	0.00
T57 Alt	4,761	4,762	14.46	108.5	0.00	84.56	-	-	0.00	0.00	-	0.00
T58 Alt	3,974	3,975	16.64	108.5	0.00	82.99	-	-	0.00	0.00	-	0.00
T59 Alt	4,038	4,039	16.44	108.5	0.00	83.13	-	-	0.00	0.00	-	0.00

Sum 29.32

- Data undefined due to calculation with octave data

Noise sensitive area: H35 Noise sensitive point: User defined (116)

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	6,696	6,697	10.36	108.5	0.00	87.52	-	-	0.00	0.00	-	0.00
T02	6,415	6,416	10.87	108.5	0.00	87.15	-	-	0.00	0.00	-	0.00
T03	6,051	6,052	11.57	108.5	0.00	86.64	-	-	0.00	0.00	-	0.00
T04	5,523	5,524	12.67	108.5	0.00	85.84	-	-	0.00	0.00	-	0.00
T05	6,290	6,290	11.11	108.5	0.00	86.97	-	-	0.00	0.00	-	0.00
T06	6,081	6,081	11.51	108.5	0.00	86.68	-	-	0.00	0.00	-	0.00
T07	5,602	5,602	12.50	108.5	0.00	85.97	-	-	0.00	0.00	-	0.00
T08	4,535	4,536	15.04	108.5	0.00	84.13	-	-	0.00	0.00	-	0.00
T09	4,642	4,643	14.76	108.5	0.00	84.34	-	-	0.00	0.00	-	0.00
T10	4,404	4,405	15.40	108.5	0.00	83.88	-	-	0.00	0.00	-	0.00
T11	7,819	7,819	8.52	108.5	0.00	88.86	-	-	0.00	0.00	-	0.00
T12	7,399	7,399	9.18	108.5	0.00	88.38	-	-	0.00	0.00	-	0.00
T13	7,224	7,225	9.46	108.5	0.00	88.18	-	-	0.00	0.00	-	0.00
T14	6,714	6,715	10.33	108.5	0.00	87.54	-	-	0.00	0.00	-	0.00
T15	8,186	8,186	7.98	108.5	0.00	89.26	-	-	0.00	0.00	-	0.00
T16	9,002	9,002	6.87	108.5	0.00	90.09	-	-	0.00	0.00	-	0.00
T17	8,465	8,465	7.59	108.5	0.00	89.55	-	-	0.00	0.00	-	0.00
T18	8,027	8,028	8.21	108.5	0.00	89.09	-	-	0.00	0.00	-	0.00
T19	7,268	7,268	9.39	108.5	0.00	88.23	-	-	0.00	0.00	-	0.00
T20	7,072	7,073	9.71	108.5	0.00	87.99	-	-	0.00	0.00	-	0.00
T21	6,504	6,504	10.71	108.5	0.00	87.26	-	-	0.00	0.00	-	0.00
T22	7,940	7,940	8.34	108.5	0.00	89.00	-	-	0.00	0.00	-	0.00
T23	7,522	7,523	8.98	108.5	0.00	88.53	-	-	0.00	0.00	-	0.00
T24	7,179	7,180	9.53	108.5	0.00	88.12	-	-	0.00	0.00	-	0.00
T25	9,607	9,608	6.11	108.5	0.00	90.65	-	-	0.00	0.00	-	0.00
T26	9,271	9,272	6.53	108.5	0.00	90.34	-	-	0.00	0.00	-	0.00
T27	9,006	9,007	6.86	108.5	0.00	90.09	-	-	0.00	0.00	-	0.00
T28	8,824	8,825	7.10	108.5	0.00	89.91	-	-	0.00	0.00	-	0.00
T29	8,827	8,828	7.10	108.5	0.00	89.92	-	-	0.00	0.00	-	0.00
T30	8,443	8,443	7.62	108.5	0.00	89.53	-	-	0.00	0.00	-	0.00
T31	8,246	8,247	7.90	108.5	0.00	89.33	-	-	0.00	0.00	-	0.00
T32	7,600	7,601	8.86	108.5	0.00	88.62	-	-	0.00	0.00	-	0.00
T33	7,459	7,460	9.08	108.5	0.00	88.45	-	-	0.00	0.00	-	0.00
T34	9,512	9,512	6.23	108.5	0.00	90.57	-	-	0.00	0.00	-	0.00
T35	9,925	9,925	5.73	108.5	0.00	90.93	-	-	0.00	0.00	-	0.00
T36	9,283	9,283	6.51	108.5	0.00	90.35	-	-	0.00	0.00	-	0.00
T37	8,803	8,804	7.13	108.5	0.00	89.89	-	-	0.00	0.00	-	0.00
T38	8,538	8,538	7.49	108.5	0.00	89.63	-	-	0.00	0.00	-	0.00
T39	10,444	10,444	5.14	108.5	0.00	91.38	-	-	0.00	0.00	-	0.00
T40	10,043	10,044	5.59	108.5	0.00	91.04	-	-	0.00	0.00	-	0.00
T41	10,598	10,599	4.97	108.5	0.00	91.50	-	-	0.00	0.00	-	0.00
T42	9,478	9,478	6.27	108.5	0.00	90.53	-	-	0.00	0.00	-	0.00
T43	8,963	8,964	6.92	108.5	0.00	90.05	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development
 Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T44	9,513	9,513	6.23	108.5	0.00	90.57	-	-	0.00	0.00	-	0.00
T45	9,709	9,710	5.99	108.5	0.00	90.74	-	-	0.00	0.00	-	0.00
T46	8,559	8,560	7.46	108.5	0.00	89.65	-	-	0.00	0.00	-	0.00
T47	7,906	7,906	8.39	108.5	0.00	88.96	-	-	0.00	0.00	-	0.00
T48 Alt	9,237	9,237	6.57	108.5	0.00	90.31	-	-	0.00	0.00	-	0.00
T49 Alt	9,395	9,395	6.37	108.5	0.00	90.46	-	-	0.00	0.00	-	0.00
T50 Alt	6,494	6,494	10.73	108.5	0.00	87.25	-	-	0.00	0.00	-	0.00
T51 Alt	6,335	6,335	11.02	108.5	0.00	87.04	-	-	0.00	0.00	-	0.00
T52 Alt	7,249	7,250	9.42	108.5	0.00	88.21	-	-	0.00	0.00	-	0.00
T53 Alt	7,240	7,240	9.44	108.5	0.00	88.19	-	-	0.00	0.00	-	0.00
T54 Alt	7,292	7,292	9.35	108.5	0.00	88.26	-	-	0.00	0.00	-	0.00
T55 Alt	6,543	6,544	10.64	108.5	0.00	87.32	-	-	0.00	0.00	-	0.00
T56 Alt	8,107	8,108	8.10	108.5	0.00	89.18	-	-	0.00	0.00	-	0.00
T57 Alt	5,399	5,400	12.94	108.5	0.00	85.65	-	-	0.00	0.00	-	0.00
T58 Alt	5,279	5,280	13.21	108.5	0.00	85.45	-	-	0.00	0.00	-	0.00
T59 Alt	5,449	5,449	12.83	108.5	0.00	85.73	-	-	0.00	0.00	-	0.00
Sum	27.49											

- Data undefined due to calculation with octave data

Noise sensitive area: H36 Noise sensitive point: User defined (117)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	6,595	6,596	10.54	108.5	0.00	87.39	-	-	0.00	0.00	-	0.00
T02	6,358	6,358	10.98	108.5	0.00	87.07	-	-	0.00	0.00	-	0.00
T03	6,021	6,022	11.63	108.5	0.00	86.59	-	-	0.00	0.00	-	0.00
T04	5,537	5,538	12.64	108.5	0.00	85.87	-	-	0.00	0.00	-	0.00
T05	6,374	6,375	10.95	108.5	0.00	87.09	-	-	0.00	0.00	-	0.00
T06	6,201	6,202	11.28	108.5	0.00	86.85	-	-	0.00	0.00	-	0.00
T07	5,774	5,774	12.13	108.5	0.00	86.23	-	-	0.00	0.00	-	0.00
T08	4,681	4,682	14.66	108.5	0.00	84.41	-	-	0.00	0.00	-	0.00
T09	4,861	4,862	14.21	108.5	0.00	84.74	-	-	0.00	0.00	-	0.00
T10	4,655	4,656	14.73	108.5	0.00	84.36	-	-	0.00	0.00	-	0.00
T11	7,962	7,962	8.31	108.5	0.00	89.02	-	-	0.00	0.00	-	0.00
T12	7,555	7,555	8.93	108.5	0.00	88.56	-	-	0.00	0.00	-	0.00
T13	7,439	7,439	9.11	108.5	0.00	88.43	-	-	0.00	0.00	-	0.00
T14	6,941	6,942	9.93	108.5	0.00	87.83	-	-	0.00	0.00	-	0.00
T15	8,411	8,411	7.67	108.5	0.00	89.50	-	-	0.00	0.00	-	0.00
T16	9,257	9,258	6.54	108.5	0.00	90.33	-	-	0.00	0.00	-	0.00
T17	8,733	8,733	7.23	108.5	0.00	89.82	-	-	0.00	0.00	-	0.00
T18	8,310	8,310	7.81	108.5	0.00	89.39	-	-	0.00	0.00	-	0.00
T19	7,555	7,556	8.93	108.5	0.00	88.57	-	-	0.00	0.00	-	0.00
T20	7,386	7,386	9.20	108.5	0.00	88.37	-	-	0.00	0.00	-	0.00
T21	6,825	6,825	10.14	108.5	0.00	87.68	-	-	0.00	0.00	-	0.00
T22	8,267	8,268	7.87	108.5	0.00	89.35	-	-	0.00	0.00	-	0.00
T23	7,865	7,866	8.46	108.5	0.00	88.91	-	-	0.00	0.00	-	0.00
T24	7,535	7,536	8.96	108.5	0.00	88.54	-	-	0.00	0.00	-	0.00
T25	9,900	9,900	5.76	108.5	0.00	90.91	-	-	0.00	0.00	-	0.00
T26	9,575	9,576	6.15	108.5	0.00	90.62	-	-	0.00	0.00	-	0.00
T27	9,322	9,323	6.46	108.5	0.00	90.39	-	-	0.00	0.00	-	0.00
T28	9,153	9,154	6.68	108.5	0.00	90.23	-	-	0.00	0.00	-	0.00
T29	9,185	9,186	6.63	108.5	0.00	90.26	-	-	0.00	0.00	-	0.00
T30	8,810	8,810	7.12	108.5	0.00	89.90	-	-	0.00	0.00	-	0.00
T31	8,626	8,626	7.37	108.5	0.00	89.72	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

Description:
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 6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	8,001	8,001	8.25	108.5	0.00	89.06	-	-	0.00	0.00	-	0.00
T33	7,872	7,872	8.45	108.5	0.00	88.92	-	-	0.00	0.00	-	0.00
T34	9,859	9,859	5.81	108.5	0.00	90.88	-	-	0.00	0.00	-	0.00
T35	10,287	10,287	5.32	108.5	0.00	91.25	-	-	0.00	0.00	-	0.00
T36	9,664	9,664	6.04	108.5	0.00	90.70	-	-	0.00	0.00	-	0.00
T37	9,198	9,199	6.62	108.5	0.00	90.27	-	-	0.00	0.00	-	0.00
T38	8,945	8,945	6.95	108.5	0.00	90.03	-	-	0.00	0.00	-	0.00
T39	10,819	10,819	4.73	108.5	0.00	91.68	-	-	0.00	0.00	-	0.00
T40	10,434	10,435	5.15	108.5	0.00	91.37	-	-	0.00	0.00	-	0.00
T41	10,998	10,999	4.54	108.5	0.00	91.83	-	-	0.00	0.00	-	0.00
T42	9,883	9,883	5.78	108.5	0.00	90.90	-	-	0.00	0.00	-	0.00
T43	9,379	9,380	6.39	108.5	0.00	90.44	-	-	0.00	0.00	-	0.00
T44	9,943	9,943	5.71	108.5	0.00	90.95	-	-	0.00	0.00	-	0.00
T45	10,145	10,145	5.48	108.5	0.00	91.13	-	-	0.00	0.00	-	0.00
T46	8,989	8,989	6.89	108.5	0.00	90.07	-	-	0.00	0.00	-	0.00
T47	8,344	8,345	7.76	108.5	0.00	89.43	-	-	0.00	0.00	-	0.00
T48 Alt	9,677	9,677	6.03	108.5	0.00	90.72	-	-	0.00	0.00	-	0.00
T49 Alt	9,840	9,840	5.83	108.5	0.00	90.86	-	-	0.00	0.00	-	0.00
T50 Alt	6,856	6,856	10.08	108.5	0.00	87.72	-	-	0.00	0.00	-	0.00
T51 Alt	6,674	6,675	10.40	108.5	0.00	87.49	-	-	0.00	0.00	-	0.00
T52 Alt	7,302	7,303	9.33	108.5	0.00	88.27	-	-	0.00	0.00	-	0.00
T53 Alt	7,228	7,229	9.45	108.5	0.00	88.18	-	-	0.00	0.00	-	0.00
T54 Alt	7,388	7,388	9.20	108.5	0.00	88.37	-	-	0.00	0.00	-	0.00
T55 Alt	6,714	6,715	10.33	108.5	0.00	87.54	-	-	0.00	0.00	-	0.00
T56 Alt	8,529	8,529	7.50	108.5	0.00	89.62	-	-	0.00	0.00	-	0.00
T57 Alt	5,599	5,600	12.50	108.5	0.00	85.96	-	-	0.00	0.00	-	0.00
T58 Alt	5,620	5,620	12.46	108.5	0.00	86.00	-	-	0.00	0.00	-	0.00
T59 Alt	5,810	5,810	12.06	108.5	0.00	86.28	-	-	0.00	0.00	-	0.00

Sum 27.08
 - Data undefined due to calculation with octave data

Noise sensitive area: H37 Noise sensitive point: User defined (118)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	7,780	7,780	8.58	108.5	0.00	88.82	-	-	0.00	0.00	-	0.00
T02	7,948	7,949	8.33	108.5	0.00	89.01	-	-	0.00	0.00	-	0.00
T03	7,889	7,890	8.42	108.5	0.00	88.94	-	-	0.00	0.00	-	0.00
T04	7,812	7,812	8.54	108.5	0.00	88.86	-	-	0.00	0.00	-	0.00
T05	8,984	8,985	6.89	108.5	0.00	90.07	-	-	0.00	0.00	-	0.00
T06	9,063	9,063	6.79	108.5	0.00	90.15	-	-	0.00	0.00	-	0.00
T07	8,989	8,990	6.89	108.5	0.00	90.07	-	-	0.00	0.00	-	0.00
T08	7,892	7,893	8.42	108.5	0.00	88.94	-	-	0.00	0.00	-	0.00
T09	8,419	8,419	7.66	108.5	0.00	89.51	-	-	0.00	0.00	-	0.00
T10	8,382	8,383	7.71	108.5	0.00	89.47	-	-	0.00	0.00	-	0.00
T11	10,797	10,798	4.75	108.5	0.00	91.67	-	-	0.00	0.00	-	0.00
T12	10,509	10,509	5.07	108.5	0.00	91.43	-	-	0.00	0.00	-	0.00
T13	10,765	10,766	4.79	108.5	0.00	91.64	-	-	0.00	0.00	-	0.00
T14	10,371	10,372	5.22	108.5	0.00	91.32	-	-	0.00	0.00	-	0.00
T15	11,742	11,743	3.78	108.5	0.00	92.40	-	-	0.00	0.00	-	0.00
T16	12,739	12,740	2.84	108.5	0.00	93.10	-	-	0.00	0.00	-	0.00
T17	12,312	12,313	3.24	108.5	0.00	92.81	-	-	0.00	0.00	-	0.00
T18	11,987	11,988	3.54	108.5	0.00	92.57	-	-	0.00	0.00	-	0.00
T19	11,291	11,292	4.24	108.5	0.00	92.06	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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Finley, ND 58230

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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
T20	11,267	11,267	4.26	108.5	0.00	92.04	-	-	0.00	0.00	-	0.00
T21	10,760	10,761	4.79	108.5	0.00	91.64	-	-	0.00	0.00	-	0.00
T22	12,194	12,194	3.35	108.5	0.00	92.72	-	-	0.00	0.00	-	0.00
T23	11,880	11,880	3.65	108.5	0.00	92.50	-	-	0.00	0.00	-	0.00
T24	11,625	11,626	3.90	108.5	0.00	92.31	-	-	0.00	0.00	-	0.00
T25	13,586	13,586	2.10	108.5	0.00	93.66	-	-	0.00	0.00	-	0.00
T26	13,340	13,341	2.31	108.5	0.00	93.50	-	-	0.00	0.00	-	0.00
T27	13,158	13,159	2.47	108.5	0.00	93.38	-	-	0.00	0.00	-	0.00
T28	13,069	13,069	2.55	108.5	0.00	93.33	-	-	0.00	0.00	-	0.00
T29	13,254	13,255	2.38	108.5	0.00	93.45	-	-	0.00	0.00	-	0.00
T30	12,931	12,931	2.67	108.5	0.00	93.23	-	-	0.00	0.00	-	0.00
T31	12,810	12,810	2.78	108.5	0.00	93.15	-	-	0.00	0.00	-	0.00
T32	12,288	12,288	3.26	108.5	0.00	92.79	-	-	0.00	0.00	-	0.00
T33	12,207	12,208	3.33	108.5	0.00	92.73	-	-	0.00	0.00	-	0.00
T34	13,861	13,861	1.87	108.5	0.00	93.84	-	-	0.00	0.00	-	0.00
T35	14,364	14,364	1.46	108.5	0.00	94.15	-	-	0.00	0.00	-	0.00
T36	13,846	13,846	1.88	108.5	0.00	93.83	-	-	0.00	0.00	-	0.00
T37	13,450	13,451	2.21	108.5	0.00	93.57	-	-	0.00	0.00	-	0.00
T38	13,252	13,253	2.39	108.5	0.00	93.45	-	-	0.00	0.00	-	0.00
T39	14,956	14,957	0.99	108.5	0.00	94.50	-	-	0.00	0.00	-	0.00
T40	14,658	14,658	1.22	108.5	0.00	94.32	-	-	0.00	0.00	-	0.00
T41	15,263	15,263	0.75	108.5	0.00	94.67	-	-	0.00	0.00	-	0.00
T42	14,177	14,178	1.61	108.5	0.00	94.03	-	-	0.00	0.00	-	0.00
T43	13,723	13,723	1.98	108.5	0.00	93.75	-	-	0.00	0.00	-	0.00
T44	14,338	14,338	1.48	108.5	0.00	94.13	-	-	0.00	0.00	-	0.00
T45	14,559	14,559	1.30	108.5	0.00	94.26	-	-	0.00	0.00	-	0.00
T46	13,385	13,386	2.27	108.5	0.00	93.53	-	-	0.00	0.00	-	0.00
T47	12,768	12,768	2.82	108.5	0.00	93.12	-	-	0.00	0.00	-	0.00
T48 Alt	14,106	14,106	1.66	108.5	0.00	93.99	-	-	0.00	0.00	-	0.00
T49 Alt	14,277	14,277	1.53	108.5	0.00	94.09	-	-	0.00	0.00	-	0.00
T50 Alt	10,988	10,988	4.55	108.5	0.00	91.82	-	-	0.00	0.00	-	0.00
T51 Alt	10,706	10,706	4.85	108.5	0.00	91.59	-	-	0.00	0.00	-	0.00
T52 Alt	9,583	9,583	6.14	108.5	0.00	90.63	-	-	0.00	0.00	-	0.00
T53 Alt	9,040	9,041	6.82	108.5	0.00	90.12	-	-	0.00	0.00	-	0.00
T54 Alt	9,959	9,960	5.69	108.5	0.00	90.96	-	-	0.00	0.00	-	0.00
T55 Alt	9,831	9,831	5.84	108.5	0.00	90.85	-	-	0.00	0.00	-	0.00
T56 Alt	12,897	12,898	2.70	108.5	0.00	93.21	-	-	0.00	0.00	-	0.00
T57 Alt	8,985	8,986	6.89	108.5	0.00	90.07	-	-	0.00	0.00	-	0.00
T58 Alt	9,692	9,692	6.01	108.5	0.00	90.73	-	-	0.00	0.00	-	0.00
T59 Alt	9,959	9,960	5.69	108.5	0.00	90.96	-	-	0.00	0.00	-	0.00

Sum 22.44

- Data undefined due to calculation with octave data

Noise sensitive area: H38 Noise sensitive point: User defined (119)

WTG		95% rated power										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
T01	9,051	9,051	6.81	108.5	0.00	90.13	-	-	0.00	0.00	-	0.00
T02	8,902	8,902	7.00	108.5	0.00	89.99	-	-	0.00	0.00	-	0.00
T03	8,612	8,613	7.39	108.5	0.00	89.70	-	-	0.00	0.00	-	0.00
T04	8,185	8,185	7.99	108.5	0.00	89.26	-	-	0.00	0.00	-	0.00
T05	9,068	9,068	6.79	108.5	0.00	90.15	-	-	0.00	0.00	-	0.00
T06	8,904	8,904	7.00	108.5	0.00	89.99	-	-	0.00	0.00	-	0.00
T07	8,466	8,466	7.59	108.5	0.00	89.55	-	-	0.00	0.00	-	0.00

To be continued on next page...

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20131290 Rolette Power Development

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

...continued from previous page

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T08	7,381	7,381	9.21	108.5	0.00	88.36	-	-	0.00	0.00	-	0.00
T09	7,518	7,519	8.99	108.5	0.00	88.52	-	-	0.00	0.00	-	0.00
T10	7,276	7,276	9.38	108.5	0.00	88.24	-	-	0.00	0.00	-	0.00
T11	10,663	10,664	4.90	108.5	0.00	91.56	-	-	0.00	0.00	-	0.00
T12	10,253	10,254	5.35	108.5	0.00	91.22	-	-	0.00	0.00	-	0.00
T13	10,101	10,101	5.53	108.5	0.00	91.09	-	-	0.00	0.00	-	0.00
T14	9,590	9,590	6.13	108.5	0.00	90.64	-	-	0.00	0.00	-	0.00
T15	11,062	11,062	4.47	108.5	0.00	91.88	-	-	0.00	0.00	-	0.00
T16	11,865	11,866	3.66	108.5	0.00	92.49	-	-	0.00	0.00	-	0.00
T17	11,320	11,320	4.21	108.5	0.00	92.08	-	-	0.00	0.00	-	0.00
T18	10,869	10,869	4.68	108.5	0.00	91.72	-	-	0.00	0.00	-	0.00
T19	10,105	10,106	5.52	108.5	0.00	91.09	-	-	0.00	0.00	-	0.00
T20	9,873	9,873	5.79	108.5	0.00	90.89	-	-	0.00	0.00	-	0.00
T21	9,295	9,295	6.50	108.5	0.00	90.37	-	-	0.00	0.00	-	0.00
T22	10,709	10,710	4.85	108.5	0.00	91.60	-	-	0.00	0.00	-	0.00
T23	10,258	10,259	5.35	108.5	0.00	91.22	-	-	0.00	0.00	-	0.00
T24	9,878	9,879	5.79	108.5	0.00	90.89	-	-	0.00	0.00	-	0.00
T25	12,433	12,434	3.12	108.5	0.00	92.89	-	-	0.00	0.00	-	0.00
T26	12,079	12,080	3.46	108.5	0.00	92.64	-	-	0.00	0.00	-	0.00
T27	11,796	11,796	3.73	108.5	0.00	92.43	-	-	0.00	0.00	-	0.00
T28	11,585	11,586	3.94	108.5	0.00	92.28	-	-	0.00	0.00	-	0.00
T29	11,508	11,509	4.02	108.5	0.00	92.22	-	-	0.00	0.00	-	0.00
T30	11,095	11,095	4.44	108.5	0.00	91.90	-	-	0.00	0.00	-	0.00
T31	10,850	10,851	4.70	108.5	0.00	91.71	-	-	0.00	0.00	-	0.00
T32	10,104	10,105	5.52	108.5	0.00	91.09	-	-	0.00	0.00	-	0.00
T33	9,891	9,891	5.77	108.5	0.00	90.91	-	-	0.00	0.00	-	0.00
T34	12,222	12,222	3.32	108.5	0.00	92.74	-	-	0.00	0.00	-	0.00
T35	12,584	12,584	2.98	108.5	0.00	93.00	-	-	0.00	0.00	-	0.00
T36	11,869	11,869	3.66	108.5	0.00	92.49	-	-	0.00	0.00	-	0.00
T37	11,324	11,324	4.20	108.5	0.00	92.08	-	-	0.00	0.00	-	0.00
T38	10,988	10,988	4.55	108.5	0.00	91.82	-	-	0.00	0.00	-	0.00
T39	13,049	13,049	2.56	108.5	0.00	93.31	-	-	0.00	0.00	-	0.00
T40	12,573	12,573	2.99	108.5	0.00	92.99	-	-	0.00	0.00	-	0.00
T41	13,070	13,071	2.55	108.5	0.00	93.33	-	-	0.00	0.00	-	0.00
T42	11,928	11,928	3.60	108.5	0.00	92.53	-	-	0.00	0.00	-	0.00
T43	11,340	11,341	4.19	108.5	0.00	92.09	-	-	0.00	0.00	-	0.00
T44	11,750	11,751	3.78	108.5	0.00	92.40	-	-	0.00	0.00	-	0.00
T45	11,872	11,873	3.66	108.5	0.00	92.49	-	-	0.00	0.00	-	0.00
T46	10,816	10,817	4.73	108.5	0.00	91.68	-	-	0.00	0.00	-	0.00
T47	10,068	10,068	5.57	108.5	0.00	91.06	-	-	0.00	0.00	-	0.00
T48 Alt	11,330	11,330	4.20	108.5	0.00	92.08	-	-	0.00	0.00	-	0.00
T49 Alt	11,408	11,408	4.12	108.5	0.00	92.14	-	-	0.00	0.00	-	0.00
T50 Alt	9,182	9,182	6.64	108.5	0.00	90.26	-	-	0.00	0.00	-	0.00
T51 Alt	9,088	9,088	6.76	108.5	0.00	90.17	-	-	0.00	0.00	-	0.00
T52 Alt	9,976	9,977	5.67	108.5	0.00	90.98	-	-	0.00	0.00	-	0.00
T53 Alt	9,836	9,836	5.84	108.5	0.00	90.86	-	-	0.00	0.00	-	0.00
T54 Alt	10,085	10,085	5.55	108.5	0.00	91.07	-	-	0.00	0.00	-	0.00
T55 Alt	9,407	9,407	6.36	108.5	0.00	90.47	-	-	0.00	0.00	-	0.00
T56 Alt	10,453	10,453	5.13	108.5	0.00	91.39	-	-	0.00	0.00	-	0.00
T57 Alt	8,273	8,274	7.86	108.5	0.00	89.35	-	-	0.00	0.00	-	0.00
T58 Alt	8,039	8,039	8.20	108.5	0.00	89.10	-	-	0.00	0.00	-	0.00
T59 Alt	8,156	8,156	8.03	108.5	0.00	89.23	-	-	0.00	0.00	-	0.00

Sum 23.42

- Data undefined due to calculation with octave data

Project: 20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

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Calculated: 6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

Noise sensitive area: H39 Noise sensitive point: User defined (120)

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	8,790	8,791	7.15	108.5	0.00	89.88	-	-	0.00	0.00	-	0.00
T02	8,739	8,739	7.22	108.5	0.00	89.83	-	-	0.00	0.00	-	0.00
T03	8,516	8,516	7.52	108.5	0.00	89.60	-	-	0.00	0.00	-	0.00
T04	8,189	8,190	7.98	108.5	0.00	89.27	-	-	0.00	0.00	-	0.00
T05	9,188	9,188	6.63	108.5	0.00	90.26	-	-	0.00	0.00	-	0.00
T06	9,098	9,098	6.75	108.5	0.00	90.18	-	-	0.00	0.00	-	0.00
T07	8,768	8,768	7.18	108.5	0.00	89.86	-	-	0.00	0.00	-	0.00
T08	7,649	7,650	8.78	108.5	0.00	88.67	-	-	0.00	0.00	-	0.00
T09	7,920	7,920	8.37	108.5	0.00	88.97	-	-	0.00	0.00	-	0.00
T10	7,738	7,739	8.65	108.5	0.00	88.77	-	-	0.00	0.00	-	0.00
T11	10,883	10,883	4.66	108.5	0.00	91.73	-	-	0.00	0.00	-	0.00
T12	10,505	10,505	5.07	108.5	0.00	91.43	-	-	0.00	0.00	-	0.00
T13	10,480	10,480	5.10	108.5	0.00	91.41	-	-	0.00	0.00	-	0.00
T14	9,998	9,998	5.65	108.5	0.00	91.00	-	-	0.00	0.00	-	0.00
T15	11,460	11,461	4.06	108.5	0.00	92.18	-	-	0.00	0.00	-	0.00
T16	12,335	12,335	3.21	108.5	0.00	92.82	-	-	0.00	0.00	-	0.00
T17	11,820	11,820	3.71	108.5	0.00	92.45	-	-	0.00	0.00	-	0.00
T18	11,403	11,403	4.12	108.5	0.00	92.14	-	-	0.00	0.00	-	0.00
T19	10,650	10,651	4.91	108.5	0.00	91.55	-	-	0.00	0.00	-	0.00
T20	10,480	10,481	5.10	108.5	0.00	91.41	-	-	0.00	0.00	-	0.00
T21	9,916	9,917	5.74	108.5	0.00	90.93	-	-	0.00	0.00	-	0.00
T22	11,356	11,357	4.17	108.5	0.00	92.10	-	-	0.00	0.00	-	0.00
T23	10,942	10,943	4.60	108.5	0.00	91.78	-	-	0.00	0.00	-	0.00
T24	10,597	10,597	4.97	108.5	0.00	91.50	-	-	0.00	0.00	-	0.00
T25	12,995	12,995	2.61	108.5	0.00	93.28	-	-	0.00	0.00	-	0.00
T26	12,671	12,672	2.90	108.5	0.00	93.06	-	-	0.00	0.00	-	0.00
T27	12,416	12,417	3.14	108.5	0.00	92.88	-	-	0.00	0.00	-	0.00
T28	12,241	12,242	3.30	108.5	0.00	92.76	-	-	0.00	0.00	-	0.00
T29	12,244	12,245	3.30	108.5	0.00	92.76	-	-	0.00	0.00	-	0.00
T30	11,854	11,855	3.67	108.5	0.00	92.48	-	-	0.00	0.00	-	0.00
T31	11,645	11,645	3.88	108.5	0.00	92.32	-	-	0.00	0.00	-	0.00
T32	10,960	10,960	4.58	108.5	0.00	91.80	-	-	0.00	0.00	-	0.00
T33	10,785	10,785	4.77	108.5	0.00	91.66	-	-	0.00	0.00	-	0.00
T34	12,931	12,932	2.67	108.5	0.00	93.23	-	-	0.00	0.00	-	0.00
T35	13,339	13,339	2.31	108.5	0.00	93.50	-	-	0.00	0.00	-	0.00
T36	12,677	12,678	2.90	108.5	0.00	93.06	-	-	0.00	0.00	-	0.00
T37	12,173	12,174	3.37	108.5	0.00	92.71	-	-	0.00	0.00	-	0.00
T38	11,876	11,876	3.65	108.5	0.00	92.49	-	-	0.00	0.00	-	0.00
T39	13,846	13,846	1.88	108.5	0.00	93.83	-	-	0.00	0.00	-	0.00
T40	13,419	13,420	2.24	108.5	0.00	93.55	-	-	0.00	0.00	-	0.00
T41	13,951	13,952	1.79	108.5	0.00	93.89	-	-	0.00	0.00	-	0.00
T42	12,818	12,819	2.77	108.5	0.00	93.16	-	-	0.00	0.00	-	0.00
T43	12,266	12,266	3.28	108.5	0.00	92.77	-	-	0.00	0.00	-	0.00
T44	12,738	12,738	2.84	108.5	0.00	93.10	-	-	0.00	0.00	-	0.00
T45	12,888	12,889	2.71	108.5	0.00	93.20	-	-	0.00	0.00	-	0.00
T46	11,792	11,793	3.73	108.5	0.00	92.43	-	-	0.00	0.00	-	0.00
T47	11,076	11,077	4.46	108.5	0.00	91.89	-	-	0.00	0.00	-	0.00
T48 Alt	12,368	12,369	3.18	108.5	0.00	92.85	-	-	0.00	0.00	-	0.00
T49 Alt	12,472	12,473	3.09	108.5	0.00	92.92	-	-	0.00	0.00	-	0.00
T50 Alt	9,910	9,910	5.75	108.5	0.00	90.92	-	-	0.00	0.00	-	0.00
T51 Alt	9,754	9,755	5.93	108.5	0.00	90.78	-	-	0.00	0.00	-	0.00
T52 Alt	10,015	10,016	5.63	108.5	0.00	91.01	-	-	0.00	0.00	-	0.00
T53 Alt	9,744	9,744	5.95	108.5	0.00	90.78	-	-	0.00	0.00	-	0.00
T54 Alt	10,211	10,212	5.40	108.5	0.00	91.18	-	-	0.00	0.00	-	0.00
T55 Alt	9,697	9,697	6.00	108.5	0.00	90.73	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T56 Alt	11,390	11,390	4.14	108.5	0.00	92.13	-	-	0.00	0.00	-	0.00
T57 Alt	8,632	8,633	7.36	108.5	0.00	89.72	-	-	0.00	0.00	-	0.00
T58 Alt	8,699	8,699	7.27	108.5	0.00	89.79	-	-	0.00	0.00	-	0.00
T59 Alt	8,866	8,867	7.05	108.5	0.00	89.96	-	-	0.00	0.00	-	0.00

Sum 22.87

- Data undefined due to calculation with octave data

Noise sensitive area: H40 Noise sensitive point: User defined (121)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	9,792	9,792	5.89	108.5	0.00	90.82	-	-	0.00	0.00	-	0.00
T02	9,711	9,711	5.99	108.5	0.00	90.75	-	-	0.00	0.00	-	0.00
T03	9,464	9,465	6.29	108.5	0.00	90.52	-	-	0.00	0.00	-	0.00
T04	9,098	9,099	6.75	108.5	0.00	90.18	-	-	0.00	0.00	-	0.00
T05	10,049	10,050	5.59	108.5	0.00	91.04	-	-	0.00	0.00	-	0.00
T06	9,923	9,924	5.73	108.5	0.00	90.93	-	-	0.00	0.00	-	0.00
T07	9,536	9,536	6.20	108.5	0.00	90.59	-	-	0.00	0.00	-	0.00
T08	8,432	8,433	7.64	108.5	0.00	89.52	-	-	0.00	0.00	-	0.00
T09	8,628	8,628	7.37	108.5	0.00	89.72	-	-	0.00	0.00	-	0.00
T10	8,408	8,408	7.67	108.5	0.00	89.49	-	-	0.00	0.00	-	0.00
T11	11,699	11,700	3.83	108.5	0.00	92.36	-	-	0.00	0.00	-	0.00
T12	11,304	11,304	4.22	108.5	0.00	92.06	-	-	0.00	0.00	-	0.00
T13	11,207	11,207	4.32	108.5	0.00	91.99	-	-	0.00	0.00	-	0.00
T14	10,707	10,707	4.85	108.5	0.00	91.59	-	-	0.00	0.00	-	0.00
T15	12,177	12,178	3.36	108.5	0.00	92.71	-	-	0.00	0.00	-	0.00
T16	13,008	13,008	2.60	108.5	0.00	93.28	-	-	0.00	0.00	-	0.00
T17	12,472	12,472	3.09	108.5	0.00	92.92	-	-	0.00	0.00	-	0.00
T18	12,031	12,032	3.50	108.5	0.00	92.61	-	-	0.00	0.00	-	0.00
T19	11,270	11,270	4.26	108.5	0.00	92.04	-	-	0.00	0.00	-	0.00
T20	11,055	11,055	4.48	108.5	0.00	91.87	-	-	0.00	0.00	-	0.00
T21	10,480	10,480	5.10	108.5	0.00	91.41	-	-	0.00	0.00	-	0.00
T22	11,902	11,902	3.63	108.5	0.00	92.51	-	-	0.00	0.00	-	0.00
T23	11,458	11,458	4.07	108.5	0.00	92.18	-	-	0.00	0.00	-	0.00
T24	11,084	11,084	4.45	108.5	0.00	91.89	-	-	0.00	0.00	-	0.00
T25	13,605	13,606	2.08	108.5	0.00	93.67	-	-	0.00	0.00	-	0.00
T26	13,259	13,260	2.38	108.5	0.00	93.45	-	-	0.00	0.00	-	0.00
T27	12,983	12,983	2.62	108.5	0.00	93.27	-	-	0.00	0.00	-	0.00
T28	12,780	12,781	2.80	108.5	0.00	93.13	-	-	0.00	0.00	-	0.00
T29	12,718	12,718	2.86	108.5	0.00	93.09	-	-	0.00	0.00	-	0.00
T30	12,307	12,307	3.24	108.5	0.00	92.80	-	-	0.00	0.00	-	0.00
T31	12,066	12,067	3.47	108.5	0.00	92.63	-	-	0.00	0.00	-	0.00
T32	11,323	11,324	4.20	108.5	0.00	92.08	-	-	0.00	0.00	-	0.00
T33	11,110	11,110	4.42	108.5	0.00	91.91	-	-	0.00	0.00	-	0.00
T34	13,427	13,428	2.23	108.5	0.00	93.56	-	-	0.00	0.00	-	0.00
T35	13,796	13,796	1.92	108.5	0.00	93.80	-	-	0.00	0.00	-	0.00
T36	13,086	13,086	2.53	108.5	0.00	93.34	-	-	0.00	0.00	-	0.00
T37	12,543	12,543	3.02	108.5	0.00	92.97	-	-	0.00	0.00	-	0.00
T38	12,207	12,207	3.33	108.5	0.00	92.73	-	-	0.00	0.00	-	0.00
T39	14,266	14,266	1.53	108.5	0.00	94.09	-	-	0.00	0.00	-	0.00
T40	13,792	13,792	1.92	108.5	0.00	93.79	-	-	0.00	0.00	-	0.00
T41	14,289	14,289	1.52	108.5	0.00	94.10	-	-	0.00	0.00	-	0.00
T42	13,147	13,147	2.48	108.5	0.00	93.38	-	-	0.00	0.00	-	0.00
T43	12,557	12,557	3.01	108.5	0.00	92.98	-	-	0.00	0.00	-	0.00

To be continued on next page...

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20131290 Rolette Power Development

Rolette Power Development, LLC
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T44	12,958	12,958	2.64	108.5	0.00	93.25	-	-	0.00	0.00	-	0.00
T45	13,073	13,074	2.54	108.5	0.00	93.33	-	-	0.00	0.00	-	0.00
T46	12,027	12,027	3.51	108.5	0.00	92.60	-	-	0.00	0.00	-	0.00
T47	11,272	11,272	4.26	108.5	0.00	92.04	-	-	0.00	0.00	-	0.00
T48 Alt	12,525	12,526	3.04	108.5	0.00	92.96	-	-	0.00	0.00	-	0.00
T49 Alt	12,594	12,594	2.97	108.5	0.00	93.00	-	-	0.00	0.00	-	0.00
T50 Alt	10,388	10,389	5.20	108.5	0.00	91.33	-	-	0.00	0.00	-	0.00
T51 Alt	10,283	10,283	5.32	108.5	0.00	91.24	-	-	0.00	0.00	-	0.00
T52 Alt	10,915	10,915	4.63	108.5	0.00	91.76	-	-	0.00	0.00	-	0.00
T53 Alt	10,694	10,694	4.87	108.5	0.00	91.58	-	-	0.00	0.00	-	0.00
T54 Alt	11,072	11,072	4.46	108.5	0.00	91.88	-	-	0.00	0.00	-	0.00
T55 Alt	10,474	10,474	5.11	108.5	0.00	91.40	-	-	0.00	0.00	-	0.00
T56 Alt	11,669	11,669	3.86	108.5	0.00	92.34	-	-	0.00	0.00	-	0.00
T57 Alt	9,368	9,368	6.41	108.5	0.00	90.43	-	-	0.00	0.00	-	0.00
T58 Alt	9,231	9,231	6.58	108.5	0.00	90.31	-	-	0.00	0.00	-	0.00
T59 Alt	9,358	9,358	6.42	108.5	0.00	90.42	-	-	0.00	0.00	-	0.00
Sum	22.15											

- Data undefined due to calculation with octave data

Noise sensitive area: H41 Noise sensitive point: User defined (122)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	9,978	9,979	5.67	108.5	0.00	90.98	-	-	0.00	0.00	-	0.00
T02	9,736	9,736	5.96	108.5	0.00	90.77	-	-	0.00	0.00	-	0.00
T03	9,386	9,386	6.38	108.5	0.00	90.45	-	-	0.00	0.00	-	0.00
T04	8,863	8,863	7.05	108.5	0.00	89.95	-	-	0.00	0.00	-	0.00
T05	9,594	9,595	6.13	108.5	0.00	90.64	-	-	0.00	0.00	-	0.00
T06	9,348	9,348	6.43	108.5	0.00	90.41	-	-	0.00	0.00	-	0.00
T07	8,791	8,791	7.15	108.5	0.00	89.88	-	-	0.00	0.00	-	0.00
T08	7,783	7,784	8.58	108.5	0.00	88.82	-	-	0.00	0.00	-	0.00
T09	7,750	7,750	8.63	108.5	0.00	88.79	-	-	0.00	0.00	-	0.00
T10	7,435	7,436	9.12	108.5	0.00	88.43	-	-	0.00	0.00	-	0.00
T11	11,039	11,039	4.50	108.5	0.00	91.86	-	-	0.00	0.00	-	0.00
T12	10,597	10,598	4.97	108.5	0.00	91.50	-	-	0.00	0.00	-	0.00
T13	10,287	10,287	5.32	108.5	0.00	91.25	-	-	0.00	0.00	-	0.00
T14	9,750	9,750	5.94	108.5	0.00	90.78	-	-	0.00	0.00	-	0.00
T15	11,204	11,205	4.33	108.5	0.00	91.99	-	-	0.00	0.00	-	0.00
T16	11,900	11,901	3.63	108.5	0.00	92.51	-	-	0.00	0.00	-	0.00
T17	11,321	11,322	4.21	108.5	0.00	92.08	-	-	0.00	0.00	-	0.00
T18	10,832	10,833	4.72	108.5	0.00	91.69	-	-	0.00	0.00	-	0.00
T19	10,068	10,068	5.57	108.5	0.00	91.06	-	-	0.00	0.00	-	0.00
T20	9,752	9,752	5.94	108.5	0.00	90.78	-	-	0.00	0.00	-	0.00
T21	9,167	9,168	6.66	108.5	0.00	90.25	-	-	0.00	0.00	-	0.00
T22	10,514	10,515	5.06	108.5	0.00	91.44	-	-	0.00	0.00	-	0.00
T23	10,016	10,017	5.63	108.5	0.00	91.01	-	-	0.00	0.00	-	0.00
T24	9,592	9,593	6.13	108.5	0.00	90.64	-	-	0.00	0.00	-	0.00
T25	12,332	12,333	3.22	108.5	0.00	92.82	-	-	0.00	0.00	-	0.00
T26	11,941	11,941	3.59	108.5	0.00	92.54	-	-	0.00	0.00	-	0.00
T27	11,620	11,621	3.90	108.5	0.00	92.30	-	-	0.00	0.00	-	0.00
T28	11,361	11,362	4.16	108.5	0.00	92.11	-	-	0.00	0.00	-	0.00
T29	11,166	11,166	4.37	108.5	0.00	91.96	-	-	0.00	0.00	-	0.00
T30	10,722	10,723	4.83	108.5	0.00	91.61	-	-	0.00	0.00	-	0.00
T31	10,426	10,427	5.16	108.5	0.00	91.36	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:
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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	9,594	9,595	6.13	108.5	0.00	90.64	-	-	0.00	0.00	-	0.00
T33	9,320	9,320	6.47	108.5	0.00	90.39	-	-	0.00	0.00	-	0.00
T34	11,909	11,910	3.62	108.5	0.00	92.52	-	-	0.00	0.00	-	0.00
T35	12,196	12,196	3.34	108.5	0.00	92.72	-	-	0.00	0.00	-	0.00
T36	11,406	11,406	4.12	108.5	0.00	92.14	-	-	0.00	0.00	-	0.00
T37	10,804	10,804	4.75	108.5	0.00	91.67	-	-	0.00	0.00	-	0.00
T38	10,408	10,409	5.18	108.5	0.00	91.35	-	-	0.00	0.00	-	0.00
T39	12,591	12,591	2.98	108.5	0.00	93.00	-	-	0.00	0.00	-	0.00
T40	12,041	12,041	3.49	108.5	0.00	92.61	-	-	0.00	0.00	-	0.00
T41	12,475	12,475	3.08	108.5	0.00	92.92	-	-	0.00	0.00	-	0.00
T42	11,331	11,331	4.20	108.5	0.00	92.09	-	-	0.00	0.00	-	0.00
T43	10,691	10,691	4.87	108.5	0.00	91.58	-	-	0.00	0.00	-	0.00
T44	10,985	10,986	4.55	108.5	0.00	91.82	-	-	0.00	0.00	-	0.00
T45	11,053	11,054	4.48	108.5	0.00	91.87	-	-	0.00	0.00	-	0.00
T46	10,084	10,085	5.55	108.5	0.00	91.07	-	-	0.00	0.00	-	0.00
T47	9,286	9,287	6.51	108.5	0.00	90.36	-	-	0.00	0.00	-	0.00
T48 Alt	10,476	10,476	5.11	108.5	0.00	91.40	-	-	0.00	0.00	-	0.00
T49 Alt	10,502	10,502	5.08	108.5	0.00	91.43	-	-	0.00	0.00	-	0.00
T50 Alt	8,897	8,898	7.01	108.5	0.00	89.99	-	-	0.00	0.00	-	0.00
T51 Alt	8,898	8,899	7.01	108.5	0.00	89.99	-	-	0.00	0.00	-	0.00
T52 Alt	10,574	10,575	5.00	108.5	0.00	91.49	-	-	0.00	0.00	-	0.00
T53 Alt	10,579	10,579	4.99	108.5	0.00	91.49	-	-	0.00	0.00	-	0.00
T54 Alt	10,581	10,581	4.99	108.5	0.00	91.49	-	-	0.00	0.00	-	0.00
T55 Alt	9,722	9,722	5.97	108.5	0.00	90.76	-	-	0.00	0.00	-	0.00
T56 Alt	9,797	9,797	5.88	108.5	0.00	90.82	-	-	0.00	0.00	-	0.00
T57 Alt	8,533	8,534	7.50	108.5	0.00	89.62	-	-	0.00	0.00	-	0.00
T58 Alt	7,890	7,891	8.42	108.5	0.00	88.94	-	-	0.00	0.00	-	0.00
T59 Alt	7,926	7,926	8.36	108.5	0.00	88.98	-	-	0.00	0.00	-	0.00
Sum	23.42											

- Data undefined due to calculation with octave data

Noise sensitive area: H42 Noise sensitive point: User defined (123)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	9,165	9,165	6.66	108.5	0.00	90.24	-	-	0.00	0.00	-	0.00
T02	8,853	8,853	7.07	108.5	0.00	89.94	-	-	0.00	0.00	-	0.00
T03	8,463	8,463	7.59	108.5	0.00	89.55	-	-	0.00	0.00	-	0.00
T04	7,883	7,883	8.43	108.5	0.00	88.93	-	-	0.00	0.00	-	0.00
T05	8,513	8,514	7.52	108.5	0.00	89.60	-	-	0.00	0.00	-	0.00
T06	8,226	8,226	7.93	108.5	0.00	89.30	-	-	0.00	0.00	-	0.00
T07	7,618	7,618	8.83	108.5	0.00	88.64	-	-	0.00	0.00	-	0.00
T08	6,661	6,661	10.43	108.5	0.00	87.47	-	-	0.00	0.00	-	0.00
T09	6,548	6,549	10.63	108.5	0.00	87.32	-	-	0.00	0.00	-	0.00
T10	6,209	6,210	11.26	108.5	0.00	86.86	-	-	0.00	0.00	-	0.00
T11	9,870	9,870	5.80	108.5	0.00	90.89	-	-	0.00	0.00	-	0.00
T12	9,418	9,418	6.34	108.5	0.00	90.48	-	-	0.00	0.00	-	0.00
T13	9,047	9,047	6.81	108.5	0.00	90.13	-	-	0.00	0.00	-	0.00
T14	8,504	8,504	7.54	108.5	0.00	89.59	-	-	0.00	0.00	-	0.00
T15	9,945	9,945	5.71	108.5	0.00	90.95	-	-	0.00	0.00	-	0.00
T16	10,608	10,609	4.96	108.5	0.00	91.51	-	-	0.00	0.00	-	0.00
T17	10,023	10,023	5.62	108.5	0.00	91.02	-	-	0.00	0.00	-	0.00
T18	9,526	9,526	6.21	108.5	0.00	90.58	-	-	0.00	0.00	-	0.00
T19	8,764	8,765	7.18	108.5	0.00	89.85	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:

20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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Finley, ND 58230

Description:

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Calculated:

6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T20	8,432	8,432	7.64	108.5	0.00	89.52	-	-	0.00	0.00	-	0.00
T21	7,848	7,848	8.48	108.5	0.00	88.90	-	-	0.00	0.00	-	0.00
T22	9,181	9,182	6.64	108.5	0.00	90.26	-	-	0.00	0.00	-	0.00
T23	8,678	8,679	7.30	108.5	0.00	89.77	-	-	0.00	0.00	-	0.00
T24	8,250	8,251	7.89	108.5	0.00	89.33	-	-	0.00	0.00	-	0.00
T25	11,010	11,011	4.53	108.5	0.00	91.84	-	-	0.00	0.00	-	0.00
T26	10,613	10,614	4.95	108.5	0.00	91.52	-	-	0.00	0.00	-	0.00
T27	10,288	10,289	5.31	108.5	0.00	91.25	-	-	0.00	0.00	-	0.00
T28	10,024	10,024	5.62	108.5	0.00	91.02	-	-	0.00	0.00	-	0.00
T29	9,820	9,821	5.86	108.5	0.00	90.84	-	-	0.00	0.00	-	0.00
T30	9,376	9,377	6.40	108.5	0.00	90.44	-	-	0.00	0.00	-	0.00
T31	9,080	9,080	6.77	108.5	0.00	90.16	-	-	0.00	0.00	-	0.00
T32	8,251	8,252	7.89	108.5	0.00	89.33	-	-	0.00	7.89	-	0.00
T33	7,982	7,983	8.28	108.5	0.00	89.04	-	-	0.00	0.00	-	0.00
T34	10,564	10,565	5.01	108.5	0.00	91.48	-	-	0.00	0.00	-	0.00
T35	10,850	10,850	4.70	108.5	0.00	91.71	-	-	0.00	0.00	-	0.00
T36	10,061	10,062	5.57	108.5	0.00	91.05	-	-	0.00	0.00	-	0.00
T37	9,462	9,463	6.29	108.5	0.00	90.52	-	-	0.00	0.00	-	0.00
T38	9,073	9,074	6.78	108.5	0.00	90.16	-	-	0.00	0.00	-	0.00
T39	11,246	11,247	4.28	108.5	0.00	92.02	-	-	0.00	0.00	-	0.00
T40	10,702	10,702	4.86	108.5	0.00	91.59	-	-	0.00	0.00	-	0.00
T41	11,144	11,145	4.39	108.5	0.00	91.94	-	-	0.00	0.00	-	0.00
T42	9,999	10,000	5.65	108.5	0.00	91.00	-	-	0.00	0.00	-	0.00
T43	9,367	9,368	6.41	108.5	0.00	90.43	-	-	0.00	0.00	-	0.00
T44	9,690	9,690	6.01	108.5	0.00	90.73	-	-	0.00	0.00	-	0.00
T45	9,775	9,775	5.91	108.5	0.00	90.80	-	-	0.00	0.00	-	0.00
T46	8,778	8,779	7.17	108.5	0.00	89.87	-	-	0.00	0.00	-	0.00
T47	7,992	7,993	8.27	108.5	0.00	89.05	-	-	0.00	0.00	-	0.00
T48 Alt	9,209	9,209	6.61	108.5	0.00	90.28	-	-	0.00	0.00	-	0.00
T49 Alt	9,256	9,256	6.55	108.5	0.00	90.33	-	-	0.00	0.00	-	0.00
T50 Alt	7,557	7,557	8.93	108.5	0.00	88.57	-	-	0.00	0.00	-	0.00
T51 Alt	7,569	7,570	8.91	108.5	0.00	88.58	-	-	0.00	0.00	-	0.00
T52 Alt	9,524	9,524	6.21	108.5	0.00	90.58	-	-	0.00	0.00	-	0.00
T53 Alt	9,620	9,620	6.10	108.5	0.00	90.66	-	-	0.00	0.00	-	0.00
T54 Alt	9,474	9,474	6.27	108.5	0.00	90.53	-	-	0.00	0.00	-	0.00
T55 Alt	8,536	8,537	7.49	108.5	0.00	89.63	-	-	0.00	0.00	-	0.00
T56 Alt	8,473	8,474	7.58	108.5	0.00	89.56	-	-	0.00	0.00	-	0.00
T57 Alt	7,335	7,335	9.28	108.5	0.00	88.31	-	-	0.00	0.00	-	0.00
T58 Alt	6,572	6,572	10.59	108.5	0.00	87.35	-	-	0.00	0.00	-	0.00
T59 Alt	6,594	6,594	10.55	108.5	0.00	87.38	-	-	0.00	0.00	-	0.00

Sum 25.04

- Data undefined due to calculation with octave data

Noise sensitive area: H43 Noise sensitive point: User defined (124)

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	10,926	10,926	4.62	108.5	0.00	91.77	-	-	0.00	0.00	-	0.00
T02	10,558	10,559	5.01	108.5	0.00	91.47	-	-	0.00	0.00	-	0.00
T03	10,135	10,135	5.49	108.5	0.00	91.12	-	-	0.00	0.00	-	0.00
T04	9,501	9,501	6.24	108.5	0.00	90.56	-	-	0.00	0.00	-	0.00
T05	9,985	9,986	5.66	108.5	0.00	90.99	-	-	0.00	0.00	-	0.00
T06	9,633	9,633	6.08	108.5	0.00	90.68	-	-	0.00	0.00	-	0.00
T07	8,938	8,938	6.95	108.5	0.00	90.02	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:

20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T08	8,101	8,101	8.11	108.5	0.00	89.17	-	-	0.00	0.00	-	0.00
T09	7,830	7,831	8.51	108.5	0.00	88.88	-	-	0.00	0.00	-	0.00
T10	7,439	7,440	9.11	108.5	0.00	88.43	-	-	0.00	0.00	-	0.00
T11	11,157	11,157	4.37	108.5	0.00	91.95	-	-	0.00	0.00	-	0.00
T12	10,687	10,688	4.87	108.5	0.00	91.58	-	-	0.00	0.00	-	0.00
T13	10,164	10,164	5.46	108.5	0.00	91.14	-	-	0.00	0.00	-	0.00
T14	9,614	9,614	6.10	108.5	0.00	90.66	-	-	0.00	0.00	-	0.00
T15	10,984	10,984	4.56	108.5	0.00	91.82	-	-	0.00	0.00	-	0.00
T16	11,503	11,503	4.02	108.5	0.00	92.22	-	-	0.00	0.00	-	0.00
T17	10,896	10,896	4.65	108.5	0.00	91.75	-	-	0.00	0.00	-	0.00
T18	10,369	10,369	5.22	108.5	0.00	91.32	-	-	0.00	0.00	-	0.00
T19	9,635	9,636	6.08	108.5	0.00	90.68	-	-	0.00	0.00	-	0.00
T20	9,213	9,213	6.60	108.5	0.00	90.29	-	-	0.00	0.00	-	0.00
T21	8,647	8,648	7.34	108.5	0.00	89.74	-	-	0.00	0.00	-	0.00
T22	9,837	9,838	5.84	108.5	0.00	90.86	-	-	0.00	0.00	-	0.00
T23	9,292	9,293	6.50	108.5	0.00	90.36	-	-	0.00	0.00	-	0.00
T24	8,823	8,823	7.11	108.5	0.00	89.91	-	-	0.00	0.00	-	0.00
T25	11,728	11,729	3.80	108.5	0.00	92.39	-	-	0.00	0.00	-	0.00
T26	11,295	11,296	4.23	108.5	0.00	92.06	-	-	0.00	0.00	-	0.00
T27	10,933	10,933	4.61	108.5	0.00	91.77	-	-	0.00	0.00	-	0.00
T28	10,613	10,614	4.95	108.5	0.00	91.52	-	-	0.00	0.00	-	0.00
T29	10,255	10,256	5.35	108.5	0.00	91.22	-	-	0.00	0.00	-	0.00
T30	9,784	9,785	5.90	108.5	0.00	90.81	-	-	0.00	0.00	-	0.00
T31	9,425	9,425	6.33	108.5	0.00	90.49	-	-	0.00	0.00	-	0.00
T32	8,502	8,503	7.54	108.5	0.00	89.59	-	-	0.00	0.00	-	0.00
T33	8,152	8,152	8.03	108.5	0.00	89.23	-	-	0.00	0.00	-	0.00
T34	11,018	11,019	4.52	108.5	0.00	91.84	-	-	0.00	0.00	-	0.00
T35	11,192	11,193	4.34	108.5	0.00	91.98	-	-	0.00	0.00	-	0.00
T36	10,319	10,319	5.28	108.5	0.00	91.27	-	-	0.00	0.00	-	0.00
T37	9,654	9,654	6.06	108.5	0.00	90.69	-	-	0.00	0.00	-	0.00
T38	9,188	9,188	6.63	108.5	0.00	90.26	-	-	0.00	0.00	-	0.00
T39	11,479	11,479	4.05	108.5	0.00	92.20	-	-	0.00	0.00	-	0.00
T40	10,840	10,840	4.71	108.5	0.00	91.70	-	-	0.00	0.00	-	0.00
T41	11,178	11,178	4.35	108.5	0.00	91.97	-	-	0.00	0.00	-	0.00
T42	10,058	10,058	5.58	108.5	0.00	91.05	-	-	0.00	0.00	-	0.00
T43	9,363	9,364	6.41	108.5	0.00	90.43	-	-	0.00	0.00	-	0.00
T44	9,491	9,491	6.25	108.5	0.00	90.55	-	-	0.00	0.00	-	0.00
T45	9,484	9,484	6.26	108.5	0.00	90.54	-	-	0.00	0.00	-	0.00
T46	8,660	8,660	7.32	108.5	0.00	89.75	-	-	0.00	0.00	-	0.00
T47	7,819	7,819	8.53	108.5	0.00	88.86	-	-	0.00	0.00	-	0.00
T48 Alt	8,871	8,872	7.04	108.5	0.00	89.96	-	-	0.00	0.00	-	0.00
T49 Alt	8,827	8,827	7.10	108.5	0.00	89.92	-	-	0.00	0.00	-	0.00
T50 Alt	8,165	8,165	8.02	108.5	0.00	89.24	-	-	0.00	0.00	-	0.00
T51 Alt	8,304	8,304	7.82	108.5	0.00	89.39	-	-	0.00	0.00	-	0.00
T52 Alt	11,028	11,028	4.51	108.5	0.00	91.85	-	-	0.00	0.00	-	0.00
T53 Alt	11,240	11,241	4.29	108.5	0.00	92.02	-	-	0.00	0.00	-	0.00
T54 Alt	10,888	10,888	4.66	108.5	0.00	91.74	-	-	0.00	0.00	-	0.00
T55 Alt	9,808	9,808	5.87	108.5	0.00	90.83	-	-	0.00	0.00	-	0.00
T56 Alt	8,489	8,489	7.56	108.5	0.00	89.58	-	-	0.00	0.00	-	0.00
T57 Alt	8,603	8,603	7.40	108.5	0.00	89.69	-	-	0.00	0.00	-	0.00
T58 Alt	7,419	7,419	9.15	108.5	0.00	88.41	-	-	0.00	0.00	-	0.00
T59 Alt	7,333	7,334	9.28	108.5	0.00	88.31	-	-	0.00	0.00	-	0.00

Sum 24.03

- Data undefined due to calculation with octave data

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

Noise sensitive area: H44 Noise sensitive point: User defined (125)

WTG No.	Distance		95% rated power										
	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]	
T01	11,003	11,004	4.54	108.5	0.00	91.83	-	-	0.00	0.00	-	0.00	
T02	10,769	10,770	4.78	108.5	0.00	91.64	-	-	0.00	0.00	-	0.00	
T03	10,422	10,422	5.16	108.5	0.00	91.36	-	-	0.00	0.00	-	0.00	
T04	9,901	9,901	5.76	108.5	0.00	90.91	-	-	0.00	0.00	-	0.00	
T05	10,627	10,627	4.94	108.5	0.00	91.53	-	-	0.00	0.00	-	0.00	
T06	10,374	10,374	5.22	108.5	0.00	91.32	-	-	0.00	0.00	-	0.00	
T07	9,805	9,805	5.87	108.5	0.00	90.83	-	-	0.00	0.00	-	0.00	
T08	8,808	8,809	7.13	108.5	0.00	89.90	-	-	0.00	0.00	-	0.00	
T09	8,753	8,754	7.20	108.5	0.00	89.84	-	-	0.00	0.00	-	0.00	
T10	8,428	8,429	7.64	108.5	0.00	89.52	-	-	0.00	0.00	-	0.00	
T11	12,055	12,055	3.48	108.5	0.00	92.62	-	-	0.00	0.00	-	0.00	
T12	11,610	11,610	3.91	108.5	0.00	92.30	-	-	0.00	0.00	-	0.00	
T13	11,274	11,274	4.25	108.5	0.00	92.04	-	-	0.00	0.00	-	0.00	
T14	10,734	10,734	4.82	108.5	0.00	91.62	-	-	0.00	0.00	-	0.00	
T15	12,180	12,181	3.36	108.5	0.00	92.71	-	-	0.00	0.00	-	0.00	
T16	12,849	12,850	2.74	108.5	0.00	93.18	-	-	0.00	0.00	-	0.00	
T17	12,264	12,264	3.28	108.5	0.00	92.77	-	-	0.00	0.00	-	0.00	
T18	11,766	11,766	3.76	108.5	0.00	92.41	-	-	0.00	0.00	-	0.00	
T19	11,005	11,005	4.53	108.5	0.00	91.83	-	-	0.00	0.00	-	0.00	
T20	10,666	10,666	4.90	108.5	0.00	91.56	-	-	0.00	0.00	-	0.00	
T21	10,083	10,083	5.55	108.5	0.00	91.07	-	-	0.00	0.00	-	0.00	
T22	11,402	11,402	4.12	108.5	0.00	92.14	-	-	0.00	0.00	-	0.00	
T23	10,890	10,891	4.65	108.5	0.00	91.74	-	-	0.00	0.00	-	0.00	
T24	10,453	10,453	5.13	108.5	0.00	91.39	-	-	0.00	0.00	-	0.00	
T25	13,242	13,242	2.39	108.5	0.00	93.44	-	-	0.00	0.00	-	0.00	
T26	12,840	12,841	2.75	108.5	0.00	93.17	-	-	0.00	0.00	-	0.00	
T27	12,509	12,509	3.05	108.5	0.00	92.94	-	-	0.00	0.00	-	0.00	
T28	12,235	12,235	3.31	108.5	0.00	92.75	-	-	0.00	0.00	-	0.00	
T29	11,996	11,997	3.54	108.5	0.00	92.58	-	-	0.00	0.00	-	0.00	
T30	11,543	11,544	3.98	108.5	0.00	92.25	-	-	0.00	0.00	-	0.00	
T31	11,227	11,228	4.30	108.5	0.00	92.01	-	-	0.00	0.00	-	0.00	
T32	10,363	10,364	5.23	108.5	0.00	91.31	-	-	0.00	0.00	-	0.00	
T33	10,063	10,063	5.57	108.5	0.00	91.05	-	-	0.00	0.00	-	0.00	
T34	12,748	12,748	2.83	108.5	0.00	93.11	-	-	0.00	0.00	-	0.00	
T35	13,003	13,004	2.60	108.5	0.00	93.28	-	-	0.00	0.00	-	0.00	
T36	12,185	12,185	3.36	108.5	0.00	92.72	-	-	0.00	0.00	-	0.00	
T37	11,560	11,560	3.96	108.5	0.00	92.26	-	-	0.00	0.00	-	0.00	
T38	11,139	11,139	4.39	108.5	0.00	91.94	-	-	0.00	0.00	-	0.00	
T39	13,366	13,366	2.29	108.5	0.00	93.52	-	-	0.00	0.00	-	0.00	
T40	12,784	12,785	2.80	108.5	0.00	93.13	-	-	0.00	0.00	-	0.00	
T41	13,185	13,185	2.44	108.5	0.00	93.40	-	-	0.00	0.00	-	0.00	
T42	12,046	12,047	3.49	108.5	0.00	92.62	-	-	0.00	0.00	-	0.00	
T43	11,384	11,384	4.14	108.5	0.00	92.13	-	-	0.00	0.00	-	0.00	
T44	11,611	11,611	3.91	108.5	0.00	92.30	-	-	0.00	0.00	-	0.00	
T45	11,645	11,645	3.88	108.5	0.00	92.32	-	-	0.00	0.00	-	0.00	
T46	10,736	10,736	4.82	108.5	0.00	91.62	-	-	0.00	0.00	-	0.00	
T47	9,916	9,917	5.74	108.5	0.00	90.93	-	-	0.00	0.00	-	0.00	
T48 Alt	11,049	11,049	4.49	108.5	0.00	91.87	-	-	0.00	0.00	-	0.00	
T49 Alt	11,040	11,040	4.50	108.5	0.00	91.86	-	-	0.00	0.00	-	0.00	
T50 Alt	9,763	9,764	5.92	108.5	0.00	90.79	-	-	0.00	0.00	-	0.00	
T51 Alt	9,796	9,796	5.88	108.5	0.00	90.82	-	-	0.00	0.00	-	0.00	
T52 Alt	11,610	11,610	3.91	108.5	0.00	92.30	-	-	0.00	0.00	-	0.00	
T53 Alt	11,617	11,617	3.91	108.5	0.00	92.30	-	-	0.00	0.00	-	0.00	
T54 Alt	11,610	11,610	3.91	108.5	0.00	92.30	-	-	0.00	0.00	-	0.00	
T55 Alt	10,732	10,733	4.82	108.5	0.00	91.61	-	-	0.00	0.00	-	0.00	

To be continued on next page...

Project:
20131290 Rolette Power Development

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602 Lincoln Ave S
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
T56 Alt	10,493	10,493	5.09	108.5	0.00	91.42	-	-	0.00	0.00	-	0.00
T57 Alt	9,538	9,539	6.20	108.5	0.00	90.59	-	-	0.00	0.00	-	0.00
T58 Alt	8,808	8,808	7.13	108.5	0.00	89.90	-	-	0.00	0.00	-	0.00
T59 Alt	8,818	8,818	7.11	108.5	0.00	89.91	-	-	0.00	0.00	-	0.00

Sum 22.39
- Data undefined due to calculation with octave data

Noise sensitive area: H45 Noise sensitive point: User defined (126)

WTG		95% rated power										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
T01	11,151	11,152	4.38	108.5	0.00	91.95	-	-	0.00	0.00	-	0.00
T02	10,719	10,720	4.84	108.5	0.00	91.60	-	-	0.00	0.00	-	0.00
T03	10,263	10,263	5.34	108.5	0.00	91.23	-	-	0.00	0.00	-	0.00
T04	9,582	9,582	6.14	108.5	0.00	90.63	-	-	0.00	0.00	-	0.00
T05	9,917	9,917	5.74	108.5	0.00	90.93	-	-	0.00	0.00	-	0.00
T06	9,515	9,515	6.22	108.5	0.00	90.57	-	-	0.00	0.00	-	0.00
T07	8,761	8,761	7.19	108.5	0.00	89.85	-	-	0.00	0.00	-	0.00
T08	8,045	8,045	8.19	108.5	0.00	89.11	-	-	0.00	0.00	-	0.00
T09	7,653	7,653	8.78	108.5	0.00	88.68	-	-	0.00	0.00	-	0.00
T10	7,234	7,234	9.44	108.5	0.00	88.19	-	-	0.00	0.00	-	0.00
T11	10,914	10,915	4.63	108.5	0.00	91.76	-	-	0.00	0.00	-	0.00
T12	10,438	10,438	5.15	108.5	0.00	91.37	-	-	0.00	0.00	-	0.00
T13	9,808	9,808	5.87	108.5	0.00	90.83	-	-	0.00	0.00	-	0.00
T14	9,263	9,263	6.54	108.5	0.00	90.34	-	-	0.00	0.00	-	0.00
T15	10,559	10,560	5.01	108.5	0.00	91.47	-	-	0.00	0.00	-	0.00
T16	10,976	10,976	4.56	108.5	0.00	91.81	-	-	0.00	0.00	-	0.00
T17	10,363	10,363	5.23	108.5	0.00	91.31	-	-	0.00	0.00	-	0.00
T18	9,825	9,825	5.85	108.5	0.00	90.85	-	-	0.00	0.00	-	0.00
T19	9,122	9,122	6.72	108.5	0.00	90.20	-	-	0.00	0.00	-	0.00
T20	8,651	8,652	7.34	108.5	0.00	89.74	-	-	0.00	0.00	-	0.00
T21	8,110	8,111	8.09	108.5	0.00	89.18	-	-	0.00	0.00	-	0.00
T22	9,189	9,189	6.63	108.5	0.00	90.27	-	-	0.00	0.00	-	0.00
T23	8,629	8,629	7.37	108.5	0.00	89.72	-	-	0.00	0.00	-	0.00
T24	8,145	8,146	8.04	108.5	0.00	89.22	-	-	0.00	0.00	-	0.00
T25	11,089	11,089	4.45	108.5	0.00	91.90	-	-	0.00	0.00	-	0.00
T26	10,640	10,640	4.92	108.5	0.00	91.54	-	-	0.00	0.00	-	0.00
T27	10,260	10,260	5.35	108.5	0.00	91.22	-	-	0.00	0.00	-	0.00
T28	9,914	9,914	5.75	108.5	0.00	90.93	-	-	0.00	0.00	-	0.00
T29	9,477	9,477	6.27	108.5	0.00	90.53	-	-	0.00	0.00	-	0.00
T30	8,998	8,999	6.87	108.5	0.00	90.08	-	-	0.00	0.00	-	0.00
T31	8,612	8,613	7.39	108.5	0.00	89.70	-	-	0.00	0.00	-	0.00
T32	7,659	7,659	8.77	108.5	0.00	88.68	-	-	0.00	0.00	-	0.00
T33	7,275	7,276	9.38	108.5	0.00	88.24	-	-	0.00	0.00	-	0.00
T34	10,239	10,239	5.37	108.5	0.00	91.21	-	-	0.00	0.00	-	0.00
T35	10,354	10,354	5.24	108.5	0.00	91.30	-	-	0.00	0.00	-	0.00
T36	9,449	9,450	6.30	108.5	0.00	90.51	-	-	0.00	0.00	-	0.00
T37	8,761	8,761	7.19	108.5	0.00	89.85	-	-	0.00	0.00	-	0.00
T38	8,266	8,267	7.87	108.5	0.00	89.35	-	-	0.00	0.00	-	0.00
T39	10,583	10,584	4.99	108.5	0.00	91.49	-	-	0.00	0.00	-	0.00
T40	9,908	9,908	5.75	108.5	0.00	90.92	-	-	0.00	0.00	-	0.00
T41	10,196	10,197	5.42	108.5	0.00	91.17	-	-	0.00	0.00	-	0.00
T42	9,099	9,100	6.74	108.5	0.00	90.18	-	-	0.00	0.00	-	0.00
T43	8,386	8,387	7.70	108.5	0.00	89.47	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T44	8,433	8,434	7.64	108.5	0.00	89.52	-	-	0.00	0.00	-	0.00
T45	8,393	8,393	7.69	108.5	0.00	89.48	-	-	0.00	0.00	-	0.00
T46	7,645	7,645	8.79	108.5	0.00	88.67	-	-	0.00	0.00	-	0.00
T47	6,794	6,795	10.19	108.5	0.00	87.64	-	-	0.00	0.00	-	0.00
T48 Alt	7,770	7,771	8.60	108.5	0.00	88.81	-	-	0.00	0.00	-	0.00
T49 Alt	7,696	7,696	8.71	108.5	0.00	88.73	-	-	0.00	0.00	-	0.00
T50 Alt	7,524	7,524	8.98	108.5	0.00	88.53	-	-	0.00	0.00	-	0.00
T51 Alt	7,735	7,735	8.65	108.5	0.00	88.77	-	-	0.00	0.00	-	0.00
T52 Alt	10,973	10,973	4.57	108.5	0.00	91.81	-	-	0.00	0.00	-	0.00
T53 Alt	11,298	11,298	4.23	108.5	0.00	92.06	-	-	0.00	0.00	-	0.00
T54 Alt	10,755	10,755	4.80	108.5	0.00	91.63	-	-	0.00	0.00	-	0.00
T55 Alt	9,575	9,575	6.15	108.5	0.00	90.62	-	-	0.00	0.00	-	0.00
T56 Alt	7,534	7,534	8.96	108.5	0.00	88.54	-	-	0.00	0.00	-	0.00
T57 Alt	8,393	8,393	7.69	108.5	0.00	89.48	-	-	0.00	0.00	-	0.00
T58 Alt	6,947	6,947	9.93	108.5	0.00	87.84	-	-	0.00	0.00	-	0.00
T59 Alt	6,796	6,796	10.19	108.5	0.00	87.65	-	-	0.00	0.00	-	0.00

Sum 24.83

- Data undefined due to calculation with octave data

Noise sensitive area: H46 Noise sensitive point: User defined (127)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	12,500	12,501	3.06	108.5	0.00	92.94	-	-	0.00	0.00	-	0.00
T02	11,989	11,990	3.54	108.5	0.00	92.58	-	-	0.00	0.00	-	0.00
T03	11,498	11,499	4.03	108.5	0.00	92.21	-	-	0.00	0.00	-	0.00
T04	10,769	10,769	4.78	108.5	0.00	91.64	-	-	0.00	0.00	-	0.00
T05	10,873	10,873	4.67	108.5	0.00	91.73	-	-	0.00	0.00	-	0.00
T06	10,406	10,406	5.18	108.5	0.00	91.35	-	-	0.00	0.00	-	0.00
T07	9,587	9,588	6.14	108.5	0.00	90.63	-	-	0.00	0.00	-	0.00
T08	9,090	9,090	6.76	108.5	0.00	90.17	-	-	0.00	0.00	-	0.00
T09	8,530	8,530	7.50	108.5	0.00	89.62	-	-	0.00	0.00	-	0.00
T10	8,091	8,091	8.12	108.5	0.00	89.16	-	-	0.00	0.00	-	0.00
T11	11,556	11,556	3.97	108.5	0.00	92.26	-	-	0.00	0.00	-	0.00
T12	11,083	11,083	4.45	108.5	0.00	91.89	-	-	0.00	0.00	-	0.00
T13	10,288	10,288	5.31	108.5	0.00	91.25	-	-	0.00	0.00	-	0.00
T14	9,773	9,773	5.91	108.5	0.00	90.80	-	-	0.00	0.00	-	0.00
T15	10,887	10,887	4.66	108.5	0.00	91.74	-	-	0.00	0.00	-	0.00
T16	11,090	11,090	4.44	108.5	0.00	91.90	-	-	0.00	0.00	-	0.00
T17	10,486	10,486	5.09	108.5	0.00	91.41	-	-	0.00	0.00	-	0.00
T18	9,946	9,946	5.71	108.5	0.00	90.95	-	-	0.00	0.00	-	0.00
T19	9,334	9,334	6.45	108.5	0.00	90.40	-	-	0.00	0.00	-	0.00
T20	8,789	8,789	7.15	108.5	0.00	89.88	-	-	0.00	0.00	-	0.00
T21	8,324	8,325	7.79	108.5	0.00	89.41	-	-	0.00	0.00	-	0.00
T22	9,118	9,119	6.72	108.5	0.00	90.20	-	-	0.00	0.00	-	0.00
T23	8,553	8,554	7.47	108.5	0.00	89.64	-	-	0.00	0.00	-	0.00
T24	8,064	8,064	8.16	108.5	0.00	89.13	-	-	0.00	0.00	-	0.00
T25	10,968	10,969	4.57	108.5	0.00	91.80	-	-	0.00	0.00	-	0.00
T26	10,499	10,500	5.08	108.5	0.00	91.42	-	-	0.00	0.00	-	0.00
T27	10,096	10,096	5.53	108.5	0.00	91.08	-	-	0.00	0.00	-	0.00
T28	9,703	9,703	6.00	108.5	0.00	90.74	-	-	0.00	0.00	-	0.00
T29	9,101	9,102	6.74	108.5	0.00	90.18	-	-	0.00	0.00	-	0.00
T30	8,627	8,628	7.37	108.5	0.00	89.72	-	-	0.00	0.00	-	0.00
T31	8,194	8,195	7.97	108.5	0.00	89.27	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development
 Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation**Noise calculation model:** ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG			95% rated power									
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	7,216	7,216	9.47	108.5	0.00	88.17	-	-	0.00	0.00	-	0.00
T33	6,771	6,772	10.23	108.5	0.00	87.61	-	-	0.00	0.00	-	0.00
T34	9,834	9,834	5.84	108.5	0.00	90.85	-	-	0.00	0.00	-	0.00
T35	9,802	9,802	5.88	108.5	0.00	90.83	-	-	0.00	0.00	-	0.00
T36	8,852	8,852	7.07	108.5	0.00	89.94	-	-	0.00	0.00	-	0.00
T37	8,133	8,134	8.06	108.5	0.00	89.21	-	-	0.00	0.00	-	0.00
T38	7,584	7,585	8.88	108.5	0.00	88.60	-	-	0.00	0.00	-	0.00
T39	9,882	9,882	5.78	108.5	0.00	90.90	-	-	0.00	0.00	-	0.00
T40	9,130	9,131	6.71	108.5	0.00	90.21	-	-	0.00	0.00	-	0.00
T41	9,273	9,274	6.52	108.5	0.00	90.35	-	-	0.00	0.00	-	0.00
T42	8,279	8,279	7.85	108.5	0.00	89.36	-	-	0.00	0.00	-	0.00
T43	7,544	7,544	8.95	108.5	0.00	88.55	-	-	0.00	0.00	-	0.00
T44	7,342	7,343	9.27	108.5	0.00	88.32	-	-	0.00	0.00	-	0.00
T45	7,191	7,191	9.52	108.5	0.00	88.14	-	-	0.00	0.00	-	0.00
T46	6,724	6,725	10.31	108.5	0.00	87.55	-	-	0.00	0.00	-	0.00
T47	5,897	5,897	11.88	108.5	0.00	86.41	-	-	0.00	0.00	-	0.00
T48 Alt	6,560	6,560	10.61	108.5	0.00	87.34	-	-	0.00	0.00	-	0.00
T49 Alt	6,377	6,378	10.94	108.5	0.00	87.09	-	-	0.00	0.00	-	0.00
T50 Alt	7,559	7,559	8.92	108.5	0.00	88.57	-	-	0.00	0.00	-	0.00
T51 Alt	7,907	7,907	8.39	108.5	0.00	88.96	-	-	0.00	0.00	-	0.00
T52 Alt	11,919	11,919	3.61	108.5	0.00	92.53	-	-	0.00	0.00	-	0.00
T53 Alt	12,407	12,407	3.15	108.5	0.00	92.87	-	-	0.00	0.00	-	0.00
T54 Alt	11,583	11,583	3.94	108.5	0.00	92.28	-	-	0.00	0.00	-	0.00
T55 Alt	10,276	10,277	5.33	108.5	0.00	91.24	-	-	0.00	0.00	-	0.00
T56 Alt	6,798	6,798	10.18	108.5	0.00	87.65	-	-	0.00	0.00	-	0.00
T57 Alt	9,182	9,182	6.64	108.5	0.00	90.26	-	-	0.00	0.00	-	0.00
T58 Alt	7,361	7,361	9.24	108.5	0.00	88.34	-	-	0.00	0.00	-	0.00
T59 Alt	7,097	7,097	9.67	108.5	0.00	88.02	-	-	0.00	0.00	-	0.00
Sum		25.09										

- Data undefined due to calculation with octave data

Noise sensitive area: H47 Noise sensitive point: User defined (128)

WTG			95% rated power									
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	12,705	12,706	2.87	108.5	0.00	93.08	-	-	0.00	0.00	-	0.00
T02	12,203	12,203	3.34	108.5	0.00	92.73	-	-	0.00	0.00	-	0.00
T03	11,715	11,715	3.81	108.5	0.00	92.38	-	-	0.00	0.00	-	0.00
T04	10,990	10,990	4.55	108.5	0.00	91.82	-	-	0.00	0.00	-	0.00
T05	11,116	11,116	4.42	108.5	0.00	91.92	-	-	0.00	0.00	-	0.00
T06	10,654	10,654	4.91	108.5	0.00	91.55	-	-	0.00	0.00	-	0.00
T07	9,839	9,840	5.83	108.5	0.00	90.86	-	-	0.00	0.00	-	0.00
T08	9,321	9,322	6.46	108.5	0.00	90.39	-	-	0.00	0.00	-	0.00
T09	8,775	8,776	7.17	108.5	0.00	89.87	-	-	0.00	0.00	-	0.00
T10	8,336	8,337	7.77	108.5	0.00	89.42	-	-	0.00	0.00	-	0.00
T11	11,824	11,825	3.70	108.5	0.00	92.46	-	-	0.00	0.00	-	0.00
T12	11,351	11,351	4.18	108.5	0.00	92.10	-	-	0.00	0.00	-	0.00
T13	10,565	10,565	5.01	108.5	0.00	91.48	-	-	0.00	0.00	-	0.00
T14	10,048	10,048	5.59	108.5	0.00	91.04	-	-	0.00	0.00	-	0.00
T15	11,173	11,173	4.36	108.5	0.00	91.96	-	-	0.00	0.00	-	0.00
T16	11,385	11,386	4.14	108.5	0.00	92.13	-	-	0.00	0.00	-	0.00
T17	10,781	10,781	4.77	108.5	0.00	91.65	-	-	0.00	0.00	-	0.00
T18	10,240	10,240	5.37	108.5	0.00	91.21	-	-	0.00	0.00	-	0.00
T19	9,623	9,624	6.09	108.5	0.00	90.67	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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Finley, ND 58230

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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T20	9,081	9,081	6.77	108.5	0.00	90.16	-	-	0.00	0.00	-	0.00
T21	8,612	8,613	7.39	108.5	0.00	89.70	-	-	0.00	0.00	-	0.00
T22	9,418	9,419	6.34	108.5	0.00	90.48	-	-	0.00	0.00	-	0.00
T23	8,853	8,853	7.07	108.5	0.00	89.94	-	-	0.00	0.00	-	0.00
T24	8,363	8,364	7.73	108.5	0.00	89.45	-	-	0.00	0.00	-	0.00
T25	11,271	11,271	4.26	108.5	0.00	92.04	-	-	0.00	0.00	-	0.00
T26	10,802	10,803	4.75	108.5	0.00	91.67	-	-	0.00	0.00	-	0.00
T27	10,399	10,399	5.19	108.5	0.00	91.34	-	-	0.00	0.00	-	0.00
T28	10,007	10,007	5.64	108.5	0.00	91.01	-	-	0.00	0.00	-	0.00
T29	9,408	9,409	6.36	108.5	0.00	90.47	-	-	0.00	0.00	-	0.00
T30	8,933	8,934	6.96	108.5	0.00	90.02	-	-	0.00	0.00	-	0.00
T31	8,500	8,501	7.54	108.5	0.00	89.59	-	-	0.00	0.00	-	0.00
T32	7,522	7,522	8.98	108.5	0.00	88.53	-	-	0.00	0.00	-	0.00
T33	7,078	7,079	9.70	108.5	0.00	88.00	-	-	0.00	0.00	-	0.00
T34	10,141	10,141	5.48	108.5	0.00	91.12	-	-	0.00	0.00	-	0.00
T35	10,109	10,110	5.52	108.5	0.00	91.09	-	-	0.00	0.00	-	0.00
T36	9,159	9,160	6.67	108.5	0.00	90.24	-	-	0.00	0.00	-	0.00
T37	8,441	8,441	7.62	108.5	0.00	89.53	-	-	0.00	0.00	-	0.00
T38	7,892	7,892	8.42	108.5	0.00	88.94	-	-	0.00	0.00	-	0.00
T39	10,188	10,189	5.43	108.5	0.00	91.16	-	-	0.00	0.00	-	0.00
T40	9,436	9,437	6.32	108.5	0.00	90.50	-	-	0.00	0.00	-	0.00
T41	9,576	9,576	6.15	108.5	0.00	90.62	-	-	0.00	0.00	-	0.00
T42	8,584	8,585	7.43	108.5	0.00	89.67	-	-	0.00	0.00	-	0.00
T43	7,849	7,849	8.48	108.5	0.00	88.90	-	-	0.00	0.00	-	0.00
T44	7,641	7,641	8.80	108.5	0.00	88.66	-	-	0.00	0.00	-	0.00
T45	7,485	7,485	9.04	108.5	0.00	88.48	-	-	0.00	0.00	-	0.00
T46	7,029	7,029	9.79	108.5	0.00	87.94	-	-	0.00	0.00	-	0.00
T47	6,202	6,203	11.28	108.5	0.00	86.85	-	-	0.00	0.00	-	0.00
T48 Alt	6,854	6,855	10.08	108.5	0.00	87.72	-	-	0.00	0.00	-	0.00
T49 Alt	6,666	6,667	10.42	108.5	0.00	87.48	-	-	0.00	0.00	-	0.00
T50 Alt	7,853	7,854	8.47	108.5	0.00	88.90	-	-	0.00	0.00	-	0.00
T51 Alt	8,196	8,196	7.97	108.5	0.00	89.27	-	-	0.00	0.00	-	0.00
T52 Alt	12,165	12,165	3.37	108.5	0.00	92.70	-	-	0.00	0.00	-	0.00
T53 Alt	12,638	12,638	2.93	108.5	0.00	93.03	-	-	0.00	0.00	-	0.00
T54 Alt	11,838	11,838	3.69	108.5	0.00	92.47	-	-	0.00	0.00	-	0.00
T55 Alt	10,539	10,539	5.04	108.5	0.00	91.46	-	-	0.00	0.00	-	0.00
T56 Alt	7,105	7,106	9.66	108.5	0.00	88.03	-	-	0.00	0.00	-	0.00
T57 Alt	9,436	9,436	6.32	108.5	0.00	90.50	-	-	0.00	0.00	-	0.00
T58 Alt	7,636	7,637	8.80	108.5	0.00	88.66	-	-	0.00	0.00	-	0.00
T59 Alt	7,378	7,378	9.21	108.5	0.00	88.36	-	-	0.00	0.00	-	0.00

Sum 24.68

- Data undefined due to calculation with octave data

Noise sensitive area: H48 Noise sensitive point: User defined (129)

WTG No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	11,120	11,121	4.41	108.5	0.00	91.92	-	-	0.00	0.00	-	0.00
T02	11,040	11,041	4.50	108.5	0.00	91.86	-	-	0.00	0.00	-	0.00
T03	10,791	10,792	4.76	108.5	0.00	91.66	-	-	0.00	0.00	-	0.00
T04	10,416	10,417	5.17	108.5	0.00	91.35	-	-	0.00	0.00	-	0.00
T05	11,350	11,350	4.18	108.5	0.00	92.10	-	-	0.00	0.00	-	0.00
T06	11,208	11,209	4.32	108.5	0.00	91.99	-	-	0.00	0.00	-	0.00
T07	10,793	10,793	4.76	108.5	0.00	91.66	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T08	9,700	9,700	6.00	108.5	0.00	90.74	-	-	0.00	0.00	-	0.00
T09	9,854	9,855	5.82	108.5	0.00	90.87	-	-	0.00	0.00	-	0.00
T10	9,612	9,613	6.11	108.5	0.00	90.66	-	-	0.00	0.00	-	0.00
T11	12,977	12,977	2.63	108.5	0.00	93.26	-	-	0.00	0.00	-	0.00
T12	12,574	12,574	2.99	108.5	0.00	92.99	-	-	0.00	0.00	-	0.00
T13	12,437	12,437	3.12	108.5	0.00	92.89	-	-	0.00	0.00	-	0.00
T14	11,926	11,927	3.60	108.5	0.00	92.53	-	-	0.00	0.00	-	0.00
T15	13,399	13,399	2.26	108.5	0.00	93.54	-	-	0.00	0.00	-	0.00
T16	14,199	14,199	1.59	108.5	0.00	94.05	-	-	0.00	0.00	-	0.00
T17	13,650	13,650	2.04	108.5	0.00	93.70	-	-	0.00	0.00	-	0.00
T18	13,194	13,195	2.44	108.5	0.00	93.41	-	-	0.00	0.00	-	0.00
T19	12,430	12,430	3.13	108.5	0.00	92.89	-	-	0.00	0.00	-	0.00
T20	12,183	12,183	3.36	108.5	0.00	92.72	-	-	0.00	0.00	-	0.00
T21	11,602	11,603	3.92	108.5	0.00	92.29	-	-	0.00	0.00	-	0.00
T22	13,004	13,005	2.60	108.5	0.00	93.28	-	-	0.00	0.00	-	0.00
T23	12,540	12,540	3.02	108.5	0.00	92.97	-	-	0.00	0.00	-	0.00
T24	12,145	12,146	3.39	108.5	0.00	92.69	-	-	0.00	0.00	-	0.00
T25	14,751	14,751	1.15	108.5	0.00	94.38	-	-	0.00	0.00	-	0.00
T26	14,390	14,390	1.43	108.5	0.00	94.16	-	-	0.00	0.00	-	0.00
T27	14,097	14,098	1.67	108.5	0.00	93.98	-	-	0.00	0.00	-	0.00
T28	13,874	13,875	1.86	108.5	0.00	93.84	-	-	0.00	0.00	-	0.00
T29	13,760	13,761	1.95	108.5	0.00	93.77	-	-	0.00	0.00	-	0.00
T30	13,334	13,335	2.31	108.5	0.00	93.50	-	-	0.00	0.00	-	0.00
T31	13,068	13,069	2.55	108.5	0.00	93.32	-	-	0.00	0.00	-	0.00
T32	12,280	12,281	3.27	108.5	0.00	92.78	-	-	0.00	0.00	-	0.00
T33	12,034	12,034	3.50	108.5	0.00	92.61	-	-	0.00	0.00	-	0.00
T34	14,486	14,486	1.36	108.5	0.00	94.22	-	-	0.00	0.00	-	0.00
T35	14,821	14,821	1.09	108.5	0.00	94.42	-	-	0.00	0.00	-	0.00
T36	14,072	14,072	1.69	108.5	0.00	93.97	-	-	0.00	0.00	-	0.00
T37	13,498	13,498	2.17	108.5	0.00	93.61	-	-	0.00	0.00	-	0.00
T38	13,129	13,130	2.49	108.5	0.00	93.37	-	-	0.00	0.00	-	0.00
T39	15,257	15,257	0.76	108.5	0.00	94.67	-	-	0.00	0.00	-	0.00
T40	14,744	14,744	1.15	108.5	0.00	94.37	-	-	0.00	0.00	-	0.00
T41	15,207	15,207	0.80	108.5	0.00	94.64	-	-	0.00	0.00	-	0.00
T42	14,061	14,062	1.70	108.5	0.00	93.96	-	-	0.00	0.00	-	0.00
T43	13,441	13,441	2.22	108.5	0.00	93.57	-	-	0.00	0.00	-	0.00
T44	13,772	13,773	1.94	108.5	0.00	93.78	-	-	0.00	0.00	-	0.00
T45	13,852	13,853	1.87	108.5	0.00	93.83	-	-	0.00	0.00	-	0.00
T46	12,861	12,861	2.73	108.5	0.00	93.19	-	-	0.00	0.00	-	0.00
T47	12,074	12,075	3.46	108.5	0.00	92.64	-	-	0.00	0.00	-	0.00
T48 Alt	13,280	13,280	2.36	108.5	0.00	93.46	-	-	0.00	0.00	-	0.00
T49 Alt	13,312	13,312	2.33	108.5	0.00	93.49	-	-	0.00	0.00	-	0.00
T50 Alt	11,447	11,448	4.08	108.5	0.00	92.17	-	-	0.00	0.00	-	0.00
T51 Alt	11,380	11,380	4.15	108.5	0.00	92.12	-	-	0.00	0.00	-	0.00
T52 Alt	12,228	12,228	3.31	108.5	0.00	92.75	-	-	0.00	0.00	-	0.00
T53 Alt	12,021	12,021	3.51	108.5	0.00	92.60	-	-	0.00	0.00	-	0.00
T54 Alt	12,371	12,371	3.18	108.5	0.00	92.85	-	-	0.00	0.00	-	0.00
T55 Alt	11,733	11,734	3.79	108.5	0.00	92.39	-	-	0.00	0.00	-	0.00
T56 Alt	12,547	12,548	3.02	108.5	0.00	92.97	-	-	0.00	0.00	-	0.00
T57 Alt	10,607	10,607	4.96	108.5	0.00	91.51	-	-	0.00	0.00	-	0.00
T58 Alt	10,338	10,338	5.26	108.5	0.00	91.29	-	-	0.00	0.00	-	0.00
T59 Alt	10,434	10,434	5.15	108.5	0.00	91.37	-	-	0.00	0.00	-	0.00

Sum 20.98

- Data undefined due to calculation with octave data

Project:

20131290 Rolette Power Development

Description:

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Calculated:

6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

Noise sensitive area: H49 Noise sensitive point: User defined (130)

No.	WTG		95% rated power										A	Cmet
	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A			
T01	13,613	13,613	2.08	108.5	0.00	93.68	-	-	0.00	0.00	-	0.00		
T02	13,074	13,074	2.54	108.5	0.00	93.33	-	-	0.00	0.00	-	0.00		
T03	12,573	12,574	2.99	108.5	0.00	92.99	-	-	0.00	0.00	-	0.00		
T04	11,832	11,832	3.70	108.5	0.00	92.46	-	-	0.00	0.00	-	0.00		
T05	11,839	11,839	3.69	108.5	0.00	92.47	-	-	0.00	0.00	-	0.00		
T06	11,350	11,350	4.18	108.5	0.00	92.10	-	-	0.00	0.00	-	0.00		
T07	10,516	10,516	5.06	108.5	0.00	91.44	-	-	0.00	0.00	-	0.00		
T08	10,116	10,117	5.51	108.5	0.00	91.10	-	-	0.00	0.00	-	0.00		
T09	9,498	9,498	6.24	108.5	0.00	90.55	-	-	0.00	0.00	-	0.00		
T10	9,059	9,060	6.80	108.5	0.00	90.14	-	-	0.00	0.00	-	0.00		
T11	12,372	12,373	3.18	108.5	0.00	92.85	-	-	0.00	0.00	-	0.00		
T12	11,907	11,907	3.62	108.5	0.00	92.52	-	-	0.00	0.00	-	0.00		
T13	11,046	11,046	4.49	108.5	0.00	91.86	-	-	0.00	0.00	-	0.00		
T14	10,555	10,555	5.02	108.5	0.00	91.47	-	-	0.00	0.00	-	0.00		
T15	11,559	11,559	3.97	108.5	0.00	92.26	-	-	0.00	0.00	-	0.00		
T16	11,648	11,648	3.88	108.5	0.00	92.33	-	-	0.00	0.00	-	0.00		
T17	11,060	11,060	4.48	108.5	0.00	91.88	-	-	0.00	0.00	-	0.00		
T18	10,529	10,529	5.05	108.5	0.00	91.45	-	-	0.00	0.00	-	0.00		
T19	9,977	9,977	5.67	108.5	0.00	90.98	-	-	0.00	0.00	-	0.00		
T20	9,407	9,408	6.36	108.5	0.00	90.47	-	-	0.00	0.00	-	0.00		
T21	8,995	8,995	6.88	108.5	0.00	90.08	-	-	0.00	0.00	-	0.00		
T22	9,617	9,618	6.10	108.5	0.00	90.66	-	-	0.00	0.00	-	0.00		
T23	9,065	9,065	6.79	108.5	0.00	90.15	-	-	0.00	0.00	-	0.00		
T24	8,587	8,588	7.42	108.5	0.00	89.68	-	-	0.00	0.00	-	0.00		
T25	11,399	11,400	4.13	108.5	0.00	92.14	-	-	0.00	0.00	-	0.00		
T26	10,928	10,928	4.61	108.5	0.00	91.77	-	-	0.00	0.00	-	0.00		
T27	10,519	10,520	5.06	108.5	0.00	91.44	-	-	0.00	0.00	-	0.00		
T28	10,108	10,109	5.52	108.5	0.00	91.09	-	-	0.00	0.00	-	0.00		
T29	9,427	9,427	6.33	108.5	0.00	90.49	-	-	0.00	0.00	-	0.00		
T30	8,968	8,969	6.91	108.5	0.00	90.05	-	-	0.00	0.00	-	0.00		
T31	8,520	8,521	7.51	108.5	0.00	89.61	-	-	0.00	0.00	-	0.00		
T32	7,564	7,564	8.92	108.5	0.00	88.58	-	-	0.00	0.00	-	0.00		
T33	7,103	7,103	9.66	108.5	0.00	88.03	-	-	0.00	0.00	-	0.00		
T34	10,123	10,123	5.50	108.5	0.00	91.11	-	-	0.00	0.00	-	0.00		
T35	10,001	10,002	5.64	108.5	0.00	91.00	-	-	0.00	0.00	-	0.00		
T36	9,047	9,047	6.81	108.5	0.00	90.13	-	-	0.00	0.00	-	0.00		
T37	8,332	8,333	7.78	108.5	0.00	89.42	-	-	0.00	0.00	-	0.00		
T38	7,768	7,769	8.60	108.5	0.00	88.81	-	-	0.00	0.00	-	0.00		
T39	9,983	9,983	5.66	108.5	0.00	90.99	-	-	0.00	0.00	-	0.00		
T40	9,201	9,201	6.62	108.5	0.00	90.28	-	-	0.00	0.00	-	0.00		
T41	9,241	9,241	6.56	108.5	0.00	90.31	-	-	0.00	0.00	-	0.00		
T42	8,346	8,346	7.76	108.5	0.00	89.43	-	-	0.00	0.00	-	0.00		
T43	7,622	7,622	8.83	108.5	0.00	88.64	-	-	0.00	0.00	-	0.00		
T44	7,252	7,252	9.42	108.5	0.00	88.21	-	-	0.00	0.00	-	0.00		
T45	7,023	7,023	9.80	108.5	0.00	87.93	-	-	0.00	0.00	-	0.00		
T46	6,785	6,785	10.21	108.5	0.00	87.63	-	-	0.00	0.00	-	0.00		
T47	6,019	6,020	11.63	108.5	0.00	86.59	-	-	0.00	0.00	-	0.00		
T48 Alt	6,413	6,413	10.88	108.5	0.00	87.14	-	-	0.00	0.00	-	0.00		
T49 Alt	6,153	6,154	11.37	108.5	0.00	86.78	-	-	0.00	0.00	-	0.00		
T50 Alt	8,161	8,161	8.02	108.5	0.00	89.24	-	-	0.00	0.00	-	0.00		
T51 Alt	8,568	8,568	7.45	108.5	0.00	89.66	-	-	0.00	0.00	-	0.00		
T52 Alt	12,870	12,870	2.72	108.5	0.00	93.19	-	-	0.00	0.00	-	0.00		
T53 Alt	13,423	13,423	2.24	108.5	0.00	93.56	-	-	0.00	0.00	-	0.00		
T54 Alt	12,485	12,485	3.07	108.5	0.00	92.93	-	-	0.00	0.00	-	0.00		
T55 Alt	11,138	11,139	4.39	108.5	0.00	91.94	-	-	0.00	0.00	-	0.00		

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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Description:
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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

...continued from previous page

No.	Distance [m]	Sound distance [m]	95% rated power									
			WTG Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T56 Alt	6,981	6,981	9.87	108.5	0.00	87.88	-	-	0.00	0.00	-	0.00
T57 Alt	10,100	10,101	5.53	108.5	0.00	91.09	-	-	0.00	0.00	-	0.00
T58 Alt	8,157	8,157	8.03	108.5	0.00	89.23	-	-	0.00	0.00	-	0.00
T59 Alt	7,848	7,848	8.48	108.5	0.00	88.90	-	-	0.00	0.00	-	0.00

Sum 24.61

- Data undefined due to calculation with octave data

Noise sensitive area: H50 Noise sensitive point: User defined (131)

No.	Distance [m]	Sound distance [m]	95% rated power									
			WTG Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	13,560	13,561	2.12	108.5	0.00	93.65	-	-	0.00	0.00	-	0.00
T02	13,023	13,023	2.59	108.5	0.00	93.29	-	-	0.00	0.00	-	0.00
T03	12,522	12,523	3.04	108.5	0.00	92.95	-	-	0.00	0.00	-	0.00
T04	11,781	11,781	3.75	108.5	0.00	92.42	-	-	0.00	0.00	-	0.00
T05	11,792	11,792	3.73	108.5	0.00	92.43	-	-	0.00	0.00	-	0.00
T06	11,304	11,304	4.22	108.5	0.00	92.06	-	-	0.00	0.00	-	0.00
T07	10,470	10,470	5.11	108.5	0.00	91.40	-	-	0.00	0.00	-	0.00
T08	10,067	10,067	5.57	108.5	0.00	91.06	-	-	0.00	0.00	-	0.00
T09	9,451	9,451	6.30	108.5	0.00	90.51	-	-	0.00	0.00	-	0.00
T10	9,012	9,012	6.86	108.5	0.00	90.10	-	-	0.00	0.00	-	0.00
T11	12,331	12,332	3.22	108.5	0.00	92.82	-	-	0.00	0.00	-	0.00
T12	11,866	11,866	3.66	108.5	0.00	92.49	-	-	0.00	0.00	-	0.00
T13	11,007	11,008	4.53	108.5	0.00	91.83	-	-	0.00	0.00	-	0.00
T14	10,515	10,515	5.06	108.5	0.00	91.44	-	-	0.00	0.00	-	0.00
T15	11,524	11,524	4.00	108.5	0.00	92.23	-	-	0.00	0.00	-	0.00
T16	11,617	11,618	3.91	108.5	0.00	92.30	-	-	0.00	0.00	-	0.00
T17	11,028	11,029	4.51	108.5	0.00	91.85	-	-	0.00	0.00	-	0.00
T18	10,497	10,497	5.08	108.5	0.00	91.42	-	-	0.00	0.00	-	0.00
T19	9,943	9,943	5.71	108.5	0.00	90.95	-	-	0.00	0.00	-	0.00
T20	9,373	9,374	6.40	108.5	0.00	90.44	-	-	0.00	0.00	-	0.00
T21	8,959	8,959	6.93	108.5	0.00	90.05	-	-	0.00	0.00	-	0.00
T22	9,589	9,589	6.13	108.5	0.00	90.64	-	-	0.00	0.00	-	0.00
T23	9,035	9,036	6.83	108.5	0.00	90.12	-	-	0.00	0.00	-	0.00
T24	8,557	8,558	7.46	108.5	0.00	89.65	-	-	0.00	0.00	-	0.00
T25	11,374	11,375	4.15	108.5	0.00	92.12	-	-	0.00	0.00	-	0.00
T26	10,903	10,903	4.64	108.5	0.00	91.75	-	-	0.00	0.00	-	0.00
T27	10,494	10,494	5.08	108.5	0.00	91.42	-	-	0.00	0.00	-	0.00
T28	10,084	10,084	5.55	108.5	0.00	91.07	-	-	0.00	0.00	-	0.00
T29	9,405	9,406	6.36	108.5	0.00	90.47	-	-	0.00	0.00	-	0.00
T30	8,946	8,946	6.94	108.5	0.00	90.03	-	-	0.00	0.00	-	0.00
T31	8,498	8,499	7.54	108.5	0.00	89.59	-	-	0.00	0.00	-	0.00
T32	7,540	7,541	8.95	108.5	0.00	88.55	-	-	0.00	0.00	-	0.00
T33	7,080	7,080	9.70	108.5	0.00	88.00	-	-	0.00	0.00	-	0.00
T34	10,103	10,103	5.53	108.5	0.00	91.09	-	-	0.00	0.00	-	0.00
T35	9,985	9,986	5.66	108.5	0.00	90.99	-	-	0.00	0.00	-	0.00
T36	9,031	9,032	6.83	108.5	0.00	90.12	-	-	0.00	0.00	-	0.00
T37	8,316	8,316	7.80	108.5	0.00	89.40	-	-	0.00	0.00	-	0.00
T38	7,752	7,753	8.63	108.5	0.00	88.79	-	-	0.00	0.00	-	0.00
T39	9,972	9,972	5.68	108.5	0.00	90.98	-	-	0.00	0.00	-	0.00
T40	9,191	9,191	6.63	108.5	0.00	90.27	-	-	0.00	0.00	-	0.00
T41	9,235	9,236	6.57	108.5	0.00	90.31	-	-	0.00	0.00	-	0.00
T42	8,335	8,335	7.77	108.5	0.00	89.42	-	-	0.00	0.00	-	0.00
T43	7,610	7,611	8.84	108.5	0.00	88.63	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

		95% rated power											
No.	Distance	Sound distance	Calculated	LwA.ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet	
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	
T44	7,248	7,248	9.42	108.5	0.00	88.20	-	-	0.00	0.00	-	0.00	
T45	7,022	7,022	9.80	108.5	0.00	87.93	-	-	0.00	0.00	-	0.00	
T46	6,773	6,774	10.23	108.5	0.00	87.62	-	-	0.00	0.00	-	0.00	
T47	6,004	6,005	11.66	108.5	0.00	86.57	-	-	0.00	0.00	-	0.00	
T48 Alt	6,410	6,411	10.88	108.5	0.00	87.14	-	-	0.00	0.00	-	0.00	
T49 Alt	6,154	6,155	11.37	108.5	0.00	86.78	-	-	0.00	0.00	-	0.00	
T50 Alt	8,128	8,128	8.07	108.5	0.00	89.20	-	-	0.00	0.00	-	0.00	
T51 Alt	8,532	8,533	7.50	108.5	0.00	89.62	-	-	0.00	0.00	-	0.00	
T52 Alt	12,824	12,824	2.77	108.5	0.00	93.16	-	-	0.00	0.00	-	0.00	
T53 Alt	13,374	13,374	2.28	108.5	0.00	93.53	-	-	0.00	0.00	-	0.00	
T54 Alt	12,440	12,440	3.12	108.5	0.00	92.90	-	-	0.00	0.00	-	0.00	
T55 Alt	11,095	11,096	4.44	108.5	0.00	91.90	-	-	0.00	0.00	-	0.00	
T56 Alt	6,964	6,965	9.90	108.5	0.00	87.86	-	-	0.00	0.00	-	0.00	
T57 Alt	10,055	10,055	5.58	108.5	0.00	91.05	-	-	0.00	0.00	-	0.00	
T58 Alt	8,115	8,116	8.09	108.5	0.00	89.19	-	-	0.00	0.00	-	0.00	
T59 Alt	7,808	7,809	8.54	108.5	0.00	88.85	-	-	0.00	0.00	-	0.00	
Sum	24.64												

- Data undefined due to calculation with octave data

Noise sensitive area: H51 Noise sensitive point: User defined (132)

		95% rated power											
No.	Distance	Sound distance	Calculated	LwA.ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet	
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	
T01	13,501	13,501	2.17	108.5	0.00	93.61	-	-	0.00	0.00	-	0.00	
T02	12,965	12,966	2.64	108.5	0.00	93.26	-	-	0.00	0.00	-	0.00	
T03	12,466	12,466	3.09	108.5	0.00	92.91	-	-	0.00	0.00	-	0.00	
T04	11,725	11,725	3.80	108.5	0.00	92.38	-	-	0.00	0.00	-	0.00	
T05	11,743	11,743	3.78	108.5	0.00	92.40	-	-	0.00	0.00	-	0.00	
T06	11,256	11,256	4.27	108.5	0.00	92.03	-	-	0.00	0.00	-	0.00	
T07	10,423	10,423	5.16	108.5	0.00	91.36	-	-	0.00	0.00	-	0.00	
T08	10,013	10,013	5.63	108.5	0.00	91.01	-	-	0.00	0.00	-	0.00	
T09	9,401	9,401	6.36	108.5	0.00	90.46	-	-	0.00	0.00	-	0.00	
T10	8,962	8,962	6.92	108.5	0.00	90.05	-	-	0.00	0.00	-	0.00	
T11	12,293	12,293	3.25	108.5	0.00	92.79	-	-	0.00	0.00	-	0.00	
T12	11,826	11,827	3.70	108.5	0.00	92.46	-	-	0.00	0.00	-	0.00	
T13	10,972	10,972	4.57	108.5	0.00	91.81	-	-	0.00	0.00	-	0.00	
T14	10,478	10,478	5.10	108.5	0.00	91.41	-	-	0.00	0.00	-	0.00	
T15	11,494	11,495	4.03	108.5	0.00	92.21	-	-	0.00	0.00	-	0.00	
T16	11,595	11,596	3.93	108.5	0.00	92.29	-	-	0.00	0.00	-	0.00	
T17	11,005	11,006	4.53	108.5	0.00	91.83	-	-	0.00	0.00	-	0.00	
T18	10,473	10,473	5.11	108.5	0.00	91.40	-	-	0.00	0.00	-	0.00	
T19	9,914	9,915	5.74	108.5	0.00	90.93	-	-	0.00	0.00	-	0.00	
T20	9,347	9,347	6.43	108.5	0.00	90.41	-	-	0.00	0.00	-	0.00	
T21	8,928	8,929	6.97	108.5	0.00	90.02	-	-	0.00	0.00	-	0.00	
T22	9,570	9,570	6.16	108.5	0.00	90.62	-	-	0.00	0.00	-	0.00	
T23	9,015	9,016	6.85	108.5	0.00	90.10	-	-	0.00	0.00	-	0.00	
T24	8,536	8,537	7.49	108.5	0.00	89.63	-	-	0.00	0.00	-	0.00	
T25	11,360	11,361	4.17	108.5	0.00	92.11	-	-	0.00	0.00	-	0.00	
T26	10,889	10,889	4.66	108.5	0.00	91.74	-	-	0.00	0.00	-	0.00	
T27	10,480	10,481	5.10	108.5	0.00	91.41	-	-	0.00	0.00	-	0.00	
T28	10,071	10,072	5.56	108.5	0.00	91.06	-	-	0.00	0.00	-	0.00	
T29	9,397	9,398	6.37	108.5	0.00	90.46	-	-	0.00	0.00	-	0.00	
T30	8,936	8,937	6.96	108.5	0.00	90.02	-	-	0.00	0.00	-	0.00	
T31	8,490	8,490	7.56	108.5	0.00	89.58	-	-	0.00	0.00	-	0.00	

To be continued on next page...

Project:

20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:

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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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WTG No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	7,530	7,530	8.97	108.5	0.00	88.54	-	-	0.00	0.00	-	0.00
T33	7,070	7,070	9.72	108.5	0.00	87.99	-	-	0.00	0.00	-	0.00
T34	10,098	10,098	5.53	108.5	0.00	91.08	-	-	0.00	0.00	-	0.00
T35	9,986	9,986	5.66	108.5	0.00	90.99	-	-	0.00	0.00	-	0.00
T36	9,031	9,031	6.83	108.5	0.00	90.12	-	-	0.00	0.00	-	0.00
T37	8,315	8,315	7.80	108.5	0.00	89.40	-	-	0.00	0.00	-	0.00
T38	7,752	7,752	8.63	108.5	0.00	88.79	-	-	0.00	0.00	-	0.00
T39	9,978	9,978	5.67	108.5	0.00	90.98	-	-	0.00	0.00	-	0.00
T40	9,198	9,199	6.62	108.5	0.00	90.27	-	-	0.00	0.00	-	0.00
T41	9,249	9,250	6.55	108.5	0.00	90.32	-	-	0.00	0.00	-	0.00
T42	8,342	8,343	7.76	108.5	0.00	89.43	-	-	0.00	0.00	-	0.00
T43	7,616	7,617	8.83	108.5	0.00	88.64	-	-	0.00	0.00	-	0.00
T44	7,264	7,264	9.40	108.5	0.00	88.22	-	-	0.00	0.00	-	0.00
T45	7,043	7,043	9.76	108.5	0.00	87.96	-	-	0.00	0.00	-	0.00
T46	6,780	6,780	10.21	108.5	0.00	87.62	-	-	0.00	0.00	-	0.00
T47	6,006	6,007	11.66	108.5	0.00	86.57	-	-	0.00	0.00	-	0.00
T48 Alt	6,429	6,430	10.85	108.5	0.00	87.16	-	-	0.00	0.00	-	0.00
T49 Alt	6,178	6,178	11.32	108.5	0.00	86.82	-	-	0.00	0.00	-	0.00
T50 Alt	8,101	8,102	8.11	108.5	0.00	89.17	-	-	0.00	0.00	-	0.00
T51 Alt	8,502	8,503	7.54	108.5	0.00	89.59	-	-	0.00	0.00	-	0.00
T52 Alt	12,776	12,776	2.81	108.5	0.00	93.13	-	-	0.00	0.00	-	0.00
T53 Alt	13,322	13,322	2.33	108.5	0.00	93.49	-	-	0.00	0.00	-	0.00
T54 Alt	12,396	12,396	3.16	108.5	0.00	92.87	-	-	0.00	0.00	-	0.00
T55 Alt	11,053	11,054	4.48	108.5	0.00	91.87	-	-	0.00	0.00	-	0.00
T56 Alt	6,963	6,964	9.90	108.5	0.00	87.86	-	-	0.00	0.00	-	0.00
T57 Alt	10,009	10,009	5.63	108.5	0.00	91.01	-	-	0.00	0.00	-	0.00
T58 Alt	8,077	8,077	8.14	108.5	0.00	89.14	-	-	0.00	0.00	-	0.00
T59 Alt	7,772	7,772	8.60	108.5	0.00	88.81	-	-	0.00	0.00	-	0.00

Sum 24.65

- Data undefined due to calculation with octave data

Noise sensitive area: H52 Noise sensitive point: User defined (133)

WTG No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	13,432	13,433	2.23	108.5	0.00	93.56	-	-	0.00	0.00	-	0.00
T02	12,898	12,899	2.70	108.5	0.00	93.21	-	-	0.00	0.00	-	0.00
T03	12,399	12,400	3.15	108.5	0.00	92.87	-	-	0.00	0.00	-	0.00
T04	11,659	11,660	3.87	108.5	0.00	92.33	-	-	0.00	0.00	-	0.00
T05	11,683	11,683	3.84	108.5	0.00	92.35	-	-	0.00	0.00	-	0.00
T06	11,197	11,197	4.33	108.5	0.00	91.98	-	-	0.00	0.00	-	0.00
T07	10,365	10,365	5.23	108.5	0.00	91.31	-	-	0.00	0.00	-	0.00
T08	9,949	9,949	5.70	108.5	0.00	90.96	-	-	0.00	0.00	-	0.00
T09	9,340	9,341	6.44	108.5	0.00	90.41	-	-	0.00	0.00	-	0.00
T10	8,901	8,901	7.00	108.5	0.00	89.99	-	-	0.00	0.00	-	0.00
T11	12,242	12,242	3.30	108.5	0.00	92.76	-	-	0.00	0.00	-	0.00
T12	11,775	11,775	3.75	108.5	0.00	92.42	-	-	0.00	0.00	-	0.00
T13	10,924	10,925	4.62	108.5	0.00	91.77	-	-	0.00	0.00	-	0.00
T14	10,429	10,429	5.16	108.5	0.00	91.36	-	-	0.00	0.00	-	0.00
T15	11,452	11,452	4.07	108.5	0.00	92.18	-	-	0.00	0.00	-	0.00
T16	11,560	11,560	3.96	108.5	0.00	92.26	-	-	0.00	0.00	-	0.00
T17	10,969	10,969	4.57	108.5	0.00	91.80	-	-	0.00	0.00	-	0.00
T18	10,436	10,436	5.15	108.5	0.00	91.37	-	-	0.00	0.00	-	0.00
T19	9,873	9,874	5.79	108.5	0.00	90.89	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:

20131290 Rolette Power Development

Description:

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Calculated:

6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results**Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s**

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No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T20	9,307	9,307	6.48	108.5	0.00	90.38	-	-	0.00	0.00	-	0.00
T21	8,885	8,886	7.02	108.5	0.00	89.97	-	-	0.00	0.00	-	0.00
T22	9,537	9,538	6.20	108.5	0.00	90.59	-	-	0.00	0.00	-	0.00
T23	8,982	8,982	6.90	108.5	0.00	90.07	-	-	0.00	0.00	-	0.00
T24	8,502	8,502	7.54	108.5	0.00	89.59	-	-	0.00	0.00	-	0.00
T25	11,332	11,333	4.19	108.5	0.00	92.09	-	-	0.00	0.00	-	0.00
T26	10,861	10,861	4.69	108.5	0.00	91.72	-	-	0.00	0.00	-	0.00
T27	10,453	10,453	5.13	108.5	0.00	91.38	-	-	0.00	0.00	-	0.00
T28	10,044	10,045	5.59	108.5	0.00	91.04	-	-	0.00	0.00	-	0.00
T29	9,375	9,376	6.40	108.5	0.00	90.44	-	-	0.00	0.00	-	0.00
T30	8,913	8,914	6.99	108.5	0.00	90.00	-	-	0.00	0.00	-	0.00
T31	8,467	8,468	7.59	108.5	0.00	89.56	-	-	0.00	0.00	-	0.00
T32	7,505	7,506	9.01	108.5	0.00	88.51	-	-	0.00	0.00	-	0.00
T33	7,046	7,046	9.76	108.5	0.00	87.96	-	-	0.00	0.00	-	0.00
T34	10,078	10,078	5.55	108.5	0.00	91.07	-	-	0.00	0.00	-	0.00
T35	9,971	9,972	5.68	108.5	0.00	90.98	-	-	0.00	0.00	-	0.00
T36	9,017	9,017	6.85	108.5	0.00	90.10	-	-	0.00	0.00	-	0.00
T37	8,300	8,300	7.82	108.5	0.00	89.38	-	-	0.00	0.00	-	0.00
T38	7,738	7,738	8.65	108.5	0.00	88.77	-	-	0.00	0.00	-	0.00
T39	9,970	9,970	5.68	108.5	0.00	90.97	-	-	0.00	0.00	-	0.00
T40	9,192	9,192	6.63	108.5	0.00	90.27	-	-	0.00	0.00	-	0.00
T41	9,249	9,250	6.55	108.5	0.00	90.32	-	-	0.00	0.00	-	0.00
T42	8,335	8,336	7.77	108.5	0.00	89.42	-	-	0.00	0.00	-	0.00
T43	7,608	7,609	8.85	108.5	0.00	88.63	-	-	0.00	0.00	-	0.00
T44	7,266	7,266	9.39	108.5	0.00	88.23	-	-	0.00	0.00	-	0.00
T45	7,050	7,050	9.75	108.5	0.00	87.96	-	-	0.00	0.00	-	0.00
T46	6,772	6,773	10.23	108.5	0.00	87.62	-	-	0.00	0.00	-	0.00
T47	5,994	5,995	11.69	108.5	0.00	86.56	-	-	0.00	0.00	-	0.00
T48 Alt	6,434	6,435	10.84	108.5	0.00	87.17	-	-	0.00	0.00	-	0.00
T49 Alt	6,187	6,188	11.31	108.5	0.00	86.83	-	-	0.00	0.00	-	0.00
T50 Alt	8,062	8,062	8.16	108.5	0.00	89.13	-	-	0.00	0.00	-	0.00
T51 Alt	8,460	8,460	7.60	108.5	0.00	89.55	-	-	0.00	0.00	-	0.00
T52 Alt	12,717	12,717	2.86	108.5	0.00	93.09	-	-	0.00	0.00	-	0.00
T53 Alt	13,259	13,259	2.38	108.5	0.00	93.45	-	-	0.00	0.00	-	0.00
T54 Alt	12,340	12,340	3.21	108.5	0.00	92.83	-	-	0.00	0.00	-	0.00
T55 Alt	10,999	11,000	4.54	108.5	0.00	91.83	-	-	0.00	0.00	-	0.00
T56 Alt	6,948	6,949	9.92	108.5	0.00	87.84	-	-	0.00	0.00	-	0.00
T57 Alt	9,951	9,951	5.70	108.5	0.00	90.96	-	-	0.00	0.00	-	0.00
T58 Alt	8,026	8,026	8.22	108.5	0.00	89.09	-	-	0.00	0.00	-	0.00
T59 Alt	7,724	7,724	8.67	108.5	0.00	88.76	-	-	0.00	0.00	-	0.00

Sum 24.68

- Data undefined due to calculation with octave data

Noise sensitive area: H53 Noise sensitive point: User defined (134)

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	13,403	13,403	2.26	108.5	0.00	93.54	-	-	0.00	0.00	-	0.00
T02	12,872	12,873	2.72	108.5	0.00	93.19	-	-	0.00	0.00	-	0.00
T03	12,374	12,375	3.18	108.5	0.00	92.85	-	-	0.00	0.00	-	0.00
T04	11,636	11,636	3.89	108.5	0.00	92.32	-	-	0.00	0.00	-	0.00
T05	11,671	11,671	3.85	108.5	0.00	92.34	-	-	0.00	0.00	-	0.00
T06	11,187	11,187	4.34	108.5	0.00	91.97	-	-	0.00	0.00	-	0.00
T07	10,356	10,357	5.24	108.5	0.00	91.30	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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Finley, ND 58230

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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

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No.	Distance [m]	Sound distance [m]	95% rated power									
			WTG Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T08	9,930	9,930	5.73	108.5	0.00	90.94	-	-	0.00	0.00	-	0.00
T09	9,327	9,327	6.46	108.5	0.00	90.40	-	-	0.00	0.00	-	0.00
T10	8,888	8,888	7.02	108.5	0.00	89.98	-	-	0.00	0.00	-	0.00
T11	12,245	12,245	3.30	108.5	0.00	92.76	-	-	0.00	0.00	-	0.00
T12	11,777	11,777	3.75	108.5	0.00	92.42	-	-	0.00	0.00	-	0.00
T13	10,933	10,933	4.61	108.5	0.00	91.77	-	-	0.00	0.00	-	0.00
T14	10,435	10,435	5.15	108.5	0.00	91.37	-	-	0.00	0.00	-	0.00
T15	11,468	11,468	4.06	108.5	0.00	92.19	-	-	0.00	0.00	-	0.00
T16	11,586	11,586	3.94	108.5	0.00	92.28	-	-	0.00	0.00	-	0.00
T17	10,993	10,993	4.55	108.5	0.00	91.82	-	-	0.00	0.00	-	0.00
T18	10,459	10,460	5.12	108.5	0.00	91.39	-	-	0.00	0.00	-	0.00
T19	9,891	9,892	5.77	108.5	0.00	90.91	-	-	0.00	0.00	-	0.00
T20	9,327	9,327	6.46	108.5	0.00	90.40	-	-	0.00	0.00	-	0.00
T21	8,901	8,901	7.00	108.5	0.00	89.99	-	-	0.00	0.00	-	0.00
T22	9,567	9,568	6.16	108.5	0.00	90.62	-	-	0.00	0.00	-	0.00
T23	9,011	9,011	6.86	108.5	0.00	90.10	-	-	0.00	0.00	-	0.00
T24	8,529	8,530	7.50	108.5	0.00	89.62	-	-	0.00	0.00	-	0.00
T25	11,368	11,369	4.16	108.5	0.00	92.11	-	-	0.00	0.00	-	0.00
T26	10,897	10,898	4.65	108.5	0.00	91.75	-	-	0.00	0.00	-	0.00
T27	10,489	10,489	5.09	108.5	0.00	91.42	-	-	0.00	0.00	-	0.00
T28	10,082	10,082	5.55	108.5	0.00	91.07	-	-	0.00	0.00	-	0.00
T29	9,418	9,419	6.34	108.5	0.00	90.48	-	-	0.00	0.00	-	0.00
T30	8,955	8,956	6.93	108.5	0.00	90.04	-	-	0.00	0.00	-	0.00
T31	8,510	8,511	7.53	108.5	0.00	89.60	-	-	0.00	0.00	-	0.00
T32	7,546	7,546	8.95	108.5	0.00	88.55	-	-	0.00	0.00	-	0.00
T33	7,087	7,088	9.69	108.5	0.00	88.01	-	-	0.00	0.00	-	0.00
T34	10,124	10,125	5.50	108.5	0.00	91.11	-	-	0.00	0.00	-	0.00
T35	10,024	10,024	5.62	108.5	0.00	91.02	-	-	0.00	0.00	-	0.00
T36	9,069	9,069	6.78	108.5	0.00	90.15	-	-	0.00	0.00	-	0.00
T37	8,352	8,352	7.75	108.5	0.00	89.44	-	-	0.00	0.00	-	0.00
T38	7,790	7,790	8.57	108.5	0.00	88.83	-	-	0.00	0.00	-	0.00
T39	10,029	10,029	5.61	108.5	0.00	91.03	-	-	0.00	0.00	-	0.00
T40	9,252	9,253	6.55	108.5	0.00	90.33	-	-	0.00	0.00	-	0.00
T41	9,317	9,317	6.47	108.5	0.00	90.39	-	-	0.00	0.00	-	0.00
T42	8,396	8,397	7.69	108.5	0.00	89.48	-	-	0.00	0.00	-	0.00
T43	7,668	7,668	8.76	108.5	0.00	88.69	-	-	0.00	0.00	-	0.00
T44	7,336	7,336	9.28	108.5	0.00	88.31	-	-	0.00	0.00	-	0.00
T45	7,124	7,124	9.63	108.5	0.00	88.06	-	-	0.00	0.00	-	0.00
T46	6,832	6,833	10.12	108.5	0.00	87.69	-	-	0.00	0.00	-	0.00
T47	6,049	6,050	11.58	108.5	0.00	86.63	-	-	0.00	0.00	-	0.00
T48 Alt	6,507	6,507	10.70	108.5	0.00	87.27	-	-	0.00	0.00	-	0.00
T49 Alt	6,264	6,265	11.16	108.5	0.00	86.94	-	-	0.00	0.00	-	0.00
T50 Alt	8,083	8,083	8.13	108.5	0.00	89.15	-	-	0.00	0.00	-	0.00
T51 Alt	8,476	8,476	7.58	108.5	0.00	89.56	-	-	0.00	0.00	-	0.00
T52 Alt	12,706	12,707	2.87	108.5	0.00	93.08	-	-	0.00	0.00	-	0.00
T53 Alt	13,241	13,241	2.40	108.5	0.00	93.44	-	-	0.00	0.00	-	0.00
T54 Alt	12,334	12,334	3.21	108.5	0.00	92.82	-	-	0.00	0.00	-	0.00
T55 Alt	10,998	10,998	4.54	108.5	0.00	91.83	-	-	0.00	0.00	-	0.00
T56 Alt	7,000	7,001	9.83	108.5	0.00	87.90	-	-	0.00	0.00	-	0.00
T57 Alt	9,943	9,944	5.71	108.5	0.00	90.95	-	-	0.00	0.00	-	0.00
T58 Alt	8,029	8,030	8.21	108.5	0.00	89.09	-	-	0.00	0.00	-	0.00
T59 Alt	7,731	7,732	8.66	108.5	0.00	88.77	-	-	0.00	0.00	-	0.00

Sum 24.63

- Data undefined due to calculation with octave data

Project: **20131290 Rolette Power Development**

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description: EAPC does not warrant, guarantee, or make any such representations regarding the contents of this report. EAPC cannot be held liable for erroneous results caused by errors or omissions in the delivered data, or inaccuracy, limitations, or malfunctioning of models or software used. For any claim whatsoever related to the subject matter of this report, the liability of EAPC for actual damages, regardless of the form of action, shall be limited to the total amount paid to EAPC for the services provided as part of this consultancy service.

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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

Noise sensitive area: H54 Noise sensitive point: User defined (135)

WTG No.	95% rated power											
	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	14,289	14,289	1.52	108.5	0.00	94.10	-	-	0.00	0.00	-	0.00
T02	13,782	13,782	1.93	108.5	0.00	93.79	-	-	0.00	0.00	-	0.00
T03	13,291	13,292	2.35	108.5	0.00	93.47	-	-	0.00	0.00	-	0.00
T04	12,563	12,563	3.00	108.5	0.00	92.98	-	-	0.00	0.00	-	0.00
T05	12,658	12,658	2.92	108.5	0.00	93.05	-	-	0.00	0.00	-	0.00
T06	12,186	12,186	3.35	108.5	0.00	92.72	-	-	0.00	0.00	-	0.00
T07	11,363	11,364	4.16	108.5	0.00	92.11	-	-	0.00	0.00	-	0.00
T08	10,882	10,882	4.66	108.5	0.00	91.73	-	-	0.00	0.00	-	0.00
T09	10,314	10,314	5.29	108.5	0.00	91.27	-	-	0.00	0.00	-	0.00
T10	9,874	9,874	5.79	108.5	0.00	90.89	-	-	0.00	0.00	-	0.00
T11	13,299	13,299	2.35	108.5	0.00	93.48	-	-	0.00	0.00	-	0.00
T12	12,828	12,828	2.76	108.5	0.00	93.16	-	-	0.00	0.00	-	0.00
T13	12,005	12,005	3.53	108.5	0.00	92.59	-	-	0.00	0.00	-	0.00
T14	11,500	11,500	4.02	108.5	0.00	92.21	-	-	0.00	0.00	-	0.00
T15	12,563	12,563	3.00	108.5	0.00	92.98	-	-	0.00	0.00	-	0.00
T16	12,702	12,702	2.88	108.5	0.00	93.08	-	-	0.00	0.00	-	0.00
T17	12,107	12,107	3.43	108.5	0.00	92.66	-	-	0.00	0.00	-	0.00
T18	11,571	11,571	3.95	108.5	0.00	92.27	-	-	0.00	0.00	-	0.00
T19	10,992	10,993	4.55	108.5	0.00	91.82	-	-	0.00	0.00	-	0.00
T20	10,432	10,433	5.15	108.5	0.00	91.37	-	-	0.00	0.00	-	0.00
T21	9,995	9,996	5.65	108.5	0.00	91.00	-	-	0.00	0.00	-	0.00
T22	10,690	10,690	4.87	108.5	0.00	91.58	-	-	0.00	0.00	-	0.00
T23	10,131	10,132	5.49	108.5	0.00	91.11	-	-	0.00	0.00	-	0.00
T24	9,648	9,649	6.06	108.5	0.00	90.69	-	-	0.00	0.00	-	0.00
T25	12,497	12,497	3.06	108.5	0.00	92.94	-	-	0.00	0.00	-	0.00
T26	12,025	12,026	3.51	108.5	0.00	92.60	-	-	0.00	0.00	-	0.00
T27	11,618	11,618	3.91	108.5	0.00	92.30	-	-	0.00	0.00	-	0.00
T28	11,211	11,212	4.32	108.5	0.00	91.99	-	-	0.00	0.00	-	0.00
T29	10,550	10,550	5.02	108.5	0.00	91.47	-	-	0.00	0.00	-	0.00
T30	10,086	10,087	5.54	108.5	0.00	91.08	-	-	0.00	0.00	-	0.00
T31	9,641	9,642	6.07	108.5	0.00	90.68	-	-	0.00	0.00	-	0.00
T32	8,677	8,677	7.30	108.5	0.00	89.77	-	-	0.00	0.00	-	0.00
T33	8,218	8,219	7.94	108.5	0.00	89.30	-	-	0.00	0.00	-	0.00
T34	11,255	11,255	4.27	108.5	0.00	92.03	-	-	0.00	0.00	-	0.00
T35	11,151	11,151	4.38	108.5	0.00	91.95	-	-	0.00	0.00	-	0.00
T36	10,196	10,196	5.42	108.5	0.00	91.17	-	-	0.00	0.00	-	0.00
T37	9,479	9,479	6.27	108.5	0.00	90.54	-	-	0.00	0.00	-	0.00
T38	8,917	8,917	6.98	108.5	0.00	90.00	-	-	0.00	0.00	-	0.00
T39	11,146	11,146	4.39	108.5	0.00	91.94	-	-	0.00	0.00	-	0.00
T40	10,366	10,366	5.23	108.5	0.00	91.31	-	-	0.00	0.00	-	0.00
T41	10,413	10,413	5.17	108.5	0.00	91.35	-	-	0.00	0.00	-	0.00
T42	9,510	9,510	6.23	108.5	0.00	90.56	-	-	0.00	0.00	-	0.00
T43	8,784	8,785	7.16	108.5	0.00	89.87	-	-	0.00	0.00	-	0.00
T44	8,425	8,425	7.65	108.5	0.00	89.51	-	-	0.00	0.00	-	0.00
T45	8,196	8,196	7.97	108.5	0.00	89.27	-	-	0.00	0.00	-	0.00
T46	7,948	7,948	8.33	108.5	0.00	89.01	-	-	0.00	0.00	-	0.00
T47	7,173	7,173	9.55	108.5	0.00	88.11	-	-	0.00	0.00	-	0.00
T48 Alt	7,586	7,586	8.88	108.5	0.00	88.60	-	-	0.00	0.00	-	0.00
T49 Alt	7,325	7,325	9.30	108.5	0.00	88.30	-	-	0.00	0.00	-	0.00
T50 Alt	9,190	9,190	6.63	108.5	0.00	90.27	-	-	0.00	0.00	-	0.00
T51 Alt	9,572	9,572	6.15	108.5	0.00	90.62	-	-	0.00	0.00	-	0.00
T52 Alt	13,702	13,702	2.00	108.5	0.00	93.74	-	-	0.00	0.00	-	0.00
T53 Alt	14,199	14,199	1.59	108.5	0.00	94.05	-	-	0.00	0.00	-	0.00
T54 Alt	13,353	13,354	2.30	108.5	0.00	93.51	-	-	0.00	0.00	-	0.00
T55 Alt	12,034	12,034	3.50	108.5	0.00	92.61	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:
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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
T56 Alt	8,128	8,128	8.07	108.5	0.00	89.20	-	-	0.00	0.00	-	0.00
T57 Alt	10,955	10,955	4.59	108.5	0.00	91.79	-	-	0.00	0.00	-	0.00
T58 Alt	9,089	9,089	6.76	108.5	0.00	90.17	-	-	0.00	0.00	-	0.00
T59 Alt	8,804	8,805	7.13	108.5	0.00	89.89	-	-	0.00	0.00	-	0.00

Sum 23.20

- Data undefined due to calculation with octave data

Noise sensitive area: H55 Noise sensitive point: User defined (136)

WTG		95% rated power										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
T01	14,468	14,468	1.37	108.5	0.00	94.21	-	-	0.00	0.00	-	0.00
T02	13,927	13,928	1.81	108.5	0.00	93.88	-	-	0.00	0.00	-	0.00
T03	13,426	13,426	2.24	108.5	0.00	93.56	-	-	0.00	0.00	-	0.00
T04	12,683	12,683	2.89	108.5	0.00	93.06	-	-	0.00	0.00	-	0.00
T05	12,677	12,677	2.90	108.5	0.00	93.06	-	-	0.00	0.00	-	0.00
T06	12,184	12,184	3.36	108.5	0.00	92.72	-	-	0.00	0.00	-	0.00
T07	11,348	11,348	4.18	108.5	0.00	92.10	-	-	0.00	0.00	-	0.00
T08	10,964	10,965	4.58	108.5	0.00	91.80	-	-	0.00	0.00	-	0.00
T09	10,338	10,339	5.26	108.5	0.00	91.29	-	-	0.00	0.00	-	0.00
T10	9,900	9,900	5.76	108.5	0.00	90.91	-	-	0.00	0.00	-	0.00
T11	13,178	13,178	2.45	108.5	0.00	93.40	-	-	0.00	0.00	-	0.00
T12	12,715	12,715	2.86	108.5	0.00	93.09	-	-	0.00	0.00	-	0.00
T13	11,838	11,838	3.69	108.5	0.00	92.47	-	-	0.00	0.00	-	0.00
T14	11,354	11,354	4.17	108.5	0.00	92.10	-	-	0.00	0.00	-	0.00
T15	12,325	12,326	3.22	108.5	0.00	92.82	-	-	0.00	0.00	-	0.00
T16	12,377	12,377	3.17	108.5	0.00	92.85	-	-	0.00	0.00	-	0.00
T17	11,796	11,796	3.73	108.5	0.00	92.43	-	-	0.00	0.00	-	0.00
T18	11,270	11,270	4.26	108.5	0.00	92.04	-	-	0.00	0.00	-	0.00
T19	10,739	10,739	4.82	108.5	0.00	91.62	-	-	0.00	0.00	-	0.00
T20	10,163	10,163	5.46	108.5	0.00	91.14	-	-	0.00	0.00	-	0.00
T21	9,767	9,768	5.92	108.5	0.00	90.80	-	-	0.00	0.00	-	0.00
T22	10,333	10,333	5.26	108.5	0.00	91.28	-	-	0.00	0.00	-	0.00
T23	9,787	9,787	5.90	108.5	0.00	90.81	-	-	0.00	0.00	-	0.00
T24	9,316	9,316	6.47	108.5	0.00	90.38	-	-	0.00	0.00	-	0.00
T25	12,083	12,083	3.45	108.5	0.00	92.64	-	-	0.00	0.00	-	0.00
T26	11,612	11,613	3.91	108.5	0.00	92.30	-	-	0.00	0.00	-	0.00
T27	11,203	11,203	4.33	108.5	0.00	91.99	-	-	0.00	0.00	-	0.00
T28	10,787	10,788	4.76	108.5	0.00	91.66	-	-	0.00	0.00	-	0.00
T29	10,077	10,078	5.56	108.5	0.00	91.07	-	-	0.00	0.00	-	0.00
T30	9,627	9,628	6.09	108.5	0.00	90.67	-	-	0.00	0.00	-	0.00
T31	9,177	9,177	6.65	108.5	0.00	90.25	-	-	0.00	0.00	-	0.00
T32	8,236	8,236	7.91	108.5	0.00	89.31	-	-	0.00	0.00	-	0.00
T33	7,772	7,773	8.60	108.5	0.00	88.81	-	-	0.00	0.00	-	0.00
T34	10,754	10,755	4.80	108.5	0.00	91.63	-	-	0.00	0.00	-	0.00
T35	10,595	10,595	4.97	108.5	0.00	91.50	-	-	0.00	0.00	-	0.00
T36	9,645	9,646	6.07	108.5	0.00	90.69	-	-	0.00	0.00	-	0.00
T37	8,937	8,938	6.96	108.5	0.00	90.02	-	-	0.00	0.00	-	0.00
T38	8,372	8,373	7.72	108.5	0.00	89.46	-	-	0.00	0.00	-	0.00
T39	10,532	10,532	5.04	108.5	0.00	91.45	-	-	0.00	0.00	-	0.00
T40	9,741	9,741	5.95	108.5	0.00	90.77	-	-	0.00	0.00	-	0.00
T41	9,730	9,730	5.96	108.5	0.00	90.76	-	-	0.00	0.00	-	0.00
T42	8,891	8,891	7.02	108.5	0.00	89.98	-	-	0.00	0.00	-	0.00
T43	8,180	8,180	7.99	108.5	0.00	89.26	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:
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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T44	7,732	7,732	8.66	108.5	0.00	88.77	-	-	0.00	0.00	-	0.00
T45	7,466	7,466	9.07	108.5	0.00	88.46	-	-	0.00	0.00	-	0.00
T46	7,345	7,345	9.26	108.5	0.00	88.32	-	-	0.00	0.00	-	0.00
T47	6,618	6,618	10.50	108.5	0.00	87.42	-	-	0.00	0.00	-	0.00
T48 Alt	6,877	6,877	10.05	108.5	0.00	87.75	-	-	0.00	0.00	-	0.00
T49 Alt	6,580	6,581	10.57	108.5	0.00	87.37	-	-	0.00	0.00	-	0.00
T50 Alt	8,917	8,917	6.98	108.5	0.00	90.00	-	-	0.00	0.00	-	0.00
T51 Alt	9,340	9,340	6.44	108.5	0.00	90.41	-	-	0.00	0.00	-	0.00
T52 Alt	13,704	13,705	2.00	108.5	0.00	93.74	-	-	0.00	0.00	-	0.00
T53 Alt	14,268	14,268	1.53	108.5	0.00	94.09	-	-	0.00	0.00	-	0.00
T54 Alt	13,310	13,310	2.34	108.5	0.00	93.48	-	-	0.00	0.00	-	0.00
T55 Alt	11,956	11,956	3.57	108.5	0.00	92.55	-	-	0.00	0.00	-	0.00
T56 Alt	7,592	7,593	8.87	108.5	0.00	88.61	-	-	0.00	0.00	-	0.00
T57 Alt	10,931	10,932	4.61	108.5	0.00	91.77	-	-	0.00	0.00	-	0.00
T58 Alt	8,965	8,965	6.92	108.5	0.00	90.05	-	-	0.00	0.00	-	0.00
T59 Alt	8,646	8,647	7.34	108.5	0.00	89.74	-	-	0.00	0.00	-	0.00

Sum 23.74

- Data undefined due to calculation with octave data

Noise sensitive area: H56 Noise sensitive point: User defined (137)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	13,700	13,701	2.00	108.5	0.00	93.73	-	-	0.00	0.00	-	0.00
T02	13,155	13,155	2.47	108.5	0.00	93.38	-	-	0.00	0.00	-	0.00
T03	12,652	12,652	2.92	108.5	0.00	93.04	-	-	0.00	0.00	-	0.00
T04	11,907	11,907	3.62	108.5	0.00	92.52	-	-	0.00	0.00	-	0.00
T05	11,890	11,890	3.64	108.5	0.00	92.50	-	-	0.00	0.00	-	0.00
T06	11,396	11,396	4.13	108.5	0.00	92.13	-	-	0.00	0.00	-	0.00
T07	10,559	10,559	5.01	108.5	0.00	91.47	-	-	0.00	0.00	-	0.00
T08	10,184	10,184	5.43	108.5	0.00	91.16	-	-	0.00	0.00	-	0.00
T09	9,552	9,553	6.18	108.5	0.00	90.60	-	-	0.00	0.00	-	0.00
T10	9,114	9,115	6.73	108.5	0.00	90.19	-	-	0.00	0.00	-	0.00
T11	12,388	12,388	3.16	108.5	0.00	92.86	-	-	0.00	0.00	-	0.00
T12	11,925	11,925	3.60	108.5	0.00	92.53	-	-	0.00	0.00	-	0.00
T13	11,051	11,051	4.49	108.5	0.00	91.87	-	-	0.00	0.00	-	0.00
T14	10,565	10,565	5.01	108.5	0.00	91.48	-	-	0.00	0.00	-	0.00
T15	11,545	11,545	3.98	108.5	0.00	92.25	-	-	0.00	0.00	-	0.00
T16	11,611	11,611	3.91	108.5	0.00	92.30	-	-	0.00	0.00	-	0.00
T17	11,027	11,027	4.51	108.5	0.00	91.85	-	-	0.00	0.00	-	0.00
T18	10,498	10,499	5.08	108.5	0.00	91.42	-	-	0.00	0.00	-	0.00
T19	9,959	9,960	5.69	108.5	0.00	90.97	-	-	0.00	0.00	-	0.00
T20	9,386	9,386	6.38	108.5	0.00	90.45	-	-	0.00	0.00	-	0.00
T21	8,984	8,985	6.89	108.5	0.00	90.07	-	-	0.00	0.00	-	0.00
T22	9,572	9,573	6.15	108.5	0.00	90.62	-	-	0.00	0.00	-	0.00
T23	9,023	9,024	6.84	108.5	0.00	90.11	-	-	0.00	0.00	-	0.00
T24	8,549	8,550	7.47	108.5	0.00	89.64	-	-	0.00	0.00	-	0.00
T25	11,339	11,339	4.19	108.5	0.00	92.09	-	-	0.00	0.00	-	0.00
T26	10,868	10,868	4.68	108.5	0.00	91.72	-	-	0.00	0.00	-	0.00
T27	10,459	10,459	5.12	108.5	0.00	91.39	-	-	0.00	0.00	-	0.00
T28	10,045	10,046	5.59	108.5	0.00	91.04	-	-	0.00	0.00	-	0.00
T29	9,350	9,351	6.43	108.5	0.00	90.42	-	-	0.00	0.00	-	0.00
T30	8,895	8,896	7.01	108.5	0.00	89.98	-	-	0.00	0.00	-	0.00
T31	8,446	8,447	7.62	108.5	0.00	89.53	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

Description:
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Calculated:
 6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	7,496	7,497	9.02	108.5	0.00	88.50	-	-	0.00	0.00	-	0.00
T33	7,034	7,034	9.78	108.5	0.00	87.94	-	-	0.00	0.00	-	0.00
T34	10,039	10,039	5.60	108.5	0.00	91.03	-	-	0.00	0.00	-	0.00
T35	9,902	9,902	5.76	108.5	0.00	90.91	-	-	0.00	0.00	-	0.00
T36	8,949	8,950	6.94	108.5	0.00	90.04	-	-	0.00	0.00	-	0.00
T37	8,236	8,237	7.91	108.5	0.00	89.32	-	-	0.00	0.00	-	0.00
T38	7,672	7,672	8.75	108.5	0.00	88.70	-	-	0.00	0.00	-	0.00
T39	9,868	9,868	5.80	108.5	0.00	90.88	-	-	0.00	0.00	-	0.00
T40	9,082	9,082	6.77	108.5	0.00	90.16	-	-	0.00	0.00	-	0.00
T41	9,106	9,106	6.74	108.5	0.00	90.19	-	-	0.00	0.00	-	0.00
T42	8,228	8,228	7.92	108.5	0.00	89.31	-	-	0.00	0.00	-	0.00
T43	7,508	7,509	9.00	108.5	0.00	88.51	-	-	0.00	0.00	-	0.00
T44	7,112	7,113	9.65	108.5	0.00	88.04	-	-	0.00	0.00	-	0.00
T45	6,873	6,873	10.05	108.5	0.00	87.74	-	-	0.00	0.00	-	0.00
T46	6,671	6,672	10.41	108.5	0.00	87.48	-	-	0.00	0.00	-	0.00
T47	5,919	5,920	11.84	108.5	0.00	86.45	-	-	0.00	0.00	-	0.00
T48 Alt	6,268	6,268	11.15	108.5	0.00	86.94	-	-	0.00	0.00	-	0.00
T49 Alt	5,998	5,998	11.68	108.5	0.00	86.56	-	-	0.00	0.00	-	0.00
T50 Alt	8,140	8,140	8.05	108.5	0.00	89.21	-	-	0.00	0.00	-	0.00
T51 Alt	8,557	8,557	7.46	108.5	0.00	89.65	-	-	0.00	0.00	-	0.00
T52 Alt	12,916	12,916	2.68	108.5	0.00	93.22	-	-	0.00	0.00	-	0.00
T53 Alt	13,484	13,485	2.19	108.5	0.00	93.60	-	-	0.00	0.00	-	0.00
T54 Alt	12,519	12,519	3.04	108.5	0.00	92.95	-	-	0.00	0.00	-	0.00
T55 Alt	11,166	11,166	4.37	108.5	0.00	91.96	-	-	0.00	0.00	-	0.00
T56 Alt	6,887	6,887	10.03	108.5	0.00	87.76	-	-	0.00	0.00	-	0.00
T57 Alt	10,142	10,142	5.48	108.5	0.00	91.12	-	-	0.00	0.00	-	0.00
T58 Alt	8,175	8,175	8.00	108.5	0.00	89.25	-	-	0.00	0.00	-	0.00
T59 Alt	7,857	7,858	8.47	108.5	0.00	88.91	-	-	0.00	0.00	-	0.00

Sum 24.71

- Data undefined due to calculation with octave data

Noise sensitive area: H57 Noise sensitive point: User defined (138)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	14,029	14,029	1.73	108.5	0.00	93.94	-	-	0.00	0.00	-	0.00
T02	13,473	13,473	2.19	108.5	0.00	93.59	-	-	0.00	0.00	-	0.00
T03	12,967	12,967	2.64	108.5	0.00	93.26	-	-	0.00	0.00	-	0.00
T04	12,219	12,219	3.32	108.5	0.00	92.74	-	-	0.00	0.00	-	0.00
T05	12,166	12,166	3.37	108.5	0.00	92.70	-	-	0.00	0.00	-	0.00
T06	11,665	11,665	3.86	108.5	0.00	92.34	-	-	0.00	0.00	-	0.00
T07	10,825	10,825	4.73	108.5	0.00	91.69	-	-	0.00	0.00	-	0.00
T08	10,487	10,487	5.09	108.5	0.00	91.41	-	-	0.00	0.00	-	0.00
T09	9,836	9,836	5.84	108.5	0.00	90.86	-	-	0.00	0.00	-	0.00
T10	9,400	9,400	6.37	108.5	0.00	90.46	-	-	0.00	0.00	-	0.00
T11	12,608	12,608	2.96	108.5	0.00	93.01	-	-	0.00	0.00	-	0.00
T12	12,149	12,149	3.39	108.5	0.00	92.69	-	-	0.00	0.00	-	0.00
T13	11,254	11,254	4.27	108.5	0.00	92.03	-	-	0.00	0.00	-	0.00
T14	10,778	10,778	4.77	108.5	0.00	91.65	-	-	0.00	0.00	-	0.00
T15	11,716	11,716	3.81	108.5	0.00	92.38	-	-	0.00	0.00	-	0.00
T16	11,741	11,742	3.78	108.5	0.00	92.39	-	-	0.00	0.00	-	0.00
T17	11,165	11,165	4.37	108.5	0.00	91.96	-	-	0.00	0.00	-	0.00
T18	10,642	10,642	4.92	108.5	0.00	91.54	-	-	0.00	0.00	-	0.00
T19	10,127	10,127	5.50	108.5	0.00	91.11	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:
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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T20	9,547	9,547	6.18	108.5	0.00	90.60	-	-	0.00	0.00	-	0.00
T21	9,166	9,166	6.66	108.5	0.00	90.24	-	-	0.00	0.00	-	0.00
T22	9,691	9,692	6.01	108.5	0.00	90.73	-	-	0.00	0.00	-	0.00
T23	9,150	9,150	6.68	108.5	0.00	90.23	-	-	0.00	0.00	-	0.00
T24	8,683	8,683	7.29	108.5	0.00	89.77	-	-	0.00	0.00	-	0.00
T25	11,426	11,426	4.10	108.5	0.00	92.16	-	-	0.00	0.00	-	0.00
T26	10,956	10,956	4.59	108.5	0.00	91.79	-	-	0.00	0.00	-	0.00
T27	10,547	10,547	5.03	108.5	0.00	91.46	-	-	0.00	0.00	-	0.00
T28	10,129	10,130	5.50	108.5	0.00	91.11	-	-	0.00	0.00	-	0.00
T29	9,410	9,411	6.35	108.5	0.00	90.47	-	-	0.00	0.00	-	0.00
T30	8,964	8,964	6.92	108.5	0.00	90.05	-	-	0.00	0.00	-	0.00
T31	8,513	8,513	7.53	108.5	0.00	89.60	-	-	0.00	0.00	-	0.00
T32	7,578	7,578	8.89	108.5	0.00	88.59	-	-	0.00	0.00	-	0.00
T33	7,114	7,114	9.64	108.5	0.00	88.04	-	-	0.00	0.00	-	0.00
T34	10,082	10,082	5.55	108.5	0.00	91.07	-	-	0.00	0.00	-	0.00
T35	9,915	9,916	5.74	108.5	0.00	90.93	-	-	0.00	0.00	-	0.00
T36	8,967	8,967	6.92	108.5	0.00	90.05	-	-	0.00	0.00	-	0.00
T37	8,260	8,261	7.88	108.5	0.00	89.34	-	-	0.00	0.00	-	0.00
T38	7,695	7,696	8.71	108.5	0.00	88.72	-	-	0.00	0.00	-	0.00
T39	9,847	9,847	5.82	108.5	0.00	90.87	-	-	0.00	0.00	-	0.00
T40	9,055	9,056	6.80	108.5	0.00	90.14	-	-	0.00	0.00	-	0.00
T41	9,043	9,044	6.82	108.5	0.00	90.13	-	-	0.00	0.00	-	0.00
T42	8,206	8,207	7.96	108.5	0.00	89.28	-	-	0.00	0.00	-	0.00
T43	7,496	7,497	9.02	108.5	0.00	88.50	-	-	0.00	0.00	-	0.00
T44	7,045	7,046	9.76	108.5	0.00	87.96	-	-	0.00	0.00	-	0.00
T45	6,781	6,781	10.21	108.5	0.00	87.63	-	-	0.00	0.00	-	0.00
T46	6,662	6,662	10.42	108.5	0.00	87.47	-	-	0.00	0.00	-	0.00
T47	5,941	5,942	11.79	108.5	0.00	86.48	-	-	0.00	0.00	-	0.00
T48 Alt	6,190	6,191	11.30	108.5	0.00	86.83	-	-	0.00	0.00	-	0.00
T49 Alt	5,896	5,896	11.88	108.5	0.00	86.41	-	-	0.00	0.00	-	0.00
T50 Alt	8,303	8,303	7.82	108.5	0.00	89.39	-	-	0.00	0.00	-	0.00
T51 Alt	8,738	8,738	7.22	108.5	0.00	89.83	-	-	0.00	0.00	-	0.00
T52 Alt	13,184	13,184	2.45	108.5	0.00	93.40	-	-	0.00	0.00	-	0.00
T53 Alt	13,776	13,776	1.94	108.5	0.00	93.78	-	-	0.00	0.00	-	0.00
T54 Alt	12,770	12,770	2.81	108.5	0.00	93.12	-	-	0.00	0.00	-	0.00
T55 Alt	11,405	11,406	4.12	108.5	0.00	92.14	-	-	0.00	0.00	-	0.00
T56 Alt	6,918	6,918	9.98	108.5	0.00	87.80	-	-	0.00	0.00	-	0.00
T57 Alt	10,406	10,406	5.18	108.5	0.00	91.35	-	-	0.00	0.00	-	0.00
T58 Alt	8,404	8,404	7.68	108.5	0.00	89.49	-	-	0.00	0.00	-	0.00
T59 Alt	8,074	8,074	8.15	108.5	0.00	89.14	-	-	0.00	0.00	-	0.00

Sum 24.63

- Data undefined due to calculation with octave data

Noise sensitive area: H58 Noise sensitive point: User defined (139)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	13,472	13,472	2.20	108.5	0.00	93.59	-	-	0.00	0.00	-	0.00
T02	12,918	12,918	2.68	108.5	0.00	93.22	-	-	0.00	0.00	-	0.00
T03	12,413	12,413	3.14	108.5	0.00	92.88	-	-	0.00	0.00	-	0.00
T04	11,666	11,666	3.86	108.5	0.00	92.34	-	-	0.00	0.00	-	0.00
T05	11,626	11,626	3.90	108.5	0.00	92.31	-	-	0.00	0.00	-	0.00
T06	11,128	11,128	4.40	108.5	0.00	91.93	-	-	0.00	0.00	-	0.00
T07	10,289	10,289	5.31	108.5	0.00	91.25	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

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 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

Description:
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 Calculated:
 6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T08	9,937	9,937	5.72	108.5	0.00	90.95	-	-	0.00	0.00	-	0.00
T09	9,293	9,293	6.50	108.5	0.00	90.36	-	-	0.00	0.00	-	0.00
T10	8,856	8,856	7.06	108.5	0.00	89.94	-	-	0.00	0.00	-	0.00
T11	12,097	12,097	3.44	108.5	0.00	92.65	-	-	0.00	0.00	-	0.00
T12	11,635	11,635	3.89	108.5	0.00	92.32	-	-	0.00	0.00	-	0.00
T13	10,753	10,753	4.80	108.5	0.00	91.63	-	-	0.00	0.00	-	0.00
T14	10,271	10,271	5.33	108.5	0.00	91.23	-	-	0.00	0.00	-	0.00
T15	11,236	11,236	4.29	108.5	0.00	92.01	-	-	0.00	0.00	-	0.00
T16	11,291	11,291	4.24	108.5	0.00	92.05	-	-	0.00	0.00	-	0.00
T17	10,709	10,709	4.85	108.5	0.00	91.59	-	-	0.00	0.00	-	0.00
T18	10,182	10,182	5.44	108.5	0.00	91.16	-	-	0.00	0.00	-	0.00
T19	9,649	9,650	6.06	108.5	0.00	90.69	-	-	0.00	0.00	-	0.00
T20	9,074	9,074	6.78	108.5	0.00	90.16	-	-	0.00	0.00	-	0.00
T21	8,678	8,679	7.30	108.5	0.00	89.77	-	-	0.00	0.00	-	0.00
T22	9,250	9,250	6.55	108.5	0.00	90.32	-	-	0.00	0.00	-	0.00
T23	8,702	8,703	7.27	108.5	0.00	89.79	-	-	0.00	0.00	-	0.00
T24	8,230	8,230	7.92	108.5	0.00	89.31	-	-	0.00	0.00	-	0.00
T25	11,011	11,011	4.53	108.5	0.00	91.84	-	-	0.00	0.00	-	0.00
T26	10,540	10,540	5.03	108.5	0.00	91.46	-	-	0.00	0.00	-	0.00
T27	10,131	10,131	5.49	108.5	0.00	91.11	-	-	0.00	0.00	-	0.00
T28	9,717	9,717	5.98	108.5	0.00	90.75	-	-	0.00	0.00	-	0.00
T29	9,018	9,019	6.85	108.5	0.00	90.10	-	-	0.00	0.00	-	0.00
T30	8,564	8,565	7.45	108.5	0.00	89.65	-	-	0.00	0.00	-	0.00
T31	8,115	8,116	8.09	108.5	0.00	89.19	-	-	0.00	0.00	-	0.00
T32	7,167	7,167	9.55	108.5	0.00	88.11	-	-	0.00	0.00	-	0.00
T33	6,704	6,704	10.35	108.5	0.00	87.53	-	-	0.00	0.00	-	0.00
T34	9,705	9,706	5.99	108.5	0.00	90.74	-	-	0.00	0.00	-	0.00
T35	9,567	9,568	6.16	108.5	0.00	90.62	-	-	0.00	0.00	-	0.00
T36	8,614	8,615	7.39	108.5	0.00	89.70	-	-	0.00	0.00	-	0.00
T37	7,902	7,902	8.40	108.5	0.00	88.96	-	-	0.00	0.00	-	0.00
T38	7,337	7,338	9.28	108.5	0.00	88.31	-	-	0.00	0.00	-	0.00
T39	9,533	9,533	6.20	108.5	0.00	90.58	-	-	0.00	0.00	-	0.00
T40	8,747	8,748	7.21	108.5	0.00	89.84	-	-	0.00	0.00	-	0.00
T41	8,774	8,774	7.17	108.5	0.00	89.86	-	-	0.00	0.00	-	0.00
T42	7,893	7,894	8.41	108.5	0.00	88.95	-	-	0.00	0.00	-	0.00
T43	7,173	7,174	9.54	108.5	0.00	88.11	-	-	0.00	0.00	-	0.00
T44	6,781	6,782	10.21	108.5	0.00	87.63	-	-	0.00	0.00	-	0.00
T45	6,545	6,545	10.63	108.5	0.00	87.32	-	-	0.00	0.00	-	0.00
T46	6,336	6,337	11.02	108.5	0.00	87.04	-	-	0.00	0.00	-	0.00
T47	5,585	5,585	12.53	108.5	0.00	85.94	-	-	0.00	0.00	-	0.00
T48 Alt	5,938	5,938	11.80	108.5	0.00	86.47	-	-	0.00	0.00	-	0.00
T49 Alt	5,672	5,672	12.35	108.5	0.00	86.07	-	-	0.00	0.00	-	0.00
T50 Alt	7,828	7,828	8.51	108.5	0.00	88.87	-	-	0.00	0.00	-	0.00
T51 Alt	8,251	8,251	7.89	108.5	0.00	89.33	-	-	0.00	0.00	-	0.00
T52 Alt	12,648	12,648	2.92	108.5	0.00	93.04	-	-	0.00	0.00	-	0.00
T53 Alt	13,230	13,230	2.41	108.5	0.00	93.43	-	-	0.00	0.00	-	0.00
T54 Alt	12,242	12,242	3.30	108.5	0.00	92.76	-	-	0.00	0.00	-	0.00
T55 Alt	10,883	10,883	4.66	108.5	0.00	91.74	-	-	0.00	0.00	-	0.00
T56 Alt	6,553	6,553	10.62	108.5	0.00	87.33	-	-	0.00	0.00	-	0.00
T57 Alt	9,871	9,871	5.80	108.5	0.00	90.89	-	-	0.00	0.00	-	0.00
T58 Alt	7,887	7,887	8.42	108.5	0.00	88.94	-	-	0.00	0.00	-	0.00
T59 Alt	7,564	7,564	8.92	108.5	0.00	88.58	-	-	0.00	0.00	-	0.00

Sum 25.18
 - Data undefined due to calculation with octave data

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

Noise sensitive area: H59 Noise sensitive point: User defined (140)

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	13,912	13,913	1.82	108.5	0.00	93.87	-	-	0.00	0.00	-	0.00
T02	13,364	13,364	2.29	108.5	0.00	93.52	-	-	0.00	0.00	-	0.00
T03	12,861	12,861	2.73	108.5	0.00	93.19	-	-	0.00	0.00	-	0.00
T04	12,115	12,115	3.42	108.5	0.00	92.67	-	-	0.00	0.00	-	0.00
T05	12,089	12,089	3.45	108.5	0.00	92.65	-	-	0.00	0.00	-	0.00
T06	11,593	11,593	3.93	108.5	0.00	92.28	-	-	0.00	0.00	-	0.00
T07	10,755	10,755	4.80	108.5	0.00	91.63	-	-	0.00	0.00	-	0.00
T08	10,390	10,390	5.20	108.5	0.00	91.33	-	-	0.00	0.00	-	0.00
T09	9,753	9,754	5.94	108.5	0.00	90.78	-	-	0.00	0.00	-	0.00
T10	9,316	9,316	6.47	108.5	0.00	90.38	-	-	0.00	0.00	-	0.00
T11	12,571	12,571	3.00	108.5	0.00	92.99	-	-	0.00	0.00	-	0.00
T12	12,109	12,109	3.43	108.5	0.00	92.66	-	-	0.00	0.00	-	0.00
T13	11,228	11,228	4.30	108.5	0.00	92.01	-	-	0.00	0.00	-	0.00
T14	10,745	10,746	4.81	108.5	0.00	91.62	-	-	0.00	0.00	-	0.00
T15	11,712	11,712	3.81	108.5	0.00	92.37	-	-	0.00	0.00	-	0.00
T16	11,763	11,764	3.76	108.5	0.00	92.41	-	-	0.00	0.00	-	0.00
T17	11,182	11,182	4.35	108.5	0.00	91.97	-	-	0.00	0.00	-	0.00
T18	10,655	10,656	4.91	108.5	0.00	91.55	-	-	0.00	0.00	-	0.00
T19	10,125	10,125	5.50	108.5	0.00	91.11	-	-	0.00	0.00	-	0.00
T20	9,549	9,549	6.18	108.5	0.00	90.60	-	-	0.00	0.00	-	0.00
T21	9,154	9,155	6.67	108.5	0.00	90.23	-	-	0.00	0.00	-	0.00
T22	9,720	9,721	5.97	108.5	0.00	90.75	-	-	0.00	0.00	-	0.00
T23	9,174	9,174	6.65	108.5	0.00	90.25	-	-	0.00	0.00	-	0.00
T24	8,702	8,703	7.27	108.5	0.00	89.79	-	-	0.00	0.00	-	0.00
T25	11,475	11,475	4.05	108.5	0.00	92.20	-	-	0.00	0.00	-	0.00
T26	11,004	11,004	4.53	108.5	0.00	91.83	-	-	0.00	0.00	-	0.00
T27	10,595	10,595	4.97	108.5	0.00	91.50	-	-	0.00	0.00	-	0.00
T28	10,180	10,180	5.44	108.5	0.00	91.16	-	-	0.00	0.00	-	0.00
T29	9,475	9,476	6.27	108.5	0.00	90.53	-	-	0.00	0.00	-	0.00
T30	9,023	9,024	6.84	108.5	0.00	90.11	-	-	0.00	0.00	-	0.00
T31	8,573	8,574	7.44	108.5	0.00	89.66	-	-	0.00	0.00	-	0.00
T32	7,629	7,630	8.82	108.5	0.00	88.65	-	-	0.00	0.00	-	0.00
T33	7,166	7,166	9.56	108.5	0.00	88.11	-	-	0.00	0.00	-	0.00
T34	10,157	10,157	5.46	108.5	0.00	91.14	-	-	0.00	0.00	-	0.00
T35	10,008	10,008	5.64	108.5	0.00	91.01	-	-	0.00	0.00	-	0.00
T36	9,057	9,057	6.80	108.5	0.00	90.14	-	-	0.00	0.00	-	0.00
T37	8,346	8,347	7.76	108.5	0.00	89.43	-	-	0.00	0.00	-	0.00
T38	7,781	7,782	8.58	108.5	0.00	88.82	-	-	0.00	0.00	-	0.00
T39	9,959	9,959	5.69	108.5	0.00	90.96	-	-	0.00	0.00	-	0.00
T40	9,171	9,171	6.65	108.5	0.00	90.25	-	-	0.00	0.00	-	0.00
T41	9,178	9,179	6.64	108.5	0.00	90.26	-	-	0.00	0.00	-	0.00
T42	8,318	8,319	7.80	108.5	0.00	89.40	-	-	0.00	0.00	-	0.00
T43	7,602	7,603	8.86	108.5	0.00	88.62	-	-	0.00	0.00	-	0.00
T44	7,182	7,182	9.53	108.5	0.00	88.13	-	-	0.00	0.00	-	0.00
T45	6,930	6,931	9.95	108.5	0.00	87.82	-	-	0.00	0.00	-	0.00
T46	6,766	6,767	10.24	108.5	0.00	87.61	-	-	0.00	0.00	-	0.00
T47	6,027	6,028	11.62	108.5	0.00	86.60	-	-	0.00	0.00	-	0.00
T48 Alt	6,332	6,332	11.03	108.5	0.00	87.03	-	-	0.00	0.00	-	0.00
T49 Alt	6,050	6,051	11.57	108.5	0.00	86.64	-	-	0.00	0.00	-	0.00
T50 Alt	8,303	8,303	7.82	108.5	0.00	89.39	-	-	0.00	0.00	-	0.00
T51 Alt	8,727	8,727	7.23	108.5	0.00	89.82	-	-	0.00	0.00	-	0.00
T52 Alt	13,113	13,113	2.51	108.5	0.00	93.35	-	-	0.00	0.00	-	0.00
T53 Alt	13,688	13,688	2.01	108.5	0.00	93.73	-	-	0.00	0.00	-	0.00
T54 Alt	12,711	12,712	2.87	108.5	0.00	93.08	-	-	0.00	0.00	-	0.00
T55 Alt	11,354	11,355	4.17	108.5	0.00	92.10	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:

20131290 Rolette Power Development

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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results**Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s**

...continued from previous page

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T56 Alt	6,999	6,999	9.84	108.5	0.00	87.90	-	-	0.00	0.00	-	0.00
T57 Alt	10,338	10,338	5.26	108.5	0.00	91.29	-	-	0.00	0.00	-	0.00
T58 Alt	8,360	8,360	7.74	108.5	0.00	89.44	-	-	0.00	0.00	-	0.00
T59 Alt	8,038	8,038	8.20	108.5	0.00	89.10	-	-	0.00	0.00	-	0.00

Sum 24.54

- Data undefined due to calculation with octave data

Noise sensitive area: H60 Noise sensitive point: User defined (141)

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	13,983	13,983	1.77	108.5	0.00	93.91	-	-	0.00	0.00	-	0.00
T02	13,433	13,433	2.23	108.5	0.00	93.56	-	-	0.00	0.00	-	0.00
T03	12,928	12,929	2.67	108.5	0.00	93.23	-	-	0.00	0.00	-	0.00
T04	12,182	12,183	3.36	108.5	0.00	92.71	-	-	0.00	0.00	-	0.00
T05	12,149	12,149	3.39	108.5	0.00	92.69	-	-	0.00	0.00	-	0.00
T06	11,651	11,651	3.87	108.5	0.00	92.33	-	-	0.00	0.00	-	0.00
T07	10,813	10,813	4.74	108.5	0.00	91.68	-	-	0.00	0.00	-	0.00
T08	10,455	10,455	5.13	108.5	0.00	91.39	-	-	0.00	0.00	-	0.00
T09	9,814	9,815	5.86	108.5	0.00	90.84	-	-	0.00	0.00	-	0.00
T10	9,377	9,378	6.39	108.5	0.00	90.44	-	-	0.00	0.00	-	0.00
T11	12,619	12,619	2.95	108.5	0.00	93.02	-	-	0.00	0.00	-	0.00
T12	12,158	12,158	3.38	108.5	0.00	92.70	-	-	0.00	0.00	-	0.00
T13	11,273	11,273	4.26	108.5	0.00	92.04	-	-	0.00	0.00	-	0.00
T14	10,792	10,793	4.76	108.5	0.00	91.66	-	-	0.00	0.00	-	0.00
T15	11,750	11,750	3.78	108.5	0.00	92.40	-	-	0.00	0.00	-	0.00
T16	11,793	11,793	3.73	108.5	0.00	92.43	-	-	0.00	0.00	-	0.00
T17	11,213	11,214	4.32	108.5	0.00	91.99	-	-	0.00	0.00	-	0.00
T18	10,688	10,688	4.87	108.5	0.00	91.58	-	-	0.00	0.00	-	0.00
T19	10,162	10,162	5.46	108.5	0.00	91.14	-	-	0.00	0.00	-	0.00
T20	9,585	9,585	6.14	108.5	0.00	90.63	-	-	0.00	0.00	-	0.00
T21	9,195	9,195	6.62	108.5	0.00	90.27	-	-	0.00	0.00	-	0.00
T22	9,748	9,748	5.94	108.5	0.00	90.78	-	-	0.00	0.00	-	0.00
T23	9,203	9,203	6.61	108.5	0.00	90.28	-	-	0.00	0.00	-	0.00
T24	8,733	8,733	7.23	108.5	0.00	89.82	-	-	0.00	0.00	-	0.00
T25	11,496	11,496	4.03	108.5	0.00	92.21	-	-	0.00	0.00	-	0.00
T26	11,025	11,026	4.51	108.5	0.00	91.85	-	-	0.00	0.00	-	0.00
T27	10,616	10,617	4.95	108.5	0.00	91.52	-	-	0.00	0.00	-	0.00
T28	10,200	10,201	5.41	108.5	0.00	91.17	-	-	0.00	0.00	-	0.00
T29	9,490	9,491	6.25	108.5	0.00	90.55	-	-	0.00	0.00	-	0.00
T30	9,041	9,041	6.82	108.5	0.00	90.12	-	-	0.00	0.00	-	0.00
T31	8,590	8,591	7.42	108.5	0.00	89.68	-	-	0.00	0.00	-	0.00
T32	7,649	7,649	8.78	108.5	0.00	88.67	-	-	0.00	0.00	-	0.00
T33	7,185	7,186	9.52	108.5	0.00	88.13	-	-	0.00	0.00	-	0.00
T34	10,169	10,169	5.45	108.5	0.00	91.15	-	-	0.00	0.00	-	0.00
T35	10,014	10,014	5.63	108.5	0.00	91.01	-	-	0.00	0.00	-	0.00
T36	9,063	9,064	6.79	108.5	0.00	90.15	-	-	0.00	0.00	-	0.00
T37	8,354	8,355	7.75	108.5	0.00	89.44	-	-	0.00	0.00	-	0.00
T38	7,789	7,789	8.57	108.5	0.00	88.83	-	-	0.00	0.00	-	0.00
T39	9,958	9,958	5.69	108.5	0.00	90.96	-	-	0.00	0.00	-	0.00
T40	9,168	9,168	6.66	108.5	0.00	90.25	-	-	0.00	0.00	-	0.00
T41	9,168	9,169	6.66	108.5	0.00	90.25	-	-	0.00	0.00	-	0.00
T42	8,317	8,317	7.80	108.5	0.00	89.40	-	-	0.00	0.00	-	0.00
T43	7,603	7,603	8.86	108.5	0.00	88.62	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:
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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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95% rated power												
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T44	7,171	7,172	9.55	108.5	0.00	88.11	-	-	0.00	0.00	-	0.00
T45	6,914	6,915	9.98	108.5	0.00	87.80	-	-	0.00	0.00	-	0.00
T46	6,767	6,768	10.24	108.5	0.00	87.61	-	-	0.00	0.00	-	0.00
T47	6,035	6,035	11.60	108.5	0.00	86.61	-	-	0.00	0.00	-	0.00
T48 Alt	6,319	6,319	11.05	108.5	0.00	87.01	-	-	0.00	0.00	-	0.00
T49 Alt	6,032	6,033	11.61	108.5	0.00	86.61	-	-	0.00	0.00	-	0.00
T50 Alt	8,340	8,340	7.77	108.5	0.00	89.42	-	-	0.00	0.00	-	0.00
T51 Alt	8,767	8,767	7.18	108.5	0.00	89.86	-	-	0.00	0.00	-	0.00
T52 Alt	13,171	13,171	2.46	108.5	0.00	93.39	-	-	0.00	0.00	-	0.00
T53 Alt	13,751	13,751	1.96	108.5	0.00	93.77	-	-	0.00	0.00	-	0.00
T54 Alt	12,766	12,766	2.82	108.5	0.00	93.12	-	-	0.00	0.00	-	0.00
T55 Alt	11,407	11,407	4.12	108.5	0.00	92.14	-	-	0.00	0.00	-	0.00
T56 Alt	7,008	7,009	9.82	108.5	0.00	87.91	-	-	0.00	0.00	-	0.00
T57 Alt	10,395	10,395	5.20	108.5	0.00	91.34	-	-	0.00	0.00	-	0.00
T58 Alt	8,410	8,410	7.67	108.5	0.00	89.50	-	-	0.00	0.00	-	0.00
T59 Alt	8,086	8,086	8.13	108.5	0.00	89.15	-	-	0.00	0.00	-	0.00
Sum	24.52											

- Data undefined due to calculation with octave data

Noise sensitive area: H61 Noise sensitive point: User defined (142)

95% rated power												
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	13,888	13,889	1.84	108.5	0.00	93.85	-	-	0.00	0.00	-	0.00
T02	13,336	13,337	2.31	108.5	0.00	93.50	-	-	0.00	0.00	-	0.00
T03	12,832	12,832	2.76	108.5	0.00	93.17	-	-	0.00	0.00	-	0.00
T04	12,085	12,085	3.45	108.5	0.00	92.65	-	-	0.00	0.00	-	0.00
T05	12,046	12,046	3.49	108.5	0.00	92.62	-	-	0.00	0.00	-	0.00
T06	11,548	11,548	3.98	108.5	0.00	92.25	-	-	0.00	0.00	-	0.00
T07	10,709	10,709	4.85	108.5	0.00	91.60	-	-	0.00	0.00	-	0.00
T08	10,356	10,357	5.24	108.5	0.00	91.30	-	-	0.00	0.00	-	0.00
T09	9,713	9,714	5.98	108.5	0.00	90.75	-	-	0.00	0.00	-	0.00
T10	9,276	9,277	6.52	108.5	0.00	90.35	-	-	0.00	0.00	-	0.00
T11	12,512	12,512	3.05	108.5	0.00	92.95	-	-	0.00	0.00	-	0.00
T12	12,051	12,051	3.48	108.5	0.00	92.62	-	-	0.00	0.00	-	0.00
T13	11,164	11,164	4.37	108.5	0.00	91.96	-	-	0.00	0.00	-	0.00
T14	10,684	10,685	4.88	108.5	0.00	91.58	-	-	0.00	0.00	-	0.00
T15	11,640	11,640	3.88	108.5	0.00	92.32	-	-	0.00	0.00	-	0.00
T16	11,682	11,682	3.84	108.5	0.00	92.35	-	-	0.00	0.00	-	0.00
T17	11,102	11,102	4.43	108.5	0.00	91.91	-	-	0.00	0.00	-	0.00
T18	10,577	10,577	4.99	108.5	0.00	91.49	-	-	0.00	0.00	-	0.00
T19	10,052	10,052	5.58	108.5	0.00	91.05	-	-	0.00	0.00	-	0.00
T20	9,474	9,475	6.27	108.5	0.00	90.53	-	-	0.00	0.00	-	0.00
T21	9,085	9,085	6.76	108.5	0.00	90.17	-	-	0.00	0.00	-	0.00
T22	9,636	9,637	6.08	108.5	0.00	90.68	-	-	0.00	0.00	-	0.00
T23	9,092	9,092	6.75	108.5	0.00	90.17	-	-	0.00	0.00	-	0.00
T24	8,621	8,622	7.38	108.5	0.00	89.71	-	-	0.00	0.00	-	0.00
T25	11,384	11,385	4.14	108.5	0.00	92.13	-	-	0.00	0.00	-	0.00
T26	10,914	10,914	4.63	108.5	0.00	91.76	-	-	0.00	0.00	-	0.00
T27	10,505	10,505	5.07	108.5	0.00	91.43	-	-	0.00	0.00	-	0.00
T28	10,089	10,090	5.54	108.5	0.00	91.08	-	-	0.00	0.00	-	0.00
T29	9,380	9,380	6.39	108.5	0.00	90.44	-	-	0.00	0.00	-	0.00
T30	8,929	8,930	6.96	108.5	0.00	90.02	-	-	0.00	0.00	-	0.00
T31	8,479	8,480	7.57	108.5	0.00	89.57	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	7,538	7,538	8.96	108.5	0.00	88.55	-	-	0.00	0.00	-	0.00
T33	7,074	7,075	9.71	108.5	0.00	87.99	-	-	0.00	0.00	-	0.00
T34	10,059	10,059	5.58	108.5	0.00	91.05	-	-	0.00	0.00	-	0.00
T35	9,904	9,905	5.76	108.5	0.00	90.92	-	-	0.00	0.00	-	0.00
T36	8,954	8,954	6.93	108.5	0.00	90.04	-	-	0.00	0.00	-	0.00
T37	8,244	8,245	7.90	108.5	0.00	89.32	-	-	0.00	0.00	-	0.00
T38	7,679	7,680	8.74	108.5	0.00	88.71	-	-	0.00	0.00	-	0.00
T39	9,850	9,851	5.82	108.5	0.00	90.87	-	-	0.00	0.00	-	0.00
T40	9,061	9,061	6.79	108.5	0.00	90.14	-	-	0.00	0.00	-	0.00
T41	9,064	9,065	6.79	108.5	0.00	90.15	-	-	0.00	0.00	-	0.00
T42	8,209	8,210	7.95	108.5	0.00	89.29	-	-	0.00	0.00	-	0.00
T43	7,495	7,496	9.02	108.5	0.00	88.50	-	-	0.00	0.00	-	0.00
T44	7,067	7,068	9.72	108.5	0.00	87.99	-	-	0.00	0.00	-	0.00
T45	6,813	6,813	10.16	108.5	0.00	87.67	-	-	0.00	0.00	-	0.00
T46	6,659	6,660	10.43	108.5	0.00	87.47	-	-	0.00	0.00	-	0.00
T47	5,925	5,926	11.82	108.5	0.00	86.45	-	-	0.00	0.00	-	0.00
T48 Alt	6,216	6,217	11.25	108.5	0.00	86.87	-	-	0.00	0.00	-	0.00
T49 Alt	5,932	5,932	11.81	108.5	0.00	86.46	-	-	0.00	0.00	-	0.00
T50 Alt	8,229	8,230	7.92	108.5	0.00	89.31	-	-	0.00	0.00	-	0.00
T51 Alt	8,657	8,657	7.33	108.5	0.00	89.75	-	-	0.00	0.00	-	0.00
T52 Alt	13,068	13,068	2.55	108.5	0.00	93.32	-	-	0.00	0.00	-	0.00
T53 Alt	13,650	13,651	2.04	108.5	0.00	93.70	-	-	0.00	0.00	-	0.00
T54 Alt	12,661	12,661	2.91	108.5	0.00	93.05	-	-	0.00	0.00	-	0.00
T55 Alt	11,301	11,301	4.23	108.5	0.00	92.06	-	-	0.00	0.00	-	0.00
T56 Alt	6,898	6,899	10.01	108.5	0.00	87.78	-	-	0.00	0.00	-	0.00
T57 Alt	10,291	10,291	5.31	108.5	0.00	91.25	-	-	0.00	0.00	-	0.00
T58 Alt	8,303	8,303	7.82	108.5	0.00	89.39	-	-	0.00	0.00	-	0.00
T59 Alt	7,978	7,978	8.29	108.5	0.00	89.04	-	-	0.00	0.00	-	0.00
Sum	24.67											

- Data undefined due to calculation with octave data

Noise sensitive area: H62 Noise sensitive point: User defined (143)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	13,957	13,957	1.79	108.5	0.00	93.90	-	-	0.00	0.00	-	0.00
T02	13,403	13,403	2.25	108.5	0.00	93.54	-	-	0.00	0.00	-	0.00
T03	12,898	12,898	2.70	108.5	0.00	93.21	-	-	0.00	0.00	-	0.00
T04	12,151	12,151	3.39	108.5	0.00	92.69	-	-	0.00	0.00	-	0.00
T05	12,106	12,106	3.43	108.5	0.00	92.66	-	-	0.00	0.00	-	0.00
T06	11,606	11,607	3.92	108.5	0.00	92.29	-	-	0.00	0.00	-	0.00
T07	10,767	10,767	4.79	108.5	0.00	91.64	-	-	0.00	0.00	-	0.00
T08	10,421	10,421	5.17	108.5	0.00	91.36	-	-	0.00	0.00	-	0.00
T09	9,774	9,774	5.91	108.5	0.00	90.80	-	-	0.00	0.00	-	0.00
T10	9,337	9,338	6.44	108.5	0.00	90.40	-	-	0.00	0.00	-	0.00
T11	12,561	12,562	3.00	108.5	0.00	92.98	-	-	0.00	0.00	-	0.00
T12	12,101	12,101	3.44	108.5	0.00	92.66	-	-	0.00	0.00	-	0.00
T13	11,211	11,211	4.32	108.5	0.00	91.99	-	-	0.00	0.00	-	0.00
T14	10,733	10,733	4.82	108.5	0.00	91.61	-	-	0.00	0.00	-	0.00
T15	11,681	11,681	3.84	108.5	0.00	92.35	-	-	0.00	0.00	-	0.00
T16	11,716	11,716	3.81	108.5	0.00	92.38	-	-	0.00	0.00	-	0.00
T17	11,138	11,138	4.39	108.5	0.00	91.94	-	-	0.00	0.00	-	0.00
T18	10,613	10,614	4.95	108.5	0.00	91.52	-	-	0.00	0.00	-	0.00
T19	10,092	10,093	5.54	108.5	0.00	91.08	-	-	0.00	0.00	-	0.00

To be continued on next page...

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20131290 Rolette Power Development

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T20	9,514	9,514	6.22	108.5	0.00	90.57	-	-	0.00	0.00	-	0.00
T21	9,128	9,128	6.71	108.5	0.00	90.21	-	-	0.00	0.00	-	0.00
T22	9,668	9,669	6.04	108.5	0.00	90.71	-	-	0.00	0.00	-	0.00
T23	9,125	9,126	6.71	108.5	0.00	90.21	-	-	0.00	0.00	-	0.00
T24	8,656	8,657	7.33	108.5	0.00	89.75	-	-	0.00	0.00	-	0.00
T25	11,410	11,411	4.11	108.5	0.00	92.15	-	-	0.00	0.00	-	0.00
T26	10,940	10,941	4.60	108.5	0.00	91.78	-	-	0.00	0.00	-	0.00
T27	10,531	10,532	5.04	108.5	0.00	91.45	-	-	0.00	0.00	-	0.00
T28	10,115	10,115	5.51	108.5	0.00	91.10	-	-	0.00	0.00	-	0.00
T29	9,401	9,401	6.36	108.5	0.00	90.46	-	-	0.00	0.00	-	0.00
T30	8,952	8,953	6.94	108.5	0.00	90.04	-	-	0.00	0.00	-	0.00
T31	8,502	8,502	7.54	108.5	0.00	89.59	-	-	0.00	0.00	-	0.00
T32	7,563	7,563	8.92	108.5	0.00	88.57	-	-	0.00	0.00	-	0.00
T33	7,099	7,100	9.67	108.5	0.00	88.02	-	-	0.00	0.00	-	0.00
T34	10,077	10,077	5.56	108.5	0.00	91.07	-	-	0.00	0.00	-	0.00
T35	9,917	9,917	5.74	108.5	0.00	90.93	-	-	0.00	0.00	-	0.00
T36	8,967	8,968	6.92	108.5	0.00	90.05	-	-	0.00	0.00	-	0.00
T37	8,259	8,259	7.88	108.5	0.00	89.34	-	-	0.00	0.00	-	0.00
T38	7,694	7,694	8.72	108.5	0.00	88.72	-	-	0.00	0.00	-	0.00
T39	9,857	9,857	5.81	108.5	0.00	90.87	-	-	0.00	0.00	-	0.00
T40	9,066	9,067	6.79	108.5	0.00	90.15	-	-	0.00	0.00	-	0.00
T41	9,062	9,063	6.79	108.5	0.00	90.15	-	-	0.00	0.00	-	0.00
T42	8,216	8,216	7.94	108.5	0.00	89.29	-	-	0.00	0.00	-	0.00
T43	7,503	7,504	9.01	108.5	0.00	88.51	-	-	0.00	0.00	-	0.00
T44	7,065	7,065	9.72	108.5	0.00	87.98	-	-	0.00	0.00	-	0.00
T45	6,806	6,806	10.17	108.5	0.00	87.66	-	-	0.00	0.00	-	0.00
T46	6,668	6,668	10.41	108.5	0.00	87.48	-	-	0.00	0.00	-	0.00
T47	5,940	5,940	11.79	108.5	0.00	86.48	-	-	0.00	0.00	-	0.00
T48 Alt	6,212	6,212	11.26	108.5	0.00	86.87	-	-	0.00	0.00	-	0.00
T49 Alt	5,923	5,923	11.83	108.5	0.00	86.45	-	-	0.00	0.00	-	0.00
T50 Alt	8,269	8,270	7.87	108.5	0.00	89.35	-	-	0.00	0.00	-	0.00
T51 Alt	8,700	8,701	7.27	108.5	0.00	89.79	-	-	0.00	0.00	-	0.00
T52 Alt	13,126	13,126	2.50	108.5	0.00	93.36	-	-	0.00	0.00	-	0.00
T53 Alt	13,712	13,713	1.99	108.5	0.00	93.74	-	-	0.00	0.00	-	0.00
T54 Alt	12,716	12,716	2.86	108.5	0.00	93.09	-	-	0.00	0.00	-	0.00
T55 Alt	11,354	11,354	4.17	108.5	0.00	92.10	-	-	0.00	0.00	-	0.00
T56 Alt	6,914	6,915	9.98	108.5	0.00	87.80	-	-	0.00	0.00	-	0.00
T57 Alt	10,349	10,349	5.25	108.5	0.00	91.30	-	-	0.00	0.00	-	0.00
T58 Alt	8,355	8,355	7.75	108.5	0.00	89.44	-	-	0.00	0.00	-	0.00
T59 Alt	8,027	8,028	8.22	108.5	0.00	89.09	-	-	0.00	0.00	-	0.00

Sum 24.64

- Data undefined due to calculation with octave data

Noise sensitive area: H63 Noise sensitive point: User defined (144)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	13,050	13,050	2.56	108.5	0.00	93.31	-	-	0.00	0.00	-	0.00
T02	12,483	12,484	3.08	108.5	0.00	92.93	-	-	0.00	0.00	-	0.00
T03	11,975	11,975	3.56	108.5	0.00	92.57	-	-	0.00	0.00	-	0.00
T04	11,224	11,224	4.31	108.5	0.00	92.00	-	-	0.00	0.00	-	0.00
T05	11,143	11,143	4.39	108.5	0.00	91.94	-	-	0.00	0.00	-	0.00
T06	10,638	10,638	4.93	108.5	0.00	91.54	-	-	0.00	0.00	-	0.00
T07	9,797	9,797	5.88	108.5	0.00	90.82	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

Description:
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 6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

No.	Distance [m]	Sound distance [m]	95% rated power									
			WTG	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
T08	9,485	9,485	6.26	108.5	0.00	90.54	-	-	0.00	0.00	-	0.00
T09	8,819	8,820	7.11	108.5	0.00	89.91	-	-	0.00	0.00	-	0.00
T10	8,385	8,385	7.70	108.5	0.00	89.47	-	-	0.00	0.00	-	0.00
T11	11,565	11,565	3.96	108.5	0.00	92.26	-	-	0.00	0.00	-	0.00
T12	11,106	11,106	4.43	108.5	0.00	91.91	-	-	0.00	0.00	-	0.00
T13	10,209	10,209	5.40	108.5	0.00	91.18	-	-	0.00	0.00	-	0.00
T14	9,734	9,735	5.96	108.5	0.00	90.77	-	-	0.00	0.00	-	0.00
T15	10,673	10,674	4.89	108.5	0.00	91.57	-	-	0.00	0.00	-	0.00
T16	10,710	10,710	4.85	108.5	0.00	91.60	-	-	0.00	0.00	-	0.00
T17	10,130	10,131	5.49	108.5	0.00	91.11	-	-	0.00	0.00	-	0.00
T18	9,606	9,606	6.11	108.5	0.00	90.65	-	-	0.00	0.00	-	0.00
T19	9,084	9,085	6.76	108.5	0.00	90.17	-	-	0.00	0.00	-	0.00
T20	8,506	8,506	7.53	108.5	0.00	89.59	-	-	0.00	0.00	-	0.00
T21	8,122	8,122	8.08	108.5	0.00	89.19	-	-	0.00	0.00	-	0.00
T22	8,664	8,665	7.32	108.5	0.00	89.76	-	-	0.00	0.00	-	0.00
T23	8,119	8,120	8.08	108.5	0.00	89.19	-	-	0.00	0.00	-	0.00
T24	7,650	7,650	8.78	108.5	0.00	88.67	-	-	0.00	0.00	-	0.00
T25	10,416	10,417	5.17	108.5	0.00	91.35	-	-	0.00	0.00	-	0.00
T26	9,945	9,946	5.71	108.5	0.00	90.95	-	-	0.00	0.00	-	0.00
T27	9,536	9,537	6.20	108.5	0.00	90.59	-	-	0.00	0.00	-	0.00
T28	9,122	9,122	6.72	108.5	0.00	90.20	-	-	0.00	0.00	-	0.00
T29	8,419	8,420	7.65	108.5	0.00	89.51	-	-	0.00	0.00	-	0.00
T30	7,966	7,967	8.30	108.5	0.00	89.03	-	-	0.00	0.00	-	0.00
T31	7,516	7,517	8.99	108.5	0.00	88.52	-	-	0.00	0.00	-	0.00
T32	6,571	6,571	10.59	108.5	0.00	87.35	-	-	0.00	0.00	-	0.00
T33	6,108	6,108	11.46	108.5	0.00	86.72	-	-	0.00	0.00	-	0.00
T34	9,104	9,105	6.74	108.5	0.00	90.19	-	-	0.00	0.00	-	0.00
T35	8,965	8,965	6.92	108.5	0.00	90.05	-	-	0.00	0.00	-	0.00
T36	8,012	8,013	8.24	108.5	0.00	89.08	-	-	0.00	0.00	-	0.00
T37	7,300	7,300	9.34	108.5	0.00	88.27	-	-	0.00	0.00	-	0.00
T38	6,735	6,735	10.29	108.5	0.00	87.57	-	-	0.00	0.00	-	0.00
T39	8,933	8,933	6.96	108.5	0.00	90.02	-	-	0.00	0.00	-	0.00
T40	8,148	8,149	8.04	108.5	0.00	89.22	-	-	0.00	0.00	-	0.00
T41	8,182	8,182	7.99	108.5	0.00	89.26	-	-	0.00	0.00	-	0.00
T42	7,294	7,294	9.35	108.5	0.00	88.26	-	-	0.00	0.00	-	0.00
T43	6,573	6,573	10.58	108.5	0.00	87.36	-	-	0.00	0.00	-	0.00
T44	6,192	6,193	11.30	108.5	0.00	86.84	-	-	0.00	0.00	-	0.00
T45	5,965	5,965	11.74	108.5	0.00	86.51	-	-	0.00	0.00	-	0.00
T46	5,736	5,736	12.21	108.5	0.00	86.17	-	-	0.00	0.00	-	0.00
T47	4,982	4,983	13.91	108.5	0.00	84.95	-	-	0.00	0.00	-	0.00
T48 Alt	5,354	5,354	13.04	108.5	0.00	85.57	-	-	0.00	0.00	-	0.00
T49 Alt	5,097	5,098	13.63	108.5	0.00	85.15	-	-	0.00	0.00	-	0.00
T50 Alt	7,261	7,262	9.40	108.5	0.00	88.22	-	-	0.00	0.00	-	0.00
T51 Alt	7,694	7,694	8.72	108.5	0.00	88.72	-	-	0.00	0.00	-	0.00
T52 Alt	12,156	12,156	3.38	108.5	0.00	92.70	-	-	0.00	0.00	-	0.00
T53 Alt	12,762	12,763	2.82	108.5	0.00	93.12	-	-	0.00	0.00	-	0.00
T54 Alt	11,735	11,735	3.79	108.5	0.00	92.39	-	-	0.00	0.00	-	0.00
T55 Alt	10,367	10,367	5.23	108.5	0.00	91.31	-	-	0.00	0.00	-	0.00
T56 Alt	5,950	5,951	11.77	108.5	0.00	86.49	-	-	0.00	0.00	-	0.00
T57 Alt	9,377	9,377	6.39	108.5	0.00	90.44	-	-	0.00	0.00	-	0.00
T58 Alt	7,364	7,364	9.23	108.5	0.00	88.34	-	-	0.00	0.00	-	0.00
T59 Alt	7,031	7,031	9.78	108.5	0.00	87.94	-	-	0.00	0.00	-	0.00

Sum 26.10

- Data undefined due to calculation with octave data

Project:
20131290 Rolette Power Development

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 Warren Enyart and Merle Boucher
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 Finley, ND 58230

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

Noise sensitive area: H64 Noise sensitive point: User defined (145)

WTG No.	Distance		95% rated power									
	[m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	11,579	11,579	3.95	108.5	0.00	92.27	-	-	0.00	0.00	-	0.00
T02	11,019	11,019	4.52	108.5	0.00	91.84	-	-	0.00	0.00	-	0.00
T03	10,512	10,513	5.06	108.5	0.00	91.43	-	-	0.00	0.00	-	0.00
T04	9,764	9,764	5.92	108.5	0.00	90.79	-	-	0.00	0.00	-	0.00
T05	9,723	9,723	5.97	108.5	0.00	90.76	-	-	0.00	0.00	-	0.00
T06	9,228	9,228	6.58	108.5	0.00	90.30	-	-	0.00	0.00	-	0.00
T07	8,390	8,391	7.70	108.5	0.00	89.48	-	-	0.00	0.00	-	0.00
T08	8,032	8,033	8.21	108.5	0.00	89.10	-	-	0.00	0.00	-	0.00
T09	7,388	7,388	9.19	108.5	0.00	88.37	-	-	0.00	0.00	-	0.00
T10	6,951	6,951	9.92	108.5	0.00	87.84	-	-	0.00	0.00	-	0.00
T11	10,235	10,235	5.38	108.5	0.00	91.20	-	-	0.00	0.00	-	0.00
T12	9,769	9,769	5.92	108.5	0.00	90.80	-	-	0.00	0.00	-	0.00
T13	8,913	8,913	6.99	108.5	0.00	90.00	-	-	0.00	0.00	-	0.00
T14	8,419	8,419	7.66	108.5	0.00	89.51	-	-	0.00	0.00	-	0.00
T15	9,445	9,445	6.31	108.5	0.00	90.50	-	-	0.00	0.00	-	0.00
T16	9,577	9,577	6.15	108.5	0.00	90.62	-	-	0.00	0.00	-	0.00
T17	8,981	8,981	6.90	108.5	0.00	90.07	-	-	0.00	0.00	-	0.00
T18	8,445	8,446	7.62	108.5	0.00	89.53	-	-	0.00	0.00	-	0.00
T19	7,870	7,870	8.45	108.5	0.00	88.92	-	-	0.00	0.00	-	0.00
T20	7,307	7,308	9.32	108.5	0.00	88.28	-	-	0.00	0.00	-	0.00
T21	6,877	6,878	10.04	108.5	0.00	87.75	-	-	0.00	0.00	-	0.00
T22	7,573	7,573	8.90	108.5	0.00	88.59	-	-	0.00	0.00	-	0.00
T23	7,012	7,013	9.81	108.5	0.00	87.92	-	-	0.00	0.00	-	0.00
T24	6,527	6,528	10.67	108.5	0.00	87.30	-	-	0.00	0.00	-	0.00
T25	9,398	9,399	6.37	108.5	0.00	90.46	-	-	0.00	0.00	-	0.00
T26	8,927	8,928	6.97	108.5	0.00	90.02	-	-	0.00	0.00	-	0.00
T27	8,521	8,522	7.51	108.5	0.00	89.61	-	-	0.00	0.00	-	0.00
T28	8,121	8,122	8.08	108.5	0.00	89.19	-	-	0.00	0.00	-	0.00
T29	7,496	7,497	9.02	108.5	0.00	88.50	-	-	0.00	0.00	-	0.00
T30	7,025	7,026	9.79	108.5	0.00	87.93	-	-	0.00	0.00	-	0.00
T31	6,587	6,588	10.56	108.5	0.00	87.38	-	-	0.00	0.00	-	0.00
T32	5,612	5,612	12.48	108.5	0.00	85.98	-	-	0.00	0.00	-	0.00
T33	5,162	5,163	13.48	108.5	0.00	85.26	-	-	0.00	0.00	-	0.00
T34	8,222	8,223	7.93	108.5	0.00	89.30	-	-	0.00	0.00	-	0.00
T35	8,178	8,178	8.00	108.5	0.00	89.25	-	-	0.00	0.00	-	0.00
T36	7,227	7,227	9.46	108.5	0.00	88.18	-	-	0.00	0.00	-	0.00
T37	6,508	6,509	10.70	108.5	0.00	87.27	-	-	0.00	0.00	-	0.00
T38	5,958	5,958	11.76	108.5	0.00	86.50	-	-	0.00	0.00	-	0.00
T39	8,254	8,255	7.89	108.5	0.00	89.33	-	-	0.00	0.00	-	0.00
T40	7,505	7,505	9.01	108.5	0.00	88.51	-	-	0.00	0.00	-	0.00
T41	7,660	7,660	8.77	108.5	0.00	88.68	-	-	0.00	0.00	-	0.00
T42	6,654	6,655	10.44	108.5	0.00	87.46	-	-	0.00	0.00	-	0.00
T43	5,919	5,919	11.84	108.5	0.00	86.45	-	-	0.00	0.00	-	0.00
T44	5,748	5,749	12.19	108.5	0.00	86.19	-	-	0.00	0.00	-	0.00
T45	5,623	5,623	12.45	108.5	0.00	86.00	-	-	0.00	0.00	-	0.00
T46	5,103	5,104	13.62	108.5	0.00	85.16	-	-	0.00	0.00	-	0.00
T47	4,271	4,272	15.77	108.5	0.00	83.61	-	-	0.00	0.00	-	0.00
T48 Alt	4,990	4,991	13.89	108.5	0.00	84.96	-	-	0.00	0.00	-	0.00
T49 Alt	4,842	4,842	14.25	108.5	0.00	84.70	-	-	0.00	0.00	-	0.00
T50 Alt	6,064	6,065	11.55	108.5	0.00	86.66	-	-	0.00	0.00	-	0.00
T51 Alt	6,452	6,453	10.80	108.5	0.00	87.19	-	-	0.00	0.00	-	0.00
T52 Alt	10,748	10,748	4.81	108.5	0.00	91.63	-	-	0.00	0.00	-	0.00
T53 Alt	11,324	11,325	4.20	108.5	0.00	92.08	-	-	0.00	0.00	-	0.00
T54 Alt	10,352	10,352	5.24	108.5	0.00	91.30	-	-	0.00	0.00	-	0.00
T55 Alt	9,002	9,002	6.87	108.5	0.00	90.09	-	-	0.00	0.00	-	0.00

To be continued on next page...

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T56 Alt	5,171	5,172	13.46	108.5	0.00	85.27	-	-	0.00	0.00	-	0.00
T57 Alt	7,974	7,974	8.29	108.5	0.00	89.03	-	-	0.00	0.00	-	0.00
T58 Alt	6,019	6,019	11.64	108.5	0.00	86.59	-	-	0.00	0.00	-	0.00
T59 Alt	5,713	5,713	12.26	108.5	0.00	86.14	-	-	0.00	0.00	-	0.00

Sum 27.61

- Data undefined due to calculation with octave data

Noise sensitive area: H65 Noise sensitive point: User defined (146)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	11,982	11,983	3.55	108.5	0.00	92.57	-	-	0.00	0.00	-	0.00
T02	11,379	11,380	4.15	108.5	0.00	92.12	-	-	0.00	0.00	-	0.00
T03	10,864	10,864	4.68	108.5	0.00	91.72	-	-	0.00	0.00	-	0.00
T04	10,107	10,107	5.52	108.5	0.00	91.09	-	-	0.00	0.00	-	0.00
T05	9,895	9,896	5.77	108.5	0.00	90.91	-	-	0.00	0.00	-	0.00
T06	9,373	9,373	6.40	108.5	0.00	90.44	-	-	0.00	0.00	-	0.00
T07	8,529	8,529	7.50	108.5	0.00	89.62	-	-	0.00	0.00	-	0.00
T08	8,353	8,354	7.75	108.5	0.00	89.44	-	-	0.00	0.00	-	0.00
T09	7,625	7,626	8.82	108.5	0.00	88.65	-	-	0.00	0.00	-	0.00
T10	7,205	7,206	9.49	108.5	0.00	88.15	-	-	0.00	0.00	-	0.00
T11	10,157	10,158	5.46	108.5	0.00	91.14	-	-	0.00	0.00	-	0.00
T12	9,711	9,711	5.99	108.5	0.00	90.75	-	-	0.00	0.00	-	0.00
T13	8,769	8,770	7.18	108.5	0.00	89.86	-	-	0.00	0.00	-	0.00
T14	8,321	8,321	7.79	108.5	0.00	89.40	-	-	0.00	0.00	-	0.00
T15	9,168	9,168	6.66	108.5	0.00	90.25	-	-	0.00	0.00	-	0.00
T16	9,143	9,143	6.69	108.5	0.00	90.22	-	-	0.00	0.00	-	0.00
T17	8,574	8,575	7.44	108.5	0.00	89.66	-	-	0.00	0.00	-	0.00
T18	8,059	8,059	8.17	108.5	0.00	89.13	-	-	0.00	0.00	-	0.00
T19	7,578	7,578	8.89	108.5	0.00	88.59	-	-	0.00	0.00	-	0.00
T20	6,991	6,992	9.85	108.5	0.00	87.89	-	-	0.00	0.00	-	0.00
T21	6,648	6,648	10.45	108.5	0.00	87.45	-	-	0.00	0.00	-	0.00
T22	7,086	7,087	9.69	108.5	0.00	88.01	-	-	0.00	0.00	-	0.00
T23	6,552	6,553	10.62	108.5	0.00	87.33	-	-	0.00	0.00	-	0.00
T24	6,093	6,094	11.49	108.5	0.00	86.70	-	-	0.00	0.00	-	0.00
T25	8,805	8,805	7.13	108.5	0.00	89.89	-	-	0.00	0.00	-	0.00
T26	8,335	8,336	7.77	108.5	0.00	89.42	-	-	0.00	0.00	-	0.00
T27	7,926	7,927	8.36	108.5	0.00	88.98	-	-	0.00	0.00	-	0.00
T28	7,508	7,509	9.00	108.5	0.00	88.51	-	-	0.00	0.00	-	0.00
T29	6,790	6,791	10.20	108.5	0.00	87.64	-	-	0.00	0.00	-	0.00
T30	6,342	6,343	11.01	108.5	0.00	87.05	-	-	0.00	0.00	-	0.00
T31	5,891	5,892	11.89	108.5	0.00	86.41	-	-	0.00	0.00	-	0.00
T32	4,957	4,957	13.97	108.5	0.00	84.90	-	-	0.00	0.00	-	0.00
T33	4,493	4,493	15.16	108.5	0.00	84.05	-	-	0.00	0.00	-	0.00
T34	7,469	7,469	9.07	108.5	0.00	88.47	-	-	0.00	0.00	-	0.00
T35	7,325	7,326	9.30	108.5	0.00	88.30	-	-	0.00	0.00	-	0.00
T36	6,373	6,373	10.95	108.5	0.00	87.09	-	-	0.00	0.00	-	0.00
T37	5,660	5,661	12.37	108.5	0.00	86.06	-	-	0.00	0.00	-	0.00
T38	5,095	5,096	13.64	108.5	0.00	85.15	-	-	0.00	0.00	-	0.00
T39	7,301	7,302	9.33	108.5	0.00	88.27	-	-	0.00	0.00	-	0.00
T40	6,521	6,521	10.68	108.5	0.00	87.29	-	-	0.00	0.00	-	0.00
T41	6,581	6,582	10.57	108.5	0.00	87.37	-	-	0.00	0.00	-	0.00
T42	5,665	5,666	12.36	108.5	0.00	86.07	-	-	0.00	0.00	-	0.00
T43	4,940	4,941	14.01	108.5	0.00	84.88	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project: 20131290 Rolette Power Development Rolette Power Development, LLC Warren Enyart and Merle Boucher 602 Lincoln Ave S Finley, ND 58230	Description: EAPC does not warrant, guarantee, or make any such representations regarding the contents of this report. EAPC cannot be held liable for erroneous results caused by errors or omissions in the delivered data, or inaccuracy, limitations, or malfunctioning of models or software used. For any claim whatsoever related to the subject matter of this report, the liability of EAPC for actual damages, regardless of the form of action, shall be limited to the total amount paid to EAPC for the services provided as part of this consultancy service.	Printed/Page: 6/28/2015 12:02 AM / 87 Licensed user: EAPC Wind Energy 3100 DeMers Avenue US-GRAND FORKS, ND 58201 +1 701 775 3000 wind@eapc.net Calculated: 6/26/2015 11:20 PM/2.9.285
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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		95% rated power												
No.	Distance	Sound distance	Calculated	LwA.ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet		
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]		
T44	4,606	4,607	14.86	108.5	0.00	84.27	-	-	0.00	0.00	-	0.00		
T45	4,416	4,416	15.37	108.5	0.00	83.90	-	-	0.00	0.00	-	0.00		
T46	4,103	4,104	16.25	108.5	0.00	83.26	-	-	0.00	0.00	-	0.00		
T47	3,343	3,344	18.71	108.5	0.00	81.49	-	-	0.00	0.00	-	0.00		
T48 Alt	3,790	3,791	17.21	108.5	0.00	82.58	-	-	0.00	0.00	-	0.00		
T49 Alt	3,580	3,581	17.89	108.5	0.00	82.08	-	-	0.00	0.00	-	0.00		
T50 Alt	5,757	5,758	12.17	108.5	0.00	86.21	-	-	0.00	0.00	-	0.00		
T51 Alt	6,222	6,222	11.24	108.5	0.00	86.88	-	-	0.00	0.00	-	0.00		
T52 Alt	10,876	10,876	4.67	108.5	0.00	91.73	-	-	0.00	0.00	-	0.00		
T53 Alt	11,554	11,555	3.97	108.5	0.00	92.26	-	-	0.00	0.00	-	0.00		
T54 Alt	10,406	10,407	5.18	108.5	0.00	91.35	-	-	0.00	0.00	-	0.00		
T55 Alt	9,018	9,018	6.85	108.5	0.00	90.10	-	-	0.00	0.00	-	0.00		
T56 Alt	4,311	4,312	15.65	108.5	0.00	83.69	-	-	0.00	0.00	-	0.00		
T57 Alt	8,108	8,108	8.10	108.5	0.00	89.18	-	-	0.00	0.00	-	0.00		
T58 Alt	6,017	6,017	11.64	108.5	0.00	86.59	-	-	0.00	0.00	-	0.00		
T59 Alt	5,651	5,652	12.39	108.5	0.00	86.04	-	-	0.00	0.00	-	0.00		
Sum			29.20											

- Data undefined due to calculation with octave data

Noise sensitive area: H66 Noise sensitive point: User defined (147)

		95% rated power										
No.	Distance	Sound distance	Calculated	LwA.ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
T01	13,127	13,128	2.49	108.5	0.00	93.36	-	-	0.00	0.00	-	0.00
T02	12,531	12,531	3.03	108.5	0.00	92.96	-	-	0.00	0.00	-	0.00
T03	12,016	12,016	3.52	108.5	0.00	92.60	-	-	0.00	0.00	-	0.00
T04	11,260	11,260	4.27	108.5	0.00	92.03	-	-	0.00	0.00	-	0.00
T05	11,065	11,065	4.47	108.5	0.00	91.88	-	-	0.00	0.00	-	0.00
T06	10,543	10,543	5.03	108.5	0.00	91.46	-	-	0.00	0.00	-	0.00
T07	9,699	9,699	6.00	108.5	0.00	90.73	-	-	0.00	0.00	-	0.00
T08	9,507	9,507	6.23	108.5	0.00	90.56	-	-	0.00	0.00	-	0.00
T09	8,788	8,788	7.15	108.5	0.00	89.88	-	-	0.00	0.00	-	0.00
T10	8,365	8,365	7.73	108.5	0.00	89.45	-	-	0.00	0.00	-	0.00
T11	11,322	11,322	4.20	108.5	0.00	92.08	-	-	0.00	0.00	-	0.00
T12	10,878	10,878	4.67	108.5	0.00	91.73	-	-	0.00	0.00	-	0.00
T13	9,930	9,930	5.73	108.5	0.00	90.94	-	-	0.00	0.00	-	0.00
T14	9,486	9,486	6.26	108.5	0.00	90.54	-	-	0.00	0.00	-	0.00
T15	10,307	10,308	5.29	108.5	0.00	91.26	-	-	0.00	0.00	-	0.00
T16	10,245	10,245	5.36	108.5	0.00	91.21	-	-	0.00	0.00	-	0.00
T17	9,687	9,687	6.02	108.5	0.00	90.72	-	-	0.00	0.00	-	0.00
T18	9,178	9,179	6.64	108.5	0.00	90.26	-	-	0.00	0.00	-	0.00
T19	8,719	8,720	7.24	108.5	0.00	89.81	-	-	0.00	0.00	-	0.00
T20	8,130	8,131	8.07	108.5	0.00	89.20	-	-	0.00	0.00	-	0.00
T21	7,802	7,803	8.55	108.5	0.00	88.84	-	-	0.00	0.00	-	0.00
T22	8,183	8,184	7.99	108.5	0.00	89.26	-	-	0.00	0.00	-	0.00
T23	7,660	7,660	8.77	108.5	0.00	88.69	-	-	0.00	0.00	-	0.00
T24	7,211	7,212	9.48	108.5	0.00	88.16	-	-	0.00	0.00	-	0.00
T25	9,854	9,855	5.82	108.5	0.00	90.87	-	-	0.00	0.00	-	0.00
T26	9,387	9,388	6.38	108.5	0.00	90.45	-	-	0.00	0.00	-	0.00
T27	8,980	8,981	6.90	108.5	0.00	90.07	-	-	0.00	0.00	-	0.00
T28	8,558	8,558	7.46	108.5	0.00	89.65	-	-	0.00	0.00	-	0.00
T29	7,805	7,806	8.55	108.5	0.00	88.85	-	-	0.00	0.00	-	0.00
T30	7,373	7,373	9.22	108.5	0.00	88.35	-	-	0.00	0.00	-	0.00
T31	6,921	6,922	9.97	108.5	0.00	87.80	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

Description:
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	6,017	6,017	11.64	108.5	0.00	86.59	-	-	0.00	0.00	-	0.00
T33	5,555	5,555	12.60	108.5	0.00	85.89	-	-	0.00	0.00	-	0.00
T34	8,454	8,454	7.61	108.5	0.00	89.54	-	-	0.00	0.00	-	0.00
T35	8,255	8,255	7.89	108.5	0.00	89.33	-	-	0.00	0.00	-	0.00
T36	7,313	7,313	9.32	108.5	0.00	88.28	-	-	0.00	0.00	-	0.00
T37	6,615	6,615	10.51	108.5	0.00	87.41	-	-	0.00	0.00	-	0.00
T38	6,052	6,052	11.57	108.5	0.00	86.64	-	-	0.00	0.00	-	0.00
T39	8,161	8,161	8.02	108.5	0.00	89.24	-	-	0.00	0.00	-	0.00
T40	7,366	7,367	9.23	108.5	0.00	88.35	-	-	0.00	0.00	-	0.00
T41	7,340	7,340	9.27	108.5	0.00	88.31	-	-	0.00	0.00	-	0.00
T42	6,521	6,522	10.68	108.5	0.00	87.29	-	-	0.00	0.00	-	0.00
T43	5,820	5,820	12.04	108.5	0.00	86.30	-	-	0.00	0.00	-	0.00
T44	5,341	5,342	13.07	108.5	0.00	85.55	-	-	0.00	0.00	-	0.00
T45	5,074	5,075	13.69	108.5	0.00	85.11	-	-	0.00	0.00	-	0.00
T46	4,990	4,991	13.89	108.5	0.00	84.96	-	-	0.00	0.00	-	0.00
T47	4,307	4,308	15.67	108.5	0.00	83.69	-	-	0.00	0.00	-	0.00
T48 Alt	4,485	4,485	15.18	108.5	0.00	84.04	-	-	0.00	0.00	-	0.00
T49 Alt	4,190	4,191	16.00	108.5	0.00	83.45	-	-	0.00	0.00	-	0.00
T50 Alt	6,904	6,904	10.00	108.5	0.00	87.78	-	-	0.00	0.00	-	0.00
T51 Alt	7,377	7,378	9.21	108.5	0.00	88.36	-	-	0.00	0.00	-	0.00
T52 Alt	12,047	12,047	3.49	108.5	0.00	92.62	-	-	0.00	0.00	-	0.00
T53 Alt	12,721	12,721	2.86	108.5	0.00	93.09	-	-	0.00	0.00	-	0.00
T54 Alt	11,578	11,578	3.95	108.5	0.00	92.27	-	-	0.00	0.00	-	0.00
T55 Alt	10,189	10,189	5.43	108.5	0.00	91.16	-	-	0.00	0.00	-	0.00
T56 Alt	5,287	5,287	13.19	108.5	0.00	85.46	-	-	0.00	0.00	-	0.00
T57 Alt	9,278	9,278	6.52	108.5	0.00	90.35	-	-	0.00	0.00	-	0.00
T58 Alt	7,188	7,188	9.52	108.5	0.00	88.13	-	-	0.00	0.00	-	0.00
T59 Alt	6,822	6,822	10.14	108.5	0.00	87.68	-	-	0.00	0.00	-	0.00

Sum 27.24

- Data undefined due to calculation with octave data

Noise sensitive area: H67 Noise sensitive point: User defined (148)

WTG No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	13,674	13,675	2.02	108.5	0.00	93.72	-	-	0.00	0.00	-	0.00
T02	13,066	13,067	2.55	108.5	0.00	93.32	-	-	0.00	0.00	-	0.00
T03	12,550	12,550	3.01	108.5	0.00	92.97	-	-	0.00	0.00	-	0.00
T04	11,793	11,793	3.73	108.5	0.00	92.43	-	-	0.00	0.00	-	0.00
T05	11,546	11,546	3.98	108.5	0.00	92.25	-	-	0.00	0.00	-	0.00
T06	11,018	11,018	4.52	108.5	0.00	91.84	-	-	0.00	0.00	-	0.00
T07	10,176	10,176	5.44	108.5	0.00	91.15	-	-	0.00	0.00	-	0.00
T08	10,039	10,040	5.60	108.5	0.00	91.03	-	-	0.00	0.00	-	0.00
T09	9,300	9,300	6.49	108.5	0.00	90.37	-	-	0.00	0.00	-	0.00
T10	8,884	8,884	7.03	108.5	0.00	89.97	-	-	0.00	0.00	-	0.00
T11	11,715	11,715	3.81	108.5	0.00	92.37	-	-	0.00	0.00	-	0.00
T12	11,280	11,280	4.25	108.5	0.00	92.05	-	-	0.00	0.00	-	0.00
T13	10,306	10,306	5.29	108.5	0.00	91.26	-	-	0.00	0.00	-	0.00
T14	9,883	9,883	5.78	108.5	0.00	90.90	-	-	0.00	0.00	-	0.00
T15	10,629	10,629	4.94	108.5	0.00	91.53	-	-	0.00	0.00	-	0.00
T16	10,499	10,499	5.08	108.5	0.00	91.42	-	-	0.00	0.00	-	0.00
T17	9,958	9,959	5.69	108.5	0.00	90.96	-	-	0.00	0.00	-	0.00
T18	9,464	9,464	6.29	108.5	0.00	90.52	-	-	0.00	0.00	-	0.00
T19	9,049	9,050	6.81	108.5	0.00	90.13	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:

20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:

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DECIBEL - Detailed results**Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s**

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WTG**95% rated power**

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T20	8,458	8,458	7.60	108.5	0.00	89.55	-	-	0.00	0.00	-	0.00
T21	8,168	8,168	8.01	108.5	0.00	89.24	-	-	0.00	0.00	-	0.00
T22	8,438	8,438	7.63	108.5	0.00	89.53	-	-	0.00	0.00	-	0.00
T23	7,934	7,935	8.35	108.5	0.00	88.99	-	-	0.00	0.00	-	0.00
T24	7,505	7,505	9.01	108.5	0.00	88.51	-	-	0.00	0.00	-	0.00
T25	10,037	10,038	5.60	108.5	0.00	91.03	-	-	0.00	0.00	-	0.00
T26	9,576	9,577	6.15	108.5	0.00	90.62	-	-	0.00	0.00	-	0.00
T27	9,173	9,173	6.65	108.5	0.00	90.25	-	-	0.00	0.00	-	0.00
T28	8,747	8,748	7.21	108.5	0.00	89.84	-	-	0.00	0.00	-	0.00
T29	7,960	7,961	8.31	108.5	0.00	89.02	-	-	0.00	0.00	-	0.00
T30	7,548	7,549	8.94	108.5	0.00	88.56	-	-	0.00	0.00	-	0.00
T31	7,100	7,100	9.67	108.5	0.00	88.03	-	-	0.00	0.00	-	0.00
T32	6,239	6,240	11.21	108.5	0.00	86.90	-	-	0.00	0.00	-	0.00
T33	5,785	5,786	12.11	108.5	0.00	86.25	-	-	0.00	0.00	-	0.00
T34	8,572	8,573	7.44	108.5	0.00	89.66	-	-	0.00	0.00	-	0.00
T35	8,320	8,321	7.79	108.5	0.00	89.40	-	-	0.00	0.00	-	0.00
T36	7,396	7,396	9.18	108.5	0.00	88.38	-	-	0.00	0.00	-	0.00
T37	6,719	6,720	10.32	108.5	0.00	87.55	-	-	0.00	0.00	-	0.00
T38	6,164	6,165	11.35	108.5	0.00	86.80	-	-	0.00	0.00	-	0.00
T39	8,165	8,165	8.02	108.5	0.00	89.24	-	-	0.00	0.00	-	0.00
T40	7,366	7,366	9.23	108.5	0.00	88.35	-	-	0.00	0.00	-	0.00
T41	7,271	7,272	9.38	108.5	0.00	88.23	-	-	0.00	0.00	-	0.00
T42	6,539	6,540	10.64	108.5	0.00	87.31	-	-	0.00	0.00	-	0.00
T43	5,868	5,869	11.94	108.5	0.00	86.37	-	-	0.00	0.00	-	0.00
T44	5,286	5,287	13.19	108.5	0.00	85.46	-	-	0.00	0.00	-	0.00
T45	4,971	4,972	13.94	108.5	0.00	84.93	-	-	0.00	0.00	-	0.00
T46	5,060	5,060	13.72	108.5	0.00	85.08	-	-	0.00	0.00	-	0.00
T47	4,460	4,461	15.24	108.5	0.00	83.99	-	-	0.00	0.00	-	0.00
T48 Alt	4,423	4,423	15.35	108.5	0.00	83.91	-	-	0.00	0.00	-	0.00
T49 Alt	4,081	4,082	16.32	108.5	0.00	83.22	-	-	0.00	0.00	-	0.00
T50 Alt	7,253	7,254	9.41	108.5	0.00	88.21	-	-	0.00	0.00	-	0.00
T51 Alt	7,748	7,749	8.63	108.5	0.00	88.78	-	-	0.00	0.00	-	0.00
T52 Alt	12,509	12,509	3.05	108.5	0.00	92.94	-	-	0.00	0.00	-	0.00
T53 Alt	13,215	13,215	2.42	108.5	0.00	93.42	-	-	0.00	0.00	-	0.00
T54 Alt	12,017	12,017	3.52	108.5	0.00	92.60	-	-	0.00	0.00	-	0.00
T55 Alt	10,621	10,622	4.94	108.5	0.00	91.52	-	-	0.00	0.00	-	0.00
T56 Alt	5,429	5,430	12.87	108.5	0.00	85.70	-	-	0.00	0.00	-	0.00
T57 Alt	9,755	9,755	5.93	108.5	0.00	90.78	-	-	0.00	0.00	-	0.00
T58 Alt	7,640	7,640	8.80	108.5	0.00	88.66	-	-	0.00	0.00	-	0.00
T59 Alt	7,259	7,259	9.40	108.5	0.00	88.22	-	-	0.00	0.00	-	0.00

Sum 27.02

- Data undefined due to calculation with octave data

Noise sensitive area: H68 Noise sensitive point: User defined (149)**WTG****95% rated power**

No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	12,582	12,583	2.98	108.5	0.00	93.00	-	-	0.00	0.00	-	0.00
T02	11,904	11,905	3.62	108.5	0.00	92.51	-	-	0.00	0.00	-	0.00
T03	11,485	11,485	4.04	108.5	0.00	92.20	-	-	0.00	0.00	-	0.00
T04	10,920	10,921	4.62	108.5	0.00	91.76	-	-	0.00	0.00	-	0.00
T05	9,912	9,912	5.75	108.5	0.00	90.92	-	-	0.00	0.00	-	0.00
T06	9,456	9,456	6.30	108.5	0.00	90.51	-	-	0.00	0.00	-	0.00
T07	8,952	8,953	6.94	108.5	0.00	90.04	-	-	0.00	0.00	-	0.00

To be continued on next page..

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
 Warren Enyart and Merle Boucher
 602 Lincoln Ave S
 Finley, ND 58230

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 6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
T08	9,730	9,730	5.96	108.5	0.00	90.76	-	-	0.00	0.00	-	0.00
T09	8,967	8,968	6.92	108.5	0.00	90.05	-	-	0.00	0.00	-	0.00
T10	8,848	8,848	7.07	108.5	0.00	89.94	-	-	0.00	0.00	-	0.00
T11	8,744	8,744	7.21	108.5	0.00	89.83	-	-	0.00	0.00	-	0.00
T12	8,585	8,585	7.43	108.5	0.00	89.68	-	-	0.00	0.00	-	0.00
T13	7,632	7,632	8.81	108.5	0.00	88.65	-	-	0.00	0.00	-	0.00
T14	7,667	7,667	8.76	108.5	0.00	88.69	-	-	0.00	0.00	-	0.00
T15	7,091	7,092	9.68	108.5	0.00	88.02	-	-	0.00	0.00	-	0.00
T16	6,165	6,165	11.35	108.5	0.00	86.80	-	-	0.00	0.00	-	0.00
T17	6,087	6,088	11.50	108.5	0.00	86.69	-	-	0.00	0.00	-	0.00
T18	6,020	6,020	11.63	108.5	0.00	86.59	-	-	0.00	0.00	-	0.00
T19	6,389	6,390	10.92	108.5	0.00	87.11	-	-	0.00	0.00	-	0.00
T20	6,127	6,127	11.42	108.5	0.00	86.75	-	-	0.00	0.00	-	0.00
T21	6,488	6,489	10.74	108.5	0.00	87.24	-	-	0.00	0.00	-	0.00
T22	5,248	5,249	13.28	108.5	0.00	85.40	-	-	0.00	0.00	-	0.00
T23	5,350	5,351	13.05	108.5	0.00	85.57	-	-	0.00	0.00	-	0.00
T24	5,482	5,483	12.76	108.5	0.00	85.78	-	-	0.00	0.00	-	0.00
T25	5,039	5,041	13.77	108.5	0.00	85.05	-	-	0.00	0.00	-	0.00
T26	4,882	4,883	14.15	108.5	0.00	84.77	-	-	0.00	0.00	-	0.00
T27	4,756	4,757	14.47	108.5	0.00	84.55	-	-	0.00	0.00	-	0.00
T28	4,570	4,571	14.95	108.5	0.00	84.20	-	-	0.00	0.00	-	0.00
T29	3,998	3,999	16.56	108.5	0.00	83.04	-	-	0.00	0.00	-	0.00
T30	4,195	4,196	15.98	108.5	0.00	83.46	-	-	0.00	0.00	-	0.00
T31	4,235	4,237	15.87	108.5	0.00	83.54	-	-	0.00	0.00	-	0.00
T32	4,771	4,771	14.43	108.5	0.00	84.57	-	-	0.00	0.00	-	0.00
T33	4,941	4,941	14.01	108.5	0.00	84.88	-	-	0.00	0.00	-	0.00
T34	3,683	3,684	17.55	108.5	0.00	82.33	-	-	0.00	0.00	-	0.00
T35	3,019	3,020	19.91	108.5	0.00	80.60	-	-	0.00	0.00	-	0.00
T36	3,223	3,224	19.14	108.5	0.00	81.17	-	-	0.00	0.00	-	0.00
T37	3,578	3,579	17.89	108.5	0.00	82.08	-	-	0.00	0.00	-	0.00
T38	3,846	3,847	17.03	108.5	0.00	82.70	-	-	0.00	0.00	-	0.00
T39	2,300	2,301	23.19	108.5	0.00	78.24	-	-	0.00	0.00	-	0.00
T40	2,376	2,378	22.77	108.5	0.00	78.52	-	-	0.00	0.00	-	0.00
T41	1,772	1,774	26.40	108.5	0.00	75.98	-	-	0.00	0.00	-	0.00
T42	2,904	2,905	20.37	108.5	0.00	80.26	-	-	0.00	0.00	-	0.00
T43	3,510	3,511	18.13	108.5	0.00	81.91	-	-	0.00	0.00	-	0.00
T44	3,380	3,381	18.58	108.5	0.00	81.58	-	-	0.00	0.00	-	0.00
T45	3,512	3,512	18.12	108.5	0.00	81.91	-	-	0.00	0.00	-	0.00
T46	4,166	4,167	16.07	108.5	0.00	83.40	-	-	0.00	0.00	-	0.00
T47	5,009	5,010	13.84	108.5	0.00	85.00	-	-	0.00	0.00	-	0.00
T48 Alt	4,141	4,142	16.14	108.5	0.00	83.34	-	-	0.00	0.00	-	0.00
T49 Alt	4,360	4,361	15.52	108.5	0.00	83.79	-	-	0.00	0.00	-	0.00
T50 Alt	6,065	6,065	11.54	108.5	0.00	86.66	-	-	0.00	0.00	-	0.00
T51 Alt	6,423	6,424	10.86	108.5	0.00	87.16	-	-	0.00	0.00	-	0.00
T52 Alt	10,317	10,317	5.28	108.5	0.00	91.27	-	-	0.00	0.00	-	0.00
T53 Alt	11,339	11,339	4.19	108.5	0.00	92.09	-	-	0.00	4.19	-	0.00
T54 Alt	9,614	9,614	6.10	108.5	0.00	90.66	-	-	0.00	0.00	-	0.00
T55 Alt	8,593	8,593	7.42	108.5	0.00	89.68	-	-	0.00	0.00	-	0.00
T56 Alt	4,404	4,405	15.40	108.5	0.00	83.88	-	-	0.00	0.00	-	0.00
T57 Alt	8,718	8,718	7.25	108.5	0.00	89.81	-	-	0.00	0.00	-	0.00
T58 Alt	7,369	7,370	9.22	108.5	0.00	88.35	-	-	0.00	0.00	-	0.00
T59 Alt	7,073	7,073	9.71	108.5	0.00	87.99	-	-	0.00	0.00	-	0.00

Sum 33.49

- Data undefined due to calculation with octave data

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

Noise sensitive area: H69 Noise sensitive point: User defined (150)

No.	Distance [m]	Sound distance [m]	95% rated power									
			WTG Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	12,549	12,549	3.02	108.5	0.00	92.97	-	-	0.00	0.00	-	0.00
T02	11,961	11,961	3.57	108.5	0.00	92.56	-	-	0.00	0.00	-	0.00
T03	11,687	11,688	3.84	108.5	0.00	92.35	-	-	0.00	0.00	-	0.00
T04	11,365	11,365	4.16	108.5	0.00	92.11	-	-	0.00	0.00	-	0.00
T05	10,160	10,160	5.46	108.5	0.00	91.14	-	-	0.00	0.00	-	0.00
T06	9,884	9,884	5.78	108.5	0.00	90.90	-	-	0.00	0.00	-	0.00
T07	9,749	9,749	5.94	108.5	0.00	90.78	-	-	0.00	0.00	-	0.00
T08	10,806	10,807	4.74	108.5	0.00	91.67	-	-	0.00	0.00	-	0.00
T09	10,267	10,267	5.34	108.5	0.00	91.23	-	-	0.00	0.00	-	0.00
T10	10,345	10,346	5.25	108.5	0.00	91.30	-	-	0.00	0.00	-	0.00
T11	8,470	8,470	7.58	108.5	0.00	89.56	-	-	0.00	0.00	-	0.00
T12	8,563	8,563	7.46	108.5	0.00	89.65	-	-	0.00	0.00	-	0.00
T13	8,008	8,008	8.24	108.5	0.00	89.07	-	-	0.00	0.00	-	0.00
T14	8,337	8,338	7.77	108.5	0.00	89.42	-	-	0.00	0.00	-	0.00
T15	7,088	7,088	9.69	108.5	0.00	88.01	-	-	0.00	0.00	-	0.00
T16	6,022	6,023	11.63	108.5	0.00	86.60	-	-	0.00	0.00	-	0.00
T17	6,382	6,383	10.93	108.5	0.00	87.10	-	-	0.00	0.00	-	0.00
T18	6,693	6,694	10.37	108.5	0.00	87.51	-	-	0.00	0.00	-	0.00
T19	7,405	7,406	9.17	108.5	0.00	88.39	-	-	0.00	0.00	-	0.00
T20	7,519	7,520	8.99	108.5	0.00	88.52	-	-	0.00	0.00	-	0.00
T21	8,081	8,081	8.14	108.5	0.00	89.15	-	-	0.00	0.00	-	0.00
T22	6,645	6,646	10.45	108.5	0.00	87.45	-	-	0.00	0.00	-	0.00
T23	7,091	7,091	9.68	108.5	0.00	88.01	-	-	0.00	0.00	-	0.00
T24	7,489	7,490	9.03	108.5	0.00	88.49	-	-	0.00	0.00	-	0.00
T25	5,095	5,096	13.64	108.5	0.00	85.14	-	-	0.00	0.00	-	0.00
T26	5,354	5,355	13.04	108.5	0.00	85.58	-	-	0.00	0.00	-	0.00
T27	5,583	5,584	12.54	108.5	0.00	85.94	-	-	0.00	0.00	-	0.00
T28	5,764	5,765	12.15	108.5	0.00	86.22	-	-	0.00	0.00	-	0.00
T29	5,913	5,914	11.85	108.5	0.00	86.44	-	-	0.00	0.00	-	0.00
T30	6,369	6,370	10.96	108.5	0.00	87.08	-	-	0.00	0.00	-	0.00
T31	6,709	6,710	10.34	108.5	0.00	87.53	-	-	0.00	0.00	-	0.00
T32	7,635	7,636	8.81	108.5	0.00	88.66	-	-	0.00	0.00	-	0.00
T33	8,010	8,011	8.24	108.5	0.00	89.07	-	-	0.00	0.00	-	0.00
T34	5,164	5,164	13.48	108.5	0.00	85.26	-	-	0.00	0.00	-	0.00
T35	4,940	4,941	14.01	108.5	0.00	84.88	-	-	0.00	0.00	-	0.00
T36	5,837	5,838	12.00	108.5	0.00	86.32	-	-	0.00	0.00	-	0.00
T37	6,534	6,535	10.65	108.5	0.00	87.30	-	-	0.00	0.00	-	0.00
T38	7,055	7,055	9.74	108.5	0.00	87.97	-	-	0.00	0.00	-	0.00
T39	4,733	4,734	14.53	108.5	0.00	84.50	-	-	0.00	0.00	-	0.00
T40	5,476	5,477	12.77	108.5	0.00	85.77	-	-	0.00	0.00	-	0.00
T41	5,414	5,415	12.91	108.5	0.00	85.67	-	-	0.00	0.00	-	0.00
T42	6,330	6,330	11.03	108.5	0.00	87.03	-	-	0.00	0.00	-	0.00
T43	7,064	7,065	9.73	108.5	0.00	87.98	-	-	0.00	0.00	-	0.00
T44	7,412	7,413	9.16	108.5	0.00	88.40	-	-	0.00	0.00	-	0.00
T45	7,697	7,698	8.71	108.5	0.00	88.73	-	-	0.00	0.00	-	0.00
T46	7,891	7,892	8.42	108.5	0.00	88.94	-	-	0.00	0.00	-	0.00
T47	8,710	8,710	7.26	108.5	0.00	89.80	-	-	0.00	0.00	-	0.00
T48 Alt	8,270	8,270	7.87	108.5	0.00	89.35	-	-	0.00	0.00	-	0.00
T49 Alt	8,588	8,588	7.42	108.5	0.00	89.68	-	-	0.00	0.00	-	0.00
T50 Alt	8,187	8,187	7.98	108.5	0.00	89.26	-	-	0.00	0.00	-	0.00
T51 Alt	8,261	8,262	7.88	108.5	0.00	89.34	-	-	0.00	0.00	-	0.00
T52 Alt	10,097	10,097	5.53	108.5	0.00	91.08	-	-	0.00	0.00	-	0.00
T53 Alt	11,076	11,076	4.46	108.5	0.00	91.89	-	-	0.00	0.00	-	0.00
T54 Alt	9,452	9,452	6.30	108.5	0.00	90.51	-	-	0.00	0.00	-	0.00
T55 Alt	9,015	9,015	6.85	108.5	0.00	90.10	-	-	0.00	0.00	-	0.00

To be continued on next page..

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20131290 Rolette Power Development

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T56 Alt	7,827	7,827	8.51	108.5	0.00	88.87	-	-	0.00	0.00	-	0.00
T57 Alt	9,705	9,706	5.99	108.5	0.00	90.74	-	-	0.00	0.00	-	0.00
T58 Alt	9,314	9,314	6.47	108.5	0.00	90.38	-	-	0.00	0.00	-	0.00
T59 Alt	9,196	9,196	6.62	108.5	0.00	90.27	-	-	0.00	0.00	-	0.00

Sum 27.35

- Data undefined due to calculation with octave data

Noise sensitive area: H70 Noise sensitive point: User defined (151)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	11,522	11,522	4.00	108.5	0.00	92.23	-	-	0.00	0.00	-	0.00
T02	10,921	10,921	4.62	108.5	0.00	91.77	-	-	0.00	0.00	-	0.00
T03	10,633	10,633	4.93	108.5	0.00	91.53	-	-	0.00	0.00	-	0.00
T04	10,289	10,290	5.31	108.5	0.00	91.25	-	-	0.00	0.00	-	0.00
T05	9,092	9,092	6.76	108.5	0.00	90.17	-	-	0.00	0.00	-	0.00
T06	8,801	8,801	7.14	108.5	0.00	89.89	-	-	0.00	0.00	-	0.00
T07	8,646	8,646	7.34	108.5	0.00	89.74	-	-	0.00	0.00	-	0.00
T08	9,697	9,697	6.00	108.5	0.00	90.73	-	-	0.00	0.00	-	0.00
T09	9,151	9,152	6.68	108.5	0.00	90.23	-	-	0.00	0.00	-	0.00
T10	9,229	9,229	6.58	108.5	0.00	90.30	-	-	0.00	0.00	-	0.00
T11	7,431	7,432	9.13	108.5	0.00	88.42	-	-	0.00	0.00	-	0.00
T12	7,502	7,502	9.01	108.5	0.00	88.50	-	-	0.00	0.00	-	0.00
T13	6,913	6,914	9.98	108.5	0.00	87.79	-	-	0.00	0.00	-	0.00
T14	7,232	7,232	9.45	108.5	0.00	88.19	-	-	0.00	0.00	-	0.00
T15	6,007	6,008	11.66	108.5	0.00	86.57	-	-	0.00	0.00	-	0.00
T16	4,934	4,935	14.02	108.5	0.00	84.87	-	-	0.00	0.00	-	0.00
T17	5,277	5,277	13.22	108.5	0.00	85.45	-	-	0.00	0.00	-	0.00
T18	5,579	5,579	12.55	108.5	0.00	85.93	-	-	0.00	0.00	-	0.00
T19	6,289	6,289	11.11	108.5	0.00	86.97	-	-	0.00	0.00	-	0.00
T20	6,405	6,405	10.89	108.5	0.00	87.13	-	-	0.00	0.00	-	0.00
T21	6,968	6,968	9.89	108.5	0.00	87.86	-	-	0.00	0.00	-	0.00
T22	5,535	5,536	12.64	108.5	0.00	85.86	-	-	0.00	0.00	-	0.00
T23	5,990	5,991	11.69	108.5	0.00	86.55	-	-	0.00	0.00	-	0.00
T24	6,397	6,398	10.91	108.5	0.00	87.12	-	-	0.00	0.00	-	0.00
T25	3,983	3,985	16.61	108.5	0.00	83.01	-	-	0.00	0.00	-	0.00
T26	4,237	4,239	15.86	108.5	0.00	83.54	-	-	0.00	0.00	-	0.00
T27	4,468	4,470	15.22	108.5	0.00	84.01	-	-	0.00	0.00	-	0.00
T28	4,657	4,658	14.72	108.5	0.00	84.36	-	-	0.00	0.00	-	0.00
T29	4,845	4,846	14.24	108.5	0.00	84.71	-	-	0.00	0.00	-	0.00
T30	5,310	5,311	13.14	108.5	0.00	85.50	-	-	0.00	0.00	-	0.00
T31	5,668	5,669	12.36	108.5	0.00	86.07	-	-	0.00	0.00	-	0.00
T32	6,613	6,613	10.51	108.5	0.00	87.41	-	-	0.00	0.00	-	0.00
T33	7,004	7,005	9.83	108.5	0.00	87.91	-	-	0.00	0.00	-	0.00
T34	4,088	4,089	16.29	108.5	0.00	83.23	-	-	0.00	0.00	-	0.00
T35	3,919	3,920	16.80	108.5	0.00	82.87	-	-	0.00	0.00	-	0.00
T36	4,844	4,845	14.25	108.5	0.00	84.71	-	-	0.00	0.00	-	0.00
T37	5,555	5,555	12.60	108.5	0.00	85.89	-	-	0.00	0.00	-	0.00
T38	6,092	6,093	11.49	108.5	0.00	86.70	-	-	0.00	0.00	-	0.00
T39	3,798	3,799	17.18	108.5	0.00	82.59	-	-	0.00	0.00	-	0.00
T40	4,575	4,576	14.94	108.5	0.00	84.21	-	-	0.00	0.00	-	0.00
T41	4,615	4,615	14.83	108.5	0.00	84.28	-	-	0.00	0.00	-	0.00
T42	5,431	5,431	12.87	108.5	0.00	85.70	-	-	0.00	0.00	-	0.00
T43	6,158	6,158	11.36	108.5	0.00	86.79	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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Finley, ND 58230

Description:
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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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		95% rated power										
No.	Distance	Sound distance	Calculated	LwA.ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
T44	6,598	6,599	10.54	108.5	0.00	87.39	-	-	0.00	0.00	-	0.00
T45	6,921	6,921	9.97	108.5	0.00	87.80	-	-	0.00	0.00	-	0.00
T46	6,993	6,994	9.85	108.5	0.00	87.89	-	-	0.00	0.00	-	0.00
T47	7,789	7,790	8.57	108.5	0.00	88.83	-	-	0.00	0.00	-	0.00
T48 Alt	7,462	7,463	9.08	108.5	0.00	88.46	-	-	0.00	0.00	-	0.00
T49 Alt	7,807	7,808	8.54	108.5	0.00	88.85	-	-	0.00	0.00	-	0.00
T50 Alt	7,094	7,094	9.68	108.5	0.00	88.02	-	-	0.00	0.00	-	0.00
T51 Alt	7,155	7,155	9.57	108.5	0.00	88.09	-	-	0.00	0.00	-	0.00
T52 Alt	9,071	9,071	6.78	108.5	0.00	90.15	-	-	0.00	0.00	-	0.00
T53 Alt	10,063	10,063	5.57	108.5	0.00	91.05	-	-	0.00	0.00	-	0.00
T54 Alt	8,413	8,413	7.66	108.5	0.00	89.50	-	-	0.00	0.00	-	0.00
T55 Alt	7,926	7,927	8.36	108.5	0.00	88.98	-	-	0.00	0.00	-	0.00
T56 Alt	6,876	6,876	10.05	108.5	0.00	87.75	-	-	0.00	0.00	-	0.00
T57 Alt	8,595	8,596	7.41	108.5	0.00	89.69	-	-	0.00	0.00	-	0.00
T58 Alt	8,206	8,206	7.96	108.5	0.00	89.28	-	-	0.00	0.00	-	0.00
T59 Alt	8,096	8,096	8.12	108.5	0.00	89.17	-	-	0.00	0.00	-	0.00
Sum	29.47											

- Data undefined due to calculation with octave data

Noise sensitive area: H71 Noise sensitive point: User defined (152)

		95% rated power										
No.	Distance	Sound distance	Calculated	LwA.ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
	[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
T01	4,522	4,523	15.08	108.5	0.00	84.11	-	-	0.00	0.00	-	0.00
T02	4,674	4,675	14.68	108.5	0.00	84.40	-	-	0.00	0.00	-	0.00
T03	5,035	5,036	13.78	108.5	0.00	85.04	-	-	0.00	0.00	-	0.00
T04	5,638	5,638	12.42	108.5	0.00	86.02	-	-	0.00	0.00	-	0.00
T05	5,336	5,336	13.08	108.5	0.00	85.54	-	-	0.00	0.00	-	0.00
T06	5,813	5,814	12.05	108.5	0.00	86.29	-	-	0.00	0.00	-	0.00
T07	6,647	6,648	10.45	108.5	0.00	87.45	-	-	0.00	0.00	-	0.00
T08	7,157	7,158	9.57	108.5	0.00	88.10	-	-	0.00	0.00	-	0.00
T09	7,680	7,680	8.74	108.5	0.00	88.71	-	-	0.00	0.00	-	0.00
T10	8,119	8,120	8.08	108.5	0.00	89.19	-	-	0.00	0.00	-	0.00
T11	5,090	5,091	13.65	108.5	0.00	85.14	-	-	0.00	0.00	-	0.00
T12	5,484	5,484	12.75	108.5	0.00	85.78	-	-	0.00	0.00	-	0.00
T13	6,519	6,519	10.68	108.5	0.00	87.28	-	-	0.00	0.00	-	0.00
T14	6,875	6,875	10.05	108.5	0.00	87.75	-	-	0.00	0.00	-	0.00
T15	6,530	6,530	10.66	108.5	0.00	87.30	-	-	0.00	0.00	-	0.00
T16	7,223	7,224	9.46	108.5	0.00	88.18	-	-	0.00	0.00	-	0.00
T17	7,487	7,488	9.04	108.5	0.00	88.49	-	-	0.00	0.00	-	0.00
T18	7,795	7,796	8.56	108.5	0.00	88.84	-	-	0.00	0.00	-	0.00
T19	7,913	7,913	8.38	108.5	0.00	88.97	-	-	0.00	0.00	-	0.00
T20	8,478	8,479	7.57	108.5	0.00	89.57	-	-	0.00	0.00	-	0.00
T21	8,632	8,633	7.36	108.5	0.00	89.72	-	-	0.00	0.00	-	0.00
T22	8,876	8,877	7.03	108.5	0.00	89.97	-	-	0.00	0.00	-	0.00
T23	9,201	9,202	6.61	108.5	0.00	90.28	-	-	0.00	0.00	-	0.00
T24	9,503	9,504	6.24	108.5	0.00	90.56	-	-	0.00	0.00	-	0.00
T25	8,287	8,288	7.84	108.5	0.00	89.37	-	-	0.00	0.00	-	0.00
T26	8,530	8,531	7.50	108.5	0.00	89.62	-	-	0.00	0.00	-	0.00
T27	8,774	8,775	7.17	108.5	0.00	89.86	-	-	0.00	0.00	-	0.00
T28	9,107	9,108	6.73	108.5	0.00	90.19	-	-	0.00	0.00	-	0.00
T29	9,950	9,951	5.70	108.5	0.00	90.96	-	-	0.00	0.00	-	0.00
T30	10,108	10,109	5.52	108.5	0.00	91.09	-	-	0.00	0.00	-	0.00
T31	10,435	10,436	5.15	108.5	0.00	91.37	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

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Warren Enyart and Merle Boucher
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	10,926	10,927	4.62	108.5	0.00	91.77	-	-	0.00	0.00	-	0.00
T33	11,293	11,294	4.23	108.5	0.00	92.06	-	-	0.00	0.00	-	0.00
T34	9,853	9,854	5.82	108.5	0.00	90.87	-	-	0.00	0.00	-	0.00
T35	10,501	10,501	5.08	108.5	0.00	91.42	-	-	0.00	0.00	-	0.00
T36	10,884	10,885	4.66	108.5	0.00	91.74	-	-	0.00	0.00	-	0.00
T37	11,181	11,181	4.35	108.5	0.00	91.97	-	-	0.00	0.00	-	0.00
T38	11,525	11,526	4.00	108.5	0.00	92.23	-	-	0.00	0.00	-	0.00
T39	11,182	11,182	4.35	108.5	0.00	91.97	-	-	0.00	0.00	-	0.00
T40	11,596	11,597	3.93	108.5	0.00	92.29	-	-	0.00	0.00	-	0.00
T41	12,254	12,255	3.29	108.5	0.00	92.77	-	-	0.00	0.00	-	0.00
T42	11,888	11,888	3.64	108.5	0.00	92.50	-	-	0.00	0.00	-	0.00
T43	12,102	12,102	3.43	108.5	0.00	92.66	-	-	0.00	0.00	-	0.00
T44	13,070	13,071	2.55	108.5	0.00	93.33	-	-	0.00	0.00	-	0.00
T45	13,521	13,521	2.15	108.5	0.00	93.62	-	-	0.00	0.00	-	0.00
T46	12,543	12,544	3.02	108.5	0.00	92.97	-	-	0.00	0.00	-	0.00
T47	12,689	12,689	2.89	108.5	0.00	93.07	-	-	0.00	0.00	-	0.00
T48 Alt	13,584	13,585	2.10	108.5	0.00	93.66	-	-	0.00	0.00	-	0.00
T49 Alt	13,999	13,999	1.75	108.5	0.00	93.92	-	-	0.00	0.00	-	0.00
T50 Alt	9,560	9,560	6.17	108.5	0.00	90.61	-	-	0.00	0.00	-	0.00
T51 Alt	9,031	9,031	6.83	108.5	0.00	90.11	-	-	0.00	0.00	-	0.00
T52 Alt	4,293	4,294	15.70	108.5	0.00	83.66	-	-	0.00	0.00	-	0.00
T53 Alt	3,899	3,900	16.86	108.5	0.00	82.82	-	-	0.00	0.00	-	0.00
T54 Alt	4,714	4,714	14.58	108.5	0.00	84.47	-	-	0.00	0.00	-	0.00
T55 Alt	6,105	6,105	11.47	108.5	0.00	86.71	-	-	0.00	0.00	-	0.00
T56 Alt	11,938	11,939	3.59	108.5	0.00	92.54	-	-	0.00	0.00	-	0.00
T57 Alt	7,064	7,065	9.73	108.5	0.00	87.98	-	-	0.00	0.00	-	0.00
T58 Alt	9,104	9,104	6.74	108.5	0.00	90.18	-	-	0.00	0.00	-	0.00
T59 Alt	9,471	9,472	6.28	108.5	0.00	90.53	-	-	0.00	0.00	-	0.00
Sum	27.31											

- Data undefined due to calculation with octave data

Noise sensitive area: H72 Noise sensitive point: User defined (153)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	3,212	3,214	19.18	108.5	0.00	81.14	-	-	0.00	0.00	-	0.00
T02	3,766	3,767	17.28	108.5	0.00	82.52	-	-	0.00	0.00	-	0.00
T03	4,062	4,064	16.37	108.5	0.00	83.18	-	-	0.00	0.00	-	0.00
T04	4,530	4,531	15.06	108.5	0.00	84.12	-	-	0.00	0.00	-	0.00
T05	5,641	5,642	12.41	108.5	0.00	86.03	-	-	0.00	0.00	-	0.00
T06	6,028	6,029	11.62	108.5	0.00	86.60	-	-	0.00	0.00	-	0.00
T07	6,488	6,489	10.74	108.5	0.00	87.24	-	-	0.00	0.00	-	0.00
T08	5,839	5,840	12.00	108.5	0.00	86.33	-	-	0.00	0.00	-	0.00
T09	6,668	6,669	10.41	108.5	0.00	87.48	-	-	0.00	0.00	-	0.00
T10	6,933	6,934	9.95	108.5	0.00	87.82	-	-	0.00	0.00	-	0.00
T11	7,256	7,257	9.41	108.5	0.00	88.21	-	-	0.00	0.00	-	0.00
T12	7,191	7,192	9.51	108.5	0.00	88.14	-	-	0.00	0.00	-	0.00
T13	7,936	7,936	8.35	108.5	0.00	88.99	-	-	0.00	0.00	-	0.00
T14	7,799	7,799	8.56	108.5	0.00	88.84	-	-	0.00	0.00	-	0.00
T15	8,726	8,726	7.24	108.5	0.00	89.82	-	-	0.00	0.00	-	0.00
T16	9,805	9,805	5.87	108.5	0.00	90.83	-	-	0.00	0.00	-	0.00
T17	9,609	9,609	6.11	108.5	0.00	90.65	-	-	0.00	0.00	-	0.00
T18	9,514	9,515	6.22	108.5	0.00	90.57	-	-	0.00	0.00	-	0.00
T19	9,055	9,055	6.80	108.5	0.00	90.14	-	-	0.00	0.00	-	0.00

To be continued on next page...

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20131290 Rolette Power Development

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T20	9,327	9,327	6.46	108.5	0.00	90.40	-	-	0.00	0.00	-	0.00
T21	9,040	9,040	6.82	108.5	0.00	90.12	-	-	0.00	0.00	-	0.00
T22	10,191	10,192	5.42	108.5	0.00	91.17	-	-	0.00	0.00	-	0.00
T23	10,133	10,134	5.49	108.5	0.00	91.12	-	-	0.00	0.00	-	0.00
T24	10,111	10,112	5.52	108.5	0.00	91.10	-	-	0.00	0.00	-	0.00
T25	10,895	10,896	4.65	108.5	0.00	91.75	-	-	0.00	0.00	-	0.00
T26	10,834	10,834	4.71	108.5	0.00	91.70	-	-	0.00	0.00	-	0.00
T27	10,819	10,820	4.73	108.5	0.00	91.68	-	-	0.00	0.00	-	0.00
T28	10,914	10,915	4.63	108.5	0.00	91.76	-	-	0.00	0.00	-	0.00
T29	11,445	11,445	4.08	108.5	0.00	92.17	-	-	0.00	0.00	-	0.00
T30	11,304	11,305	4.22	108.5	0.00	92.07	-	-	0.00	0.00	-	0.00
T31	11,385	11,386	4.14	108.5	0.00	92.13	-	-	0.00	0.00	-	0.00
T32	11,290	11,290	4.24	108.5	0.00	92.05	-	-	0.00	0.00	-	0.00
T33	11,427	11,428	4.10	108.5	0.00	92.16	-	-	0.00	0.00	-	0.00
T34	11,806	11,807	3.72	108.5	0.00	92.44	-	-	0.00	0.00	-	0.00
T35	12,444	12,445	3.11	108.5	0.00	92.90	-	-	0.00	0.00	-	0.00
T36	12,287	12,287	3.26	108.5	0.00	92.79	-	-	0.00	0.00	-	0.00
T37	12,174	12,175	3.37	108.5	0.00	92.71	-	-	0.00	0.00	-	0.00
T38	12,217	12,218	3.32	108.5	0.00	92.74	-	-	0.00	0.00	-	0.00
T39	13,149	13,150	2.48	108.5	0.00	93.38	-	-	0.00	0.00	-	0.00
T40	13,153	13,153	2.47	108.5	0.00	93.38	-	-	0.00	0.00	-	0.00
T41	13,850	13,850	1.88	108.5	0.00	93.83	-	-	0.00	0.00	-	0.00
T42	12,987	12,987	2.62	108.5	0.00	93.27	-	-	0.00	0.00	-	0.00
T43	12,804	12,804	2.78	108.5	0.00	93.15	-	-	0.00	0.00	-	0.00
T44	13,668	13,668	2.03	108.5	0.00	93.71	-	-	0.00	0.00	-	0.00
T45	14,026	14,027	1.73	108.5	0.00	93.94	-	-	0.00	0.00	-	0.00
T46	12,813	12,814	2.77	108.5	0.00	93.15	-	-	0.00	0.00	-	0.00
T47	12,504	12,505	3.06	108.5	0.00	92.94	-	-	0.00	0.00	-	0.00
T48 Alt	13,781	13,782	1.93	108.5	0.00	93.79	-	-	0.00	0.00	-	0.00
T49 Alt	14,093	14,093	1.68	108.5	0.00	93.98	-	-	0.00	0.00	-	0.00
T50 Alt	9,700	9,700	6.00	108.5	0.00	90.74	-	-	0.00	0.00	-	0.00
T51 Alt	9,216	9,216	6.60	108.5	0.00	90.29	-	-	0.00	0.00	-	0.00
T52 Alt	5,643	5,644	12.41	108.5	0.00	86.03	-	-	0.00	0.00	-	0.00
T53 Alt	4,720	4,721	14.56	108.5	0.00	84.48	-	-	0.00	0.00	-	0.00
T54 Alt	6,274	6,275	11.14	108.5	0.00	86.95	-	-	0.00	0.00	-	0.00
T55 Alt	6,918	6,919	9.97	108.5	0.00	87.80	-	-	0.00	0.00	-	0.00
T56 Alt	12,200	12,200	3.34	108.5	0.00	92.73	-	-	0.00	0.00	-	0.00
T57 Alt	6,748	6,749	10.27	108.5	0.00	87.58	-	-	0.00	0.00	-	0.00
T58 Alt	8,532	8,532	7.50	108.5	0.00	89.62	-	-	0.00	0.00	-	0.00
T59 Alt	8,934	8,935	6.96	108.5	0.00	90.02	-	-	0.00	0.00	-	0.00

Sum 27.17

- Data undefined due to calculation with octave data

Noise sensitive area: H73 Noise sensitive point: User defined (154)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	6,858	6,859	10.08	108.5	0.00	87.72	-	-	0.00	0.00	-	0.00
T02	7,295	7,295	9.34	108.5	0.00	88.26	-	-	0.00	0.00	-	0.00
T03	7,458	7,459	9.08	108.5	0.00	88.45	-	-	0.00	0.00	-	0.00
T04	7,706	7,707	8.70	108.5	0.00	88.74	-	-	0.00	0.00	-	0.00
T05	8,919	8,920	6.98	108.5	0.00	90.01	-	-	0.00	0.00	-	0.00
T06	9,188	9,188	6.63	108.5	0.00	90.26	-	-	0.00	0.00	-	0.00
T07	9,420	9,421	6.34	108.5	0.00	90.48	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

No.	Distance [m]	Sound distance [m]	95% rated power									
			WTG Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T08	8,497	8,498	7.55	108.5	0.00	89.59	-	-	0.00	0.00	-	0.00
T09	9,230	9,231	6.58	108.5	0.00	90.30	-	-	0.00	0.00	-	0.00
T10	9,353	9,354	6.42	108.5	0.00	90.42	-	-	0.00	0.00	-	0.00
T11	10,681	10,681	4.88	108.5	0.00	91.57	-	-	0.00	0.00	-	0.00
T12	10,525	10,525	5.05	108.5	0.00	91.44	-	-	0.00	0.00	-	0.00
T13	11,087	11,087	4.45	108.5	0.00	91.90	-	-	0.00	0.00	-	0.00
T14	10,829	10,829	4.72	108.5	0.00	91.69	-	-	0.00	0.00	-	0.00
T15	11,982	11,982	3.55	108.5	0.00	92.57	-	-	0.00	0.00	-	0.00
T16	13,054	13,055	2.56	108.5	0.00	93.32	-	-	0.00	0.00	-	0.00
T17	12,756	12,756	2.83	108.5	0.00	93.11	-	-	0.00	0.00	-	0.00
T18	12,557	12,558	3.01	108.5	0.00	92.98	-	-	0.00	0.00	-	0.00
T19	11,975	11,976	3.56	108.5	0.00	92.57	-	-	0.00	0.00	-	0.00
T20	12,115	12,116	3.42	108.5	0.00	92.67	-	-	0.00	0.00	-	0.00
T21	11,710	11,711	3.81	108.5	0.00	92.37	-	-	0.00	0.00	-	0.00
T22	13,037	13,037	2.57	108.5	0.00	93.30	-	-	0.00	0.00	-	0.00
T23	12,855	12,855	2.74	108.5	0.00	93.18	-	-	0.00	0.00	-	0.00
T24	12,717	12,717	2.86	108.5	0.00	93.09	-	-	0.00	0.00	-	0.00
T25	14,067	14,067	1.70	108.5	0.00	93.96	-	-	0.00	0.00	-	0.00
T26	13,925	13,925	1.81	108.5	0.00	93.88	-	-	0.00	0.00	-	0.00
T27	13,836	13,837	1.89	108.5	0.00	93.82	-	-	0.00	0.00	-	0.00
T28	13,850	13,850	1.88	108.5	0.00	93.83	-	-	0.00	0.00	-	0.00
T29	14,232	14,233	1.56	108.5	0.00	94.07	-	-	0.00	0.00	-	0.00
T30	14,000	14,000	1.75	108.5	0.00	93.92	-	-	0.00	0.00	-	0.00
T31	13,984	13,984	1.76	108.5	0.00	93.91	-	-	0.00	0.00	-	0.00
T32	13,670	13,670	2.03	108.5	0.00	93.72	-	-	0.00	0.00	-	0.00
T33	13,697	13,698	2.00	108.5	0.00	93.73	-	-	0.00	0.00	-	0.00
T34	14,716	14,717	1.18	108.5	0.00	94.36	-	-	0.00	0.00	-	0.00
T35	15,305	15,305	0.72	108.5	0.00	94.70	-	-	0.00	0.00	-	0.00
T36	14,973	14,974	0.98	108.5	0.00	94.51	-	-	0.00	0.00	-	0.00
T37	14,719	14,719	1.17	108.5	0.00	94.36	-	-	0.00	0.00	-	0.00
T38	14,641	14,641	1.23	108.5	0.00	94.31	-	-	0.00	0.00	-	0.00
T39	15,972	15,972	0.23	108.5	0.00	95.07	-	-	0.00	0.00	-	0.00
T40	15,831	15,832	0.33	108.5	0.00	94.99	-	-	0.00	0.00	-	0.00
T41	16,497	16,497	-0.15	108.5	0.00	95.35	-	-	0.00	0.00	-	0.00
T42	15,507	15,507	0.57	108.5	0.00	94.81	-	-	0.00	0.00	-	0.00
T43	15,182	15,182	0.82	108.5	0.00	94.63	-	-	0.00	0.00	-	0.00
T44	15,935	15,935	0.25	108.5	0.00	95.05	-	-	0.00	0.00	-	0.00
T45	16,228	16,228	0.04	108.5	0.00	95.21	-	-	0.00	0.00	-	0.00
T46	15,010	15,010	0.95	108.5	0.00	94.53	-	-	0.00	0.00	-	0.00
T47	14,527	14,527	1.32	108.5	0.00	94.24	-	-	0.00	0.00	-	0.00
T48 Alt	15,867	15,867	0.30	108.5	0.00	95.01	-	-	0.00	0.00	-	0.00
T49 Alt	16,109	16,109	0.13	108.5	0.00	95.14	-	-	0.00	0.00	-	0.00
T50 Alt	12,177	12,178	3.36	108.5	0.00	92.71	-	-	0.00	0.00	-	0.00
T51 Alt	11,777	11,778	3.75	108.5	0.00	92.42	-	-	0.00	0.00	-	0.00
T52 Alt	9,166	9,166	6.66	108.5	0.00	90.24	-	-	0.00	0.00	-	0.00
T53 Alt	8,345	8,346	7.76	108.5	0.00	89.43	-	-	0.00	0.00	-	0.00
T54 Alt	9,723	9,723	5.97	108.5	0.00	90.76	-	-	0.00	0.00	-	0.00
T55 Alt	10,066	10,066	5.57	108.5	0.00	91.06	-	-	0.00	0.00	-	0.00
T56 Alt	14,447	14,448	1.39	108.5	0.00	94.20	-	-	0.00	0.00	-	0.00
T57 Alt	9,565	9,565	6.16	108.5	0.00	90.61	-	-	0.00	0.00	-	0.00
T58 Alt	10,892	10,893	4.65	108.5	0.00	91.74	-	-	0.00	0.00	-	0.00
T59 Alt	11,243	11,243	4.29	108.5	0.00	92.02	-	-	0.00	0.00	-	0.00

Sum 22.08

- Data undefined due to calculation with octave data

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

Noise sensitive area: H74 Noise sensitive point: User defined (155)

WTG No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	9,127	9,127	6.71	108.5	0.00	90.21	-	-	0.00	0.00	-	0.00
T02	9,411	9,411	6.35	108.5	0.00	90.47	-	-	0.00	0.00	-	0.00
T03	9,436	9,437	6.32	108.5	0.00	90.50	-	-	0.00	0.00	-	0.00
T04	9,473	9,474	6.27	108.5	0.00	90.53	-	-	0.00	0.00	-	0.00
T05	10,681	10,681	4.88	108.5	0.00	91.57	-	-	0.00	0.00	-	0.00
T06	10,820	10,821	4.73	108.5	0.00	91.69	-	-	0.00	0.00	-	0.00
T07	10,833	10,834	4.72	108.5	0.00	91.70	-	-	0.00	0.00	-	0.00
T08	9,766	9,766	5.92	108.5	0.00	90.79	-	-	0.00	0.00	-	0.00
T09	10,348	10,349	5.25	108.5	0.00	91.30	-	-	0.00	0.00	-	0.00
T10	10,344	10,345	5.25	108.5	0.00	91.29	-	-	0.00	0.00	-	0.00
T11	12,501	12,501	3.06	108.5	0.00	92.94	-	-	0.00	0.00	-	0.00
T12	12,251	12,251	3.29	108.5	0.00	92.76	-	-	0.00	0.00	-	0.00
T13	12,599	12,600	2.97	108.5	0.00	93.01	-	-	0.00	0.00	-	0.00
T14	12,237	12,238	3.31	108.5	0.00	92.75	-	-	0.00	0.00	-	0.00
T15	13,562	13,563	2.12	108.5	0.00	93.65	-	-	0.00	0.00	-	0.00
T16	14,587	14,587	1.28	108.5	0.00	94.28	-	-	0.00	0.00	-	0.00
T17	14,190	14,191	1.60	108.5	0.00	94.04	-	-	0.00	0.00	-	0.00
T18	13,893	13,894	1.84	108.5	0.00	93.86	-	-	0.00	0.00	-	0.00
T19	13,218	13,219	2.42	108.5	0.00	93.42	-	-	0.00	0.00	-	0.00
T20	13,228	13,228	2.41	108.5	0.00	93.43	-	-	0.00	0.00	-	0.00
T21	12,737	12,738	2.84	108.5	0.00	93.10	-	-	0.00	0.00	-	0.00
T22	14,159	14,159	1.62	108.5	0.00	94.02	-	-	0.00	0.00	-	0.00
T23	13,867	13,868	1.86	108.5	0.00	93.84	-	-	0.00	0.00	-	0.00
T24	13,631	13,631	2.06	108.5	0.00	93.69	-	-	0.00	0.00	-	0.00
T25	15,480	15,481	0.59	108.5	0.00	94.80	-	-	0.00	0.00	-	0.00
T26	15,257	15,258	0.76	108.5	0.00	94.67	-	-	0.00	0.00	-	0.00
T27	15,095	15,095	0.88	108.5	0.00	94.58	-	-	0.00	0.00	-	0.00
T28	15,026	15,027	0.93	108.5	0.00	94.54	-	-	0.00	0.00	-	0.00
T29	15,248	15,249	0.76	108.5	0.00	94.66	-	-	0.00	0.00	-	0.00
T30	14,938	14,938	1.00	108.5	0.00	94.49	-	-	0.00	0.00	-	0.00
T31	14,832	14,832	1.08	108.5	0.00	94.42	-	-	0.00	0.00	-	0.00
T32	14,332	14,332	1.48	108.5	0.00	94.13	-	-	0.00	0.00	-	0.00
T33	14,261	14,261	1.54	108.5	0.00	94.08	-	-	0.00	0.00	-	0.00
T34	15,835	15,836	0.33	108.5	0.00	94.99	-	-	0.00	0.00	-	0.00
T35	16,355	16,356	-0.05	108.5	0.00	95.27	-	-	0.00	0.00	-	0.00
T36	15,864	15,864	0.31	108.5	0.00	95.01	-	-	0.00	0.00	-	0.00
T37	15,486	15,486	0.59	108.5	0.00	94.80	-	-	0.00	0.00	-	0.00
T38	15,299	15,300	0.73	108.5	0.00	94.69	-	-	0.00	0.00	-	0.00
T39	16,962	16,962	-0.47	108.5	0.00	95.59	-	-	0.00	0.00	-	0.00
T40	16,685	16,685	-0.28	108.5	0.00	95.45	-	-	0.00	0.00	-	0.00
T41	17,298	17,298	-0.70	108.5	0.00	95.76	-	-	0.00	0.00	-	0.00
T42	16,221	16,221	0.05	108.5	0.00	95.20	-	-	0.00	0.00	-	0.00
T43	15,777	15,777	0.37	108.5	0.00	94.96	-	-	0.00	0.00	-	0.00
T44	16,401	16,401	-0.08	108.5	0.00	95.30	-	-	0.00	0.00	-	0.00
T45	16,624	16,625	-0.24	108.5	0.00	95.42	-	-	0.00	0.00	-	0.00
T46	15,448	15,449	0.61	108.5	0.00	94.78	-	-	0.00	0.00	-	0.00
T47	14,834	14,835	1.08	108.5	0.00	94.43	-	-	0.00	0.00	-	0.00
T48 Alt	16,173	16,173	0.08	108.5	0.00	95.18	-	-	0.00	0.00	-	0.00
T49 Alt	16,344	16,344	-0.04	108.5	0.00	95.27	-	-	0.00	0.00	-	0.00
T50 Alt	13,005	13,005	2.60	108.5	0.00	93.28	-	-	0.00	0.00	-	0.00
T51 Alt	12,703	12,704	2.87	108.5	0.00	93.08	-	-	0.00	0.00	-	0.00
T52 Alt	11,166	11,167	4.36	108.5	0.00	91.96	-	-	0.00	0.00	-	0.00
T53 Alt	10,508	10,508	5.07	108.5	0.00	91.43	-	-	0.00	0.00	-	0.00
T54 Alt	11,612	11,613	3.91	108.5	0.00	92.30	-	-	0.00	0.00	-	0.00
T55 Alt	11,631	11,631	3.89	108.5	0.00	92.31	-	-	0.00	0.00	-	0.00

To be continued on next page...

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T56 Alt	14,956	14,956	0.99	108.5	0.00	94.50	-	-	0.00	0.00	-	0.00
T57 Alt	10,867	10,868	4.68	108.5	0.00	91.72	-	-	0.00	0.00	-	0.00
T58 Alt	11,704	11,704	3.82	108.5	0.00	92.37	-	-	0.00	0.00	-	0.00
T59 Alt	11,984	11,985	3.55	108.5	0.00	92.57	-	-	0.00	0.00	-	0.00

Sum 20.53

- Data undefined due to calculation with octave data

Noise sensitive area: H75 Noise sensitive point: User defined (156)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	6,412	6,413	10.88	108.5	0.00	87.14	-	-	0.00	0.00	-	0.00
T02	5,822	5,823	12.03	108.5	0.00	86.30	-	-	0.00	0.00	-	0.00
T03	5,309	5,310	13.14	108.5	0.00	85.50	-	-	0.00	0.00	-	0.00
T04	4,555	4,556	14.99	108.5	0.00	84.17	-	-	0.00	0.00	-	0.00
T05	4,523	4,524	15.07	108.5	0.00	84.11	-	-	0.00	0.00	-	0.00
T06	4,052	4,053	16.40	108.5	0.00	83.16	-	-	0.00	0.00	-	0.00
T07	3,239	3,240	19.08	108.5	0.00	81.21	-	-	0.00	0.00	-	0.00
T08	2,810	2,811	20.75	108.5	0.00	79.98	-	-	0.00	0.00	-	0.00
T09	2,179	2,181	23.86	108.5	0.00	77.77	-	-	0.00	0.00	-	0.00
T10	1,739	1,741	26.62	108.5	0.00	75.82	-	-	0.00	0.00	-	0.00
T11	5,317	5,317	13.13	108.5	0.00	85.51	-	-	0.00	0.00	-	0.00
T12	4,840	4,840	14.26	108.5	0.00	84.70	-	-	0.00	0.00	-	0.00
T13	4,219	4,220	15.92	108.5	0.00	83.51	-	-	0.00	0.00	-	0.00
T14	3,670	3,671	17.59	108.5	0.00	82.30	-	-	0.00	0.00	-	0.00
T15	5,029	5,030	13.80	108.5	0.00	85.03	-	-	0.00	0.00	-	0.00
T16	5,606	5,607	12.49	108.5	0.00	85.97	-	-	0.00	0.00	-	0.00
T17	5,013	5,014	13.83	108.5	0.00	85.00	-	-	0.00	0.00	-	0.00
T18	4,509	4,510	15.11	108.5	0.00	84.08	-	-	0.00	0.00	-	0.00
T19	3,750	3,751	17.33	108.5	0.00	82.48	-	-	0.00	0.00	-	0.00
T20	3,417	3,418	18.44	108.5	0.00	81.68	-	-	0.00	0.00	-	0.00
T21	2,833	2,834	20.66	108.5	0.00	80.05	-	-	0.00	0.00	-	0.00
T22	4,207	4,209	15.95	108.5	0.00	83.48	-	-	0.00	0.00	-	0.00
T23	3,744	3,745	17.35	108.5	0.00	82.47	-	-	0.00	0.00	-	0.00
T24	3,369	3,371	18.61	108.5	0.00	81.56	-	-	0.00	0.00	-	0.00
T25	5,998	5,999	11.68	108.5	0.00	86.56	-	-	0.00	0.00	-	0.00
T26	5,613	5,614	12.47	108.5	0.00	85.99	-	-	0.00	0.00	-	0.00
T27	5,305	5,306	13.15	108.5	0.00	85.50	-	-	0.00	0.00	-	0.00
T28	5,076	5,077	13.68	108.5	0.00	85.11	-	-	0.00	0.00	-	0.00
T29	5,012	5,013	13.84	108.5	0.00	85.00	-	-	0.00	0.00	-	0.00
T30	4,619	4,621	14.82	108.5	0.00	84.29	-	-	0.00	0.00	-	0.00
T31	4,425	4,426	15.34	108.5	0.00	83.92	-	-	0.00	0.00	-	0.00
T32	3,833	3,834	17.07	108.5	0.00	82.67	-	-	0.00	0.00	-	0.00
T33	3,762	3,763	17.30	108.5	0.00	82.51	-	-	0.00	0.00	-	0.00
T34	5,712	5,713	12.26	108.5	0.00	86.14	-	-	0.00	0.00	-	0.00
T35	6,104	6,104	11.47	108.5	0.00	86.71	-	-	0.00	0.00	-	0.00
T36	5,463	5,464	12.80	108.5	0.00	85.75	-	-	0.00	0.00	-	0.00
T37	5,011	5,012	13.84	108.5	0.00	85.00	-	-	0.00	0.00	-	0.00
T38	4,796	4,797	14.37	108.5	0.00	84.62	-	-	0.00	0.00	-	0.00
T39	6,620	6,620	10.50	108.5	0.00	87.42	-	-	0.00	0.00	-	0.00
T40	6,239	6,240	11.21	108.5	0.00	86.90	-	-	0.00	0.00	-	0.00
T41	6,820	6,820	10.14	108.5	0.00	87.68	-	-	0.00	0.00	-	0.00
T42	5,723	5,724	12.24	108.5	0.00	86.15	-	-	0.00	0.00	-	0.00
T43	5,277	5,277	13.22	108.5	0.00	85.45	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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Finley, ND 58230

Description:
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6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

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		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T44	5,953	5,953	11.77	108.5	0.00	86.50	-	-	0.00	0.00	-	0.00
T45	6,225	6,226	11.23	108.5	0.00	86.88	-	-	0.00	0.00	-	0.00
T46	5,014	5,014	13.83	108.5	0.00	85.00	-	-	0.00	0.00	-	0.00
T47	4,521	4,522	15.08	108.5	0.00	84.11	-	-	0.00	0.00	-	0.00
T48 Alt	5,857	5,858	11.96	108.5	0.00	86.35	-	-	0.00	0.00	-	0.00
T49 Alt	6,110	6,111	11.46	108.5	0.00	86.72	-	-	0.00	0.00	-	0.00
T50 Alt	2,677	2,679	21.31	108.5	0.00	79.56	-	-	0.00	0.00	-	0.00
T51 Alt	2,582	2,584	21.73	108.5	0.00	79.25	-	-	0.00	0.00	-	0.00
T52 Alt	5,566	5,567	12.57	108.5	0.00	85.91	-	-	0.00	0.00	-	0.00
T53 Alt	6,099	6,100	11.48	108.5	0.00	86.71	-	-	0.00	0.00	-	0.00
T54 Alt	5,242	5,243	13.30	108.5	0.00	85.39	-	-	0.00	0.00	-	0.00
T55 Alt	3,988	3,988	16.60	108.5	0.00	83.02	-	-	0.00	0.00	-	0.00
T56 Alt	4,479	4,479	15.19	108.5	0.00	84.02	-	-	0.00	0.00	-	0.00
T57 Alt	2,842	2,843	20.62	108.5	0.00	80.07	-	-	0.00	0.00	-	0.00
T58 Alt	1,556	1,558	27.96	108.5	0.00	74.85	-	-	0.00	0.00	-	0.00
T59 Alt	1,641	1,643	27.32	108.5	0.00	75.31	-	-	0.00	0.00	-	0.00
Sum	35.98											

- Data undefined due to calculation with octave data

Noise sensitive area: H76 Noise sensitive point: User defined (157)

		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	3,872	3,873	16.95	108.5	0.00	82.76	-	-	0.00	0.00	-	0.00
T02	3,790	3,791	17.20	108.5	0.00	82.58	-	-	0.00	0.00	-	0.00
T03	3,587	3,589	17.86	108.5	0.00	82.10	-	-	0.00	0.00	-	0.00
T04	3,362	3,363	18.64	108.5	0.00	81.53	-	-	0.00	0.00	-	0.00
T05	4,495	4,495	15.15	108.5	0.00	84.06	-	-	0.00	0.00	-	0.00
T06	4,554	4,555	14.99	108.5	0.00	84.17	-	-	0.00	0.00	-	0.00
T07	4,515	4,516	15.10	108.5	0.00	84.09	-	-	0.00	0.00	-	0.00
T08	3,455	3,456	18.31	108.5	0.00	81.77	-	-	0.00	0.00	-	0.00
T09	4,094	4,095	16.28	108.5	0.00	83.25	-	-	0.00	0.00	-	0.00
T10	4,165	4,166	16.07	108.5	0.00	83.39	-	-	0.00	0.00	-	0.00
T11	6,298	6,298	11.09	108.5	0.00	86.98	-	-	0.00	0.00	-	0.00
T12	6,000	6,001	11.67	108.5	0.00	86.56	-	-	0.00	0.00	-	0.00
T13	6,284	6,284	11.12	108.5	0.00	86.97	-	-	0.00	0.00	-	0.00
T14	5,920	5,920	11.83	108.5	0.00	86.45	-	-	0.00	0.00	-	0.00
T15	7,252	7,253	9.41	108.5	0.00	88.21	-	-	0.00	0.00	-	0.00
T16	8,270	8,270	7.87	108.5	0.00	89.35	-	-	0.00	0.00	-	0.00
T17	7,874	7,874	8.44	108.5	0.00	88.92	-	-	0.00	0.00	-	0.00
T18	7,590	7,591	8.88	108.5	0.00	88.61	-	-	0.00	0.00	-	0.00
T19	6,937	6,937	9.94	108.5	0.00	87.82	-	-	0.00	0.00	-	0.00
T20	7,000	7,001	9.83	108.5	0.00	87.90	-	-	0.00	0.00	-	0.00
T21	6,553	6,554	10.62	108.5	0.00	87.33	-	-	0.00	0.00	-	0.00
T22	7,932	7,933	8.36	108.5	0.00	88.99	-	-	0.00	0.00	-	0.00
T23	7,699	7,700	8.71	108.5	0.00	88.73	-	-	0.00	0.00	-	0.00
T24	7,528	7,529	8.97	108.5	0.00	88.53	-	-	0.00	0.00	-	0.00
T25	9,168	9,169	6.66	108.5	0.00	90.25	-	-	0.00	0.00	-	0.00
T26	8,960	8,960	6.93	108.5	0.00	90.05	-	-	0.00	0.00	-	0.00
T27	8,817	8,818	7.11	108.5	0.00	89.91	-	-	0.00	0.00	-	0.00
T28	8,779	8,780	7.16	108.5	0.00	89.87	-	-	0.00	0.00	-	0.00
T29	9,085	9,086	6.76	108.5	0.00	90.17	-	-	0.00	0.00	-	0.00
T30	8,824	8,825	7.10	108.5	0.00	89.91	-	-	0.00	0.00	-	0.00
T31	8,784	8,785	7.16	108.5	0.00	89.87	-	-	0.00	0.00	-	0.00

To be continued on next page..

Project:
20131290 Rolette Power Development

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

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WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	8,448	8,449	7.61	108.5	0.00	89.54	-	-	0.00	0.00	-	0.00
T33	8,479	8,480	7.57	108.5	0.00	89.57	-	-	0.00	0.00	-	0.00
T34	9,618	9,619	6.10	108.5	0.00	90.66	-	-	0.00	0.00	-	0.00
T35	10,177	10,177	5.44	108.5	0.00	91.15	-	-	0.00	0.00	-	0.00
T36	9,788	9,788	5.89	108.5	0.00	90.81	-	-	0.00	0.00	-	0.00
T37	9,507	9,508	6.23	108.5	0.00	90.56	-	-	0.00	0.00	-	0.00
T38	9,420	9,420	6.34	108.5	0.00	90.48	-	-	0.00	0.00	-	0.00
T39	10,821	10,822	4.73	108.5	0.00	91.69	-	-	0.00	0.00	-	0.00
T40	10,639	10,639	4.93	108.5	0.00	91.54	-	-	0.00	0.00	-	0.00
T41	11,295	11,295	4.23	108.5	0.00	92.06	-	-	0.00	0.00	-	0.00
T42	10,290	10,291	5.31	108.5	0.00	91.25	-	-	0.00	0.00	-	0.00
T43	9,961	9,961	5.69	108.5	0.00	90.97	-	-	0.00	0.00	-	0.00
T44	10,722	10,722	4.84	108.5	0.00	91.61	-	-	0.00	0.00	-	0.00
T45	11,025	11,025	4.51	108.5	0.00	91.85	-	-	0.00	0.00	-	0.00
T46	9,803	9,804	5.88	108.5	0.00	90.83	-	-	0.00	0.00	-	0.00
T47	9,354	9,354	6.42	108.5	0.00	90.42	-	-	0.00	0.00	-	0.00
T48 Alt	10,685	10,685	4.88	108.5	0.00	91.58	-	-	0.00	0.00	-	0.00
T49 Alt	10,945	10,945	4.60	108.5	0.00	91.78	-	-	0.00	0.00	-	0.00
T50 Alt	6,967	6,968	9.89	108.5	0.00	87.86	-	-	0.00	0.00	-	0.00
T51 Alt	6,587	6,587	10.56	108.5	0.00	87.37	-	-	0.00	0.00	-	0.00
T52 Alt	5,180	5,181	13.44	108.5	0.00	85.29	-	-	0.00	0.00	-	0.00
T53 Alt	4,809	4,810	14.34	108.5	0.00	84.64	-	-	0.00	0.00	-	0.00
T54 Alt	5,490	5,491	12.74	108.5	0.00	85.79	-	-	0.00	0.00	-	0.00
T55 Alt	5,330	5,330	13.10	108.5	0.00	85.53	-	-	0.00	0.00	-	0.00
T56 Alt	9,233	9,233	6.57	108.5	0.00	90.31	-	-	0.00	0.00	-	0.00
T57 Alt	4,558	4,558	14.98	108.5	0.00	84.18	-	-	0.00	0.00	-	0.00
T58 Alt	5,676	5,676	12.34	108.5	0.00	86.08	-	-	0.00	0.00	-	0.00
T59 Alt	6,022	6,022	11.63	108.5	0.00	86.60	-	-	0.00	0.00	-	0.00
Sum	29.55											

- Data undefined due to calculation with octave data

Noise sensitive area: H77 Noise sensitive point: User defined (158)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	10,661	10,661	4.90	108.5	0.00	91.56	-	-	0.00	0.00	-	0.00
T02	10,181	10,182	5.44	108.5	0.00	91.16	-	-	0.00	0.00	-	0.00
T03	9,704	9,704	5.99	108.5	0.00	90.74	-	-	0.00	0.00	-	0.00
T04	8,994	8,994	6.88	108.5	0.00	90.08	-	-	0.00	0.00	-	0.00
T05	9,216	9,216	6.60	108.5	0.00	90.29	-	-	0.00	0.00	-	0.00
T06	8,782	8,783	7.16	108.5	0.00	89.87	-	-	0.00	0.00	-	0.00
T07	7,996	7,997	8.26	108.5	0.00	89.06	-	-	0.00	0.00	-	0.00
T08	7,375	7,375	9.22	108.5	0.00	88.36	-	-	0.00	0.00	-	0.00
T09	6,902	6,902	10.00	108.5	0.00	87.78	-	-	0.00	0.00	-	0.00
T10	6,470	6,471	10.77	108.5	0.00	87.22	-	-	0.00	0.00	-	0.00
T11	10,088	10,089	5.54	108.5	0.00	91.08	-	-	0.00	0.00	-	0.00
T12	9,611	9,612	6.11	108.5	0.00	90.66	-	-	0.00	0.00	-	0.00
T13	8,921	8,921	6.98	108.5	0.00	90.01	-	-	0.00	0.00	-	0.00
T14	8,383	8,383	7.71	108.5	0.00	89.47	-	-	0.00	0.00	-	0.00
T15	9,629	9,629	6.08	108.5	0.00	90.67	-	-	0.00	0.00	-	0.00
T16	9,991	9,991	5.66	108.5	0.00	90.99	-	-	0.00	0.00	-	0.00
T17	9,378	9,378	6.39	108.5	0.00	90.44	-	-	0.00	0.00	-	0.00
T18	8,837	8,837	7.09	108.5	0.00	89.93	-	-	0.00	0.00	-	0.00
T19	8,153	8,153	8.03	108.5	0.00	89.23	-	-	0.00	0.00	-	0.00

To be continued on next page...

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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

...continued from previous page

No.	Distance [m]	Sound distance [m]	95% rated power									
			WTG Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T20	7,661	7,662	8.77	108.5	0.00	88.69	-	-	0.00	0.00	-	0.00
T21	7,135	7,136	9.61	108.5	0.00	88.07	-	-	0.00	0.00	-	0.00
T22	8,157	8,158	8.03	108.5	0.00	89.23	-	-	0.00	0.00	-	0.00
T23	7,593	7,594	8.87	108.5	0.00	88.61	-	-	0.00	0.00	-	0.00
T24	7,106	7,107	9.66	108.5	0.00	88.03	-	-	0.00	0.00	-	0.00
T25	10,055	10,055	5.58	108.5	0.00	91.05	-	-	0.00	0.00	-	0.00
T26	9,601	9,601	6.12	108.5	0.00	90.65	-	-	0.00	0.00	-	0.00
T27	9,215	9,216	6.60	108.5	0.00	90.29	-	-	0.00	0.00	-	0.00
T28	8,860	8,861	7.06	108.5	0.00	89.95	-	-	0.00	0.00	-	0.00
T29	8,399	8,400	7.68	108.5	0.00	89.49	-	-	0.00	0.00	-	0.00
T30	7,920	7,920	8.37	108.5	0.00	88.97	-	-	0.00	0.00	-	0.00
T31	7,527	7,528	8.97	108.5	0.00	88.53	-	-	0.00	0.00	-	0.00
T32	6,568	6,568	10.59	108.5	0.00	87.35	-	-	0.00	0.00	-	0.00
T33	6,178	6,179	11.32	108.5	0.00	86.82	-	-	0.00	0.00	-	0.00
T34	9,160	9,160	6.67	108.5	0.00	90.24	-	-	0.00	0.00	-	0.00
T35	9,260	9,261	6.54	108.5	0.00	90.33	-	-	0.00	0.00	-	0.00
T36	8,351	8,351	7.75	108.5	0.00	89.44	-	-	0.00	0.00	-	0.00
T37	7,660	7,660	8.77	108.5	0.00	88.68	-	-	0.00	0.00	-	0.00
T38	7,162	7,162	9.56	108.5	0.00	88.10	-	-	0.00	0.00	-	0.00
T39	9,481	9,481	6.27	108.5	0.00	90.54	-	-	0.00	0.00	-	0.00
T40	8,802	8,802	7.13	108.5	0.00	89.89	-	-	0.00	0.00	-	0.00
T41	9,090	9,090	6.76	108.5	0.00	90.17	-	-	0.00	0.00	-	0.00
T42	7,993	7,993	8.27	108.5	0.00	89.05	-	-	0.00	0.00	-	0.00
T43	7,280	7,280	9.37	108.5	0.00	88.24	-	-	0.00	0.00	-	0.00
T44	7,336	7,337	9.28	108.5	0.00	88.31	-	-	0.00	0.00	-	0.00
T45	7,306	7,306	9.33	108.5	0.00	88.27	-	-	0.00	0.00	-	0.00
T46	6,540	6,540	10.64	108.5	0.00	87.31	-	-	0.00	0.00	-	0.00
T47	5,690	5,691	12.31	108.5	0.00	86.10	-	-	0.00	0.00	-	0.00
T48 Alt	6,688	6,688	10.38	108.5	0.00	87.51	-	-	0.00	0.00	-	0.00
T49 Alt	6,628	6,629	10.48	108.5	0.00	87.43	-	-	0.00	0.00	-	0.00
T50 Alt	6,503	6,503	10.71	108.5	0.00	87.26	-	-	0.00	0.00	-	0.00
T51 Alt	6,747	6,747	10.27	108.5	0.00	87.58	-	-	0.00	0.00	-	0.00
T52 Alt	10,272	10,272	5.33	108.5	0.00	91.23	-	-	0.00	0.00	-	0.00
T53 Alt	10,676	10,676	4.89	108.5	0.00	91.57	-	-	0.00	0.00	-	0.00
T54 Alt	10,001	10,002	5.64	108.5	0.00	91.00	-	-	0.00	0.00	-	0.00
T55 Alt	8,765	8,765	7.18	108.5	0.00	89.85	-	-	0.00	0.00	-	0.00
T56 Alt	6,427	6,427	10.85	108.5	0.00	87.16	-	-	0.00	0.00	-	0.00
T57 Alt	7,610	7,610	8.84	108.5	0.00	88.63	-	-	0.00	0.00	-	0.00
T58 Alt	6,018	6,018	11.64	108.5	0.00	86.59	-	-	0.00	0.00	-	0.00
T59 Alt	5,833	5,833	12.01	108.5	0.00	86.32	-	-	0.00	0.00	-	0.00

Sum 26.28

- Data undefined due to calculation with octave data

Noise sensitive area: H78 Noise sensitive point: User defined (159)

No.	Distance [m]	Sound distance [m]	95% rated power									
			WTG Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	10,436	10,436	5.15	108.5	0.00	91.37	-	-	0.00	0.00	-	0.00
T02	9,774	9,774	5.91	108.5	0.00	90.80	-	-	0.00	0.00	-	0.00
T03	9,263	9,263	6.54	108.5	0.00	90.34	-	-	0.00	0.00	-	0.00
T04	8,527	8,527	7.51	108.5	0.00	89.62	-	-	0.00	0.00	-	0.00
T05	8,016	8,016	8.23	108.5	0.00	89.08	-	-	0.00	0.00	-	0.00
T06	7,473	7,474	9.06	108.5	0.00	88.47	-	-	0.00	0.00	-	0.00
T07	6,669	6,669	10.41	108.5	0.00	87.48	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:
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6/28/2015 12:02 AM / 102
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wind@eapc.net
Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T08	6,846	6,846	10.10	108.5	0.00	87.71	-	-	0.00	0.00	-	0.00
T09	6,022	6,022	11.63	108.5	0.00	86.60	-	-	0.00	0.00	-	0.00
T10	5,677	5,678	12.34	108.5	0.00	86.08	-	-	0.00	0.00	-	0.00
T11	7,866	7,867	8.45	108.5	0.00	88.92	-	-	0.00	0.00	-	0.00
T12	7,465	7,465	9.07	108.5	0.00	88.46	-	-	0.00	0.00	-	0.00
T13	6,437	6,437	10.83	108.5	0.00	87.17	-	-	0.00	0.00	-	0.00
T14	6,079	6,080	11.52	108.5	0.00	86.68	-	-	0.00	0.00	-	0.00
T15	6,640	6,640	10.46	108.5	0.00	87.44	-	-	0.00	0.00	-	0.00
T16	6,440	6,440	10.83	108.5	0.00	87.18	-	-	0.00	0.00	-	0.00
T17	5,913	5,914	11.85	108.5	0.00	86.44	-	-	0.00	0.00	-	0.00
T18	5,435	5,436	12.86	108.5	0.00	85.71	-	-	0.00	0.00	-	0.00
T19	5,094	5,094	13.64	108.5	0.00	85.14	-	-	0.00	0.00	-	0.00
T20	4,507	4,507	15.12	108.5	0.00	84.08	-	-	0.00	0.00	-	0.00
T21	4,317	4,318	15.64	108.5	0.00	83.71	-	-	0.00	0.00	-	0.00
T22	4,384	4,386	15.45	108.5	0.00	83.84	-	-	0.00	0.00	-	0.00
T23	3,903	3,905	16.85	108.5	0.00	82.83	-	-	0.00	0.00	-	0.00
T24	3,506	3,508	18.14	108.5	0.00	81.90	-	-	0.00	0.00	-	0.00
T25	5,975	5,976	11.72	108.5	0.00	86.53	-	-	0.00	0.00	-	0.00
T26	5,511	5,512	12.69	108.5	0.00	85.83	-	-	0.00	0.00	-	0.00
T27	5,106	5,107	13.61	108.5	0.00	85.16	-	-	0.00	0.00	-	0.00
T28	4,682	4,683	14.66	108.5	0.00	84.41	-	-	0.00	0.00	-	0.00
T29	3,916	3,917	16.81	108.5	0.00	82.86	-	-	0.00	0.00	-	0.00
T30	3,488	3,490	18.20	108.5	0.00	81.86	-	-	0.00	0.00	-	0.00
T31	3,037	3,039	19.84	108.5	0.00	80.65	-	-	0.00	0.00	-	0.00
T32	2,175	2,177	23.88	108.5	0.00	77.76	-	-	0.00	0.00	-	0.00
T33	1,731	1,732	26.69	108.5	0.00	75.77	-	-	0.00	0.00	-	0.00
T34	4,571	4,572	14.95	108.5	0.00	84.20	-	-	0.00	0.00	-	0.00
T35	4,418	4,418	15.36	108.5	0.00	83.91	-	-	0.00	0.00	-	0.00
T36	3,464	3,465	18.28	108.5	0.00	81.79	-	-	0.00	0.00	-	0.00
T37	2,751	2,753	21.00	108.5	0.00	79.80	-	-	0.00	0.00	-	0.00
T38	2,187	2,188	23.81	108.5	0.00	77.80	-	-	0.00	0.00	-	0.00
T39	4,427	4,427	15.34	108.5	0.00	83.92	-	-	0.00	0.00	-	0.00
T40	3,666	3,667	17.61	108.5	0.00	82.29	-	-	0.00	0.00	-	0.00
T41	3,832	3,833	17.07	108.5	0.00	82.67	-	-	0.00	0.00	-	0.00
T42	2,813	2,814	20.74	108.5	0.00	79.99	-	-	0.00	0.00	-	0.00
T43	2,078	2,079	24.45	108.5	0.00	77.36	-	-	0.00	0.00	-	0.00
T44	2,032	2,034	24.73	108.5	0.00	77.16	-	-	0.00	0.00	-	0.00
T45	2,069	2,071	24.50	108.5	0.00	77.32	-	-	0.00	0.00	-	0.00
T46	1,264	1,267	30.40	108.5	0.00	73.05	-	-	0.00	0.00	-	0.00
T47	437	445	41.91	108.5	0.00	63.96	-	-	0.00	0.00	-	0.00
T48 Alt	1,518	1,520	28.26	108.5	0.00	74.64	-	-	0.00	0.00	-	0.00
T49 Alt	1,663	1,665	27.17	108.5	0.00	75.43	-	-	0.00	0.00	-	0.00
T50 Alt	3,392	3,393	18.53	108.5	0.00	81.61	-	-	0.00	0.00	-	0.00
T51 Alt	3,930	3,931	16.77	108.5	0.00	82.89	-	-	0.00	0.00	-	0.00
T52 Alt	8,879	8,879	7.03	108.5	0.00	89.97	-	-	0.00	0.00	-	0.00
T53 Alt	9,706	9,707	5.99	108.5	0.00	90.74	-	-	0.00	0.00	-	0.00
T54 Alt	8,308	8,308	7.81	108.5	0.00	89.39	-	-	0.00	0.00	-	0.00
T55 Alt	6,919	6,919	9.97	108.5	0.00	87.80	-	-	0.00	0.00	-	0.00
T56 Alt	1,405	1,407	29.17	108.5	0.00	73.96	-	-	0.00	0.00	-	0.00
T57 Alt	6,270	6,271	11.15	108.5	0.00	86.95	-	-	0.00	0.00	-	0.00
T58 Alt	4,155	4,155	16.10	108.5	0.00	83.37	-	-	0.00	0.00	-	0.00
T59 Alt	3,737	3,738	17.38	108.5	0.00	82.45	-	-	0.00	0.00	-	0.00

Sum 43.41

- Data undefined due to calculation with octave data

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
602 Lincoln Ave S
Finley, ND 58230

Description:
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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation Noise calculation model: ISO 9613-2 General 8.0 m/s

Noise sensitive area: H79 Noise sensitive point: User defined (160)

No.	Distance [m]	Sound distance [m]	95% rated power									
			WTG	Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]
T01	11,374	11,374	4.15	108.5	0.00	92.12	-	-	0.00	0.00	-	0.00
T02	10,706	10,707	4.85	108.5	0.00	91.59	-	-	0.00	0.00	-	0.00
T03	10,198	10,198	5.42	108.5	0.00	91.17	-	-	0.00	0.00	-	0.00
T04	9,469	9,469	6.28	108.5	0.00	90.53	-	-	0.00	0.00	-	0.00
T05	8,910	8,910	6.99	108.5	0.00	90.00	-	-	0.00	0.00	-	0.00
T06	8,368	8,368	7.73	108.5	0.00	89.45	-	-	0.00	0.00	-	0.00
T07	7,579	7,579	8.89	108.5	0.00	88.59	-	-	0.00	0.00	-	0.00
T08	7,807	7,807	8.54	108.5	0.00	88.85	-	-	0.00	0.00	-	0.00
T09	6,978	6,979	9.87	108.5	0.00	87.88	-	-	0.00	0.00	-	0.00
T10	6,645	6,645	10.45	108.5	0.00	87.45	-	-	0.00	0.00	-	0.00
T11	8,645	8,646	7.34	108.5	0.00	89.74	-	-	0.00	0.00	-	0.00
T12	8,264	8,265	7.87	108.5	0.00	89.34	-	-	0.00	0.00	-	0.00
T13	7,217	7,218	9.47	108.5	0.00	88.17	-	-	0.00	0.00	-	0.00
T14	6,899	6,899	10.01	108.5	0.00	87.78	-	-	0.00	0.00	-	0.00
T15	7,326	7,326	9.29	108.5	0.00	88.30	-	-	0.00	0.00	-	0.00
T16	7,007	7,008	9.82	108.5	0.00	87.91	-	-	0.00	0.00	-	0.00
T17	6,524	6,524	10.67	108.5	0.00	87.29	-	-	0.00	0.00	-	0.00
T18	6,083	6,084	11.51	108.5	0.00	86.68	-	-	0.00	0.00	-	0.00
T19	5,831	5,832	12.01	108.5	0.00	86.32	-	-	0.00	0.00	-	0.00
T20	5,258	5,259	13.26	108.5	0.00	85.42	-	-	0.00	0.00	-	0.00
T21	5,141	5,141	13.53	108.5	0.00	85.22	-	-	0.00	0.00	-	0.00
T22	4,998	5,000	13.87	108.5	0.00	84.98	-	-	0.00	0.00	-	0.00
T23	4,576	4,577	14.93	108.5	0.00	84.21	-	-	0.00	0.00	-	0.00
T24	4,235	4,237	15.87	108.5	0.00	83.54	-	-	0.00	0.00	-	0.00
T25	6,407	6,408	10.89	108.5	0.00	87.13	-	-	0.00	0.00	-	0.00
T26	5,961	5,962	11.75	108.5	0.00	86.51	-	-	0.00	0.00	-	0.00
T27	5,570	5,571	12.56	108.5	0.00	85.92	-	-	0.00	0.00	-	0.00
T28	5,146	5,147	13.52	108.5	0.00	85.23	-	-	0.00	0.00	-	0.00
T29	4,311	4,313	15.65	108.5	0.00	83.70	-	-	0.00	0.00	-	0.00
T30	3,944	3,946	16.72	108.5	0.00	82.92	-	-	0.00	0.00	-	0.00
T31	3,516	3,517	18.10	108.5	0.00	81.92	-	-	0.00	0.00	-	0.00
T32	2,822	2,823	20.70	108.5	0.00	80.02	-	-	0.00	0.00	-	0.00
T33	2,442	2,444	22.43	108.5	0.00	78.76	-	-	0.00	0.00	-	0.00
T34	4,869	4,870	14.19	108.5	0.00	84.75	-	-	0.00	0.00	-	0.00
T35	4,582	4,583	14.92	108.5	0.00	84.22	-	-	0.00	0.00	-	0.00
T36	3,670	3,671	17.59	108.5	0.00	82.30	-	-	0.00	0.00	-	0.00
T37	3,019	3,020	19.91	108.5	0.00	80.60	-	-	0.00	0.00	-	0.00
T38	2,485	2,487	22.20	108.5	0.00	78.91	-	-	0.00	0.00	-	0.00
T39	4,432	4,433	15.32	108.5	0.00	83.93	-	-	0.00	0.00	-	0.00
T40	3,635	3,636	17.71	108.5	0.00	82.21	-	-	0.00	0.00	-	0.00
T41	3,613	3,614	17.78	108.5	0.00	82.16	-	-	0.00	0.00	-	0.00
T42	2,799	2,801	20.79	108.5	0.00	79.95	-	-	0.00	0.00	-	0.00
T43	2,130	2,132	24.14	108.5	0.00	77.58	-	-	0.00	0.00	-	0.00
T44	1,622	1,624	27.46	108.5	0.00	75.21	-	-	0.00	0.00	-	0.00
T45	1,444	1,446	28.85	108.5	0.00	74.20	-	-	0.00	0.00	-	0.00
T46	1,351	1,354	29.62	108.5	0.00	73.63	-	-	0.00	0.00	-	0.00
T47	1,074	1,078	32.26	108.5	0.00	71.65	-	-	0.00	0.00	-	0.00
T48 Alt	811	815	35.40	108.5	0.00	69.23	-	-	0.00	0.00	-	0.00
T49 Alt	744	748	36.34	108.5	0.00	68.48	-	-	0.00	0.00	-	0.00
T50 Alt	4,232	4,232	15.88	108.5	0.00	83.53	-	-	0.00	0.00	-	0.00
T51 Alt	4,778	4,778	14.41	108.5	0.00	84.59	-	-	0.00	0.00	-	0.00
T52 Alt	9,739	9,740	5.95	108.5	0.00	90.77	-	-	0.00	0.00	-	0.00
T53 Alt	10,596	10,596	4.97	108.5	0.00	91.50	-	-	0.00	0.00	-	0.00
T54 Alt	9,146	9,146	6.69	108.5	0.00	90.22	-	-	0.00	0.00	-	0.00
T55 Alt	7,771	7,771	8.60	108.5	0.00	88.81	-	-	0.00	0.00	-	0.00

To be continued on next page...

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20131290 Rolette Power Development

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 602 Lincoln Ave S
 Finley, ND 58230

Description:
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Calculated:
 6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

		95% rated power											
WTG	No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
		[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
	T56 Alt	1,846	1,848	25.90	108.5	0.00	76.33	-	-	0.00	0.00	-	0.00
	T57 Alt	7,189	7,189	9.52	108.5	0.00	88.13	-	-	0.00	0.00	-	0.00
	T58 Alt	5,099	5,099	13.63	108.5	0.00	85.15	-	-	0.00	0.00	-	0.00
	T59 Alt	4,681	4,681	14.66	108.5	0.00	84.41	-	-	0.00	0.00	-	0.00

Sum 41.44

- Data undefined due to calculation with octave data

Noise sensitive area: H80 Noise sensitive point: User defined (161)

		95% rated power											
WTG	No.	Distance	Sound distance	Calculated	LwA,ref	Dc	Adiv	Aatm	Agr	Abar	Amisc	A	Cmet
		[m]	[m]	[dB(A)]	[dB(A)]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]	[dB]
	T01	5,073	5,074	13.69	108.5	0.00	85.11	-	-	0.00	0.00	-	0.00
	T02	4,425	4,426	15.34	108.5	0.00	83.92	-	-	0.00	0.00	-	0.00
	T03	4,082	4,083	16.31	108.5	0.00	83.22	-	-	0.00	0.00	-	0.00
	T04	3,702	3,703	17.49	108.5	0.00	82.37	-	-	0.00	0.00	-	0.00
	T05	2,512	2,513	22.07	108.5	0.00	79.01	-	-	0.00	0.00	-	0.00
	T06	2,221	2,223	23.62	108.5	0.00	77.94	-	-	0.00	0.00	-	0.00
	T07	2,249	2,251	23.46	108.5	0.00	78.05	-	-	0.00	0.00	-	0.00
	T08	3,375	3,376	18.59	108.5	0.00	81.57	-	-	0.00	0.00	-	0.00
	T09	3,129	3,131	19.49	108.5	0.00	80.91	-	-	0.00	0.00	-	0.00
	T10	3,416	3,417	18.45	108.5	0.00	81.67	-	-	0.00	0.00	-	0.00
	T11	1,174	1,178	31.24	108.5	0.00	72.42	-	-	0.00	0.00	-	0.00
	T12	989	992	33.20	108.5	0.00	70.93	-	-	0.00	0.00	-	0.00
	T13	571	577	39.17	108.5	0.00	66.22	-	-	0.00	0.00	-	0.00
	T14	1,120	1,123	31.78	108.5	0.00	72.01	-	-	0.00	0.00	-	0.00
	T15	583	589	38.93	108.5	0.00	66.41	-	-	0.00	0.00	-	0.00
	T16	1,664	1,667	27.15	108.5	0.00	75.44	-	-	0.00	0.00	-	0.00
	T17	1,526	1,529	28.19	108.5	0.00	74.69	-	-	0.00	0.00	-	0.00
	T18	1,649	1,651	27.26	108.5	0.00	75.36	-	-	0.00	0.00	-	0.00
	T19	1,722	1,725	26.74	108.5	0.00	75.73	-	-	0.00	0.00	-	0.00
	T20	2,306	2,308	23.15	108.5	0.00	78.26	-	-	0.00	0.00	-	0.00
	T21	2,581	2,583	21.73	108.5	0.00	79.24	-	-	0.00	0.00	-	0.00
	T22	2,689	2,691	21.26	108.5	0.00	79.60	-	-	0.00	0.00	-	0.00
	T23	2,996	2,998	20.00	108.5	0.00	80.54	-	-	0.00	0.00	-	0.00
	T24	3,319	3,321	18.79	108.5	0.00	81.43	-	-	0.00	0.00	-	0.00
	T25	2,761	2,764	20.95	108.5	0.00	79.83	-	-	0.00	0.00	-	0.00
	T26	2,762	2,765	20.95	108.5	0.00	79.83	-	-	0.00	0.00	-	0.00
	T27	2,850	2,852	20.58	108.5	0.00	80.10	-	-	0.00	0.00	-	0.00
	T28	3,080	3,082	19.67	108.5	0.00	80.78	-	-	0.00	0.00	-	0.00
	T29	3,848	3,850	17.02	108.5	0.00	82.71	-	-	0.00	0.00	-	0.00
	T30	3,938	3,940	16.74	108.5	0.00	82.91	-	-	0.00	0.00	-	0.00
	T31	4,240	4,241	15.85	108.5	0.00	83.55	-	-	0.00	0.00	-	0.00
	T32	4,732	4,733	14.53	108.5	0.00	84.50	-	-	0.00	0.00	-	0.00
	T33	5,118	5,119	13.58	108.5	0.00	85.18	-	-	0.00	0.00	-	0.00
	T34	3,937	3,938	16.75	108.5	0.00	82.91	-	-	0.00	0.00	-	0.00
	T35	4,609	4,610	14.85	108.5	0.00	84.27	-	-	0.00	0.00	-	0.00
	T36	4,791	4,792	14.38	108.5	0.00	84.61	-	-	0.00	0.00	-	0.00
	T37	5,005	5,006	13.85	108.5	0.00	84.99	-	-	0.00	0.00	-	0.00
	T38	5,324	5,325	13.11	108.5	0.00	85.53	-	-	0.00	0.00	-	0.00
	T39	5,329	5,330	13.10	108.5	0.00	85.53	-	-	0.00	0.00	-	0.00
	T40	5,579	5,579	12.55	108.5	0.00	85.93	-	-	0.00	0.00	-	0.00
	T41	6,273	6,273	11.14	108.5	0.00	86.95	-	-	0.00	0.00	-	0.00
	T42	5,747	5,748	12.19	108.5	0.00	86.19	-	-	0.00	0.00	-	0.00
	T43	5,907	5,907	11.86	108.5	0.00	86.43	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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Finley, ND 58230

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Calculated:
6/26/2015 11:20 PM/2.9.285

DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s

...continued from previous page

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T44	6,877	6,877	10.05	108.5	0.00	87.75	-	-	0.00	0.00	-	0.00
T45	7,324	7,324	9.30	108.5	0.00	88.30	-	-	0.00	0.00	-	0.00
T46	6,338	6,339	11.02	108.5	0.00	87.04	-	-	0.00	0.00	-	0.00
T47	6,523	6,523	10.67	108.5	0.00	87.29	-	-	0.00	0.00	-	0.00
T48 Alt	7,378	7,378	9.21	108.5	0.00	88.36	-	-	0.00	0.00	-	0.00
T49 Alt	7,793	7,794	8.56	108.5	0.00	88.83	-	-	0.00	0.00	-	0.00
T50 Alt	3,485	3,486	18.21	108.5	0.00	81.85	-	-	0.00	0.00	-	0.00
T51 Alt	3,007	3,009	19.96	108.5	0.00	80.57	-	-	0.00	0.00	-	0.00
T52 Alt	2,716	2,717	21.15	108.5	0.00	79.68	-	-	0.00	0.00	-	0.00
T53 Alt	3,743	3,744	17.35	108.5	0.00	82.47	-	-	0.00	0.00	-	0.00
T54 Alt	2,012	2,014	24.84	108.5	0.00	77.08	-	-	0.00	0.00	-	0.00
T55 Alt	1,381	1,383	29.37	108.5	0.00	73.82	-	-	0.00	0.00	-	0.00
T56 Alt	5,738	5,738	12.21	108.5	0.00	86.18	-	-	0.00	0.00	-	0.00
T57 Alt	2,375	2,377	22.78	108.5	0.00	78.52	-	-	0.00	0.00	-	0.00
T58 Alt	3,469	3,470	18.27	108.5	0.00	81.81	-	-	0.00	0.00	-	0.00
T59 Alt	3,719	3,720	17.43	108.5	0.00	82.41	-	-	0.00	0.00	-	0.00
Sum	44.42											

- Data undefined due to calculation with octave data

Noise sensitive area: H81 Noise sensitive point: User defined (162)

WTG		95% rated power										
No.	Distance [m]	Sound distance [m]	Calculated [dB(A)]	LwA.ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T01	11,128	11,128	4.41	108.5	0.00	91.93	-	-	0.00	0.00	-	0.00
T02	10,447	10,448	5.14	108.5	0.00	91.38	-	-	0.00	0.00	-	0.00
T03	9,951	9,952	5.70	108.5	0.00	90.96	-	-	0.00	0.00	-	0.00
T04	9,248	9,249	6.56	108.5	0.00	90.32	-	-	0.00	0.00	-	0.00
T05	8,568	8,569	7.45	108.5	0.00	89.66	-	-	0.00	0.00	-	0.00
T06	8,032	8,033	8.21	108.5	0.00	89.10	-	-	0.00	0.00	-	0.00
T07	7,290	7,291	9.35	108.5	0.00	88.26	-	-	0.00	0.00	-	0.00
T08	7,669	7,670	8.75	108.5	0.00	88.70	-	-	0.00	0.00	-	0.00
T09	6,833	6,834	10.12	108.5	0.00	87.69	-	-	0.00	0.00	-	0.00
T10	6,550	6,551	10.62	108.5	0.00	87.33	-	-	0.00	0.00	-	0.00
T11	8,099	8,099	8.11	108.5	0.00	89.17	-	-	0.00	0.00	-	0.00
T12	7,753	7,753	8.62	108.5	0.00	88.79	-	-	0.00	0.00	-	0.00
T13	6,691	6,691	10.37	108.5	0.00	87.51	-	-	0.00	0.00	-	0.00
T14	6,438	6,439	10.83	108.5	0.00	87.18	-	-	0.00	0.00	-	0.00
T15	6,672	6,672	10.41	108.5	0.00	87.49	-	-	0.00	0.00	-	0.00
T16	6,233	6,234	11.22	108.5	0.00	86.89	-	-	0.00	0.00	-	0.00
T17	5,799	5,799	12.08	108.5	0.00	86.27	-	-	0.00	0.00	-	0.00
T18	5,406	5,406	12.93	108.5	0.00	85.66	-	-	0.00	0.00	-	0.00
T19	5,270	5,271	13.23	108.5	0.00	85.44	-	-	0.00	0.00	-	0.00
T20	4,733	4,734	14.53	108.5	0.00	84.50	-	-	0.00	0.00	-	0.00
T21	4,729	4,730	14.54	108.5	0.00	84.50	-	-	0.00	0.00	-	0.00
T22	4,312	4,313	15.65	108.5	0.00	83.70	-	-	0.00	0.00	-	0.00
T23	3,970	3,972	16.65	108.5	0.00	82.98	-	-	0.00	0.00	-	0.00
T24	3,717	3,719	17.44	108.5	0.00	82.41	-	-	0.00	0.00	-	0.00
T25	5,528	5,529	12.66	108.5	0.00	85.85	-	-	0.00	0.00	-	0.00
T26	5,102	5,104	13.62	108.5	0.00	85.16	-	-	0.00	0.00	-	0.00
T27	4,730	4,731	14.54	108.5	0.00	84.50	-	-	0.00	0.00	-	0.00
T28	4,315	4,316	15.64	108.5	0.00	83.70	-	-	0.00	0.00	-	0.00
T29	3,449	3,451	18.33	108.5	0.00	81.76	-	-	0.00	0.00	-	0.00
T30	3,146	3,149	19.42	108.5	0.00	80.96	-	-	0.00	0.00	-	0.00
T31	2,760	2,763	20.95	108.5	0.00	79.83	-	-	0.00	0.00	-	0.00

To be continued on next page...

Project:
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DECIBEL - Detailed results

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

...continued from previous page

No.	Distance [m]	Sound distance [m]	95% rated power									
			Calculated [dB(A)]	LwA,ref [dB(A)]	Dc [dB]	Adiv [dB]	Aatm [dB]	Agr [dB]	Abar [dB]	Amisc [dB]	A [dB]	Cmet [dB]
T32	2,311	2,312	23.12	108.5	0.00	78.28	-	-	0.00	0.00	-	0.00
T33	2,071	2,073	24.49	108.5	0.00	77.33	-	-	0.00	0.00	-	0.00
T34	3,926	3,927	16.78	108.5	0.00	82.88	-	-	0.00	0.00	-	0.00
T35	3,575	3,576	17.90	108.5	0.00	82.07	-	-	0.00	0.00	-	0.00
T36	2,704	2,705	21.20	108.5	0.00	79.64	-	-	0.00	0.00	-	0.00
T37	2,123	2,125	24.18	108.5	0.00	77.55	-	-	0.00	0.00	-	0.00
T38	1,666	1,668	27.14	108.5	0.00	75.45	-	-	0.00	0.00	-	0.00
T39	3,372	3,373	18.60	108.5	0.00	81.56	-	-	0.00	0.00	-	0.00
T40	2,573	2,574	21.77	108.5	0.00	79.21	-	-	0.00	0.00	-	0.00
T41	2,534	2,536	21.96	108.5	0.00	79.08	-	-	0.00	0.00	-	0.00
T42	1,759	1,761	26.48	108.5	0.00	75.92	-	-	0.00	0.00	-	0.00
T43	1,168	1,171	31.30	108.5	0.00	72.37	-	-	0.00	0.00	-	0.00
T44	561	567	39.36	108.5	0.00	66.07	-	-	0.00	0.00	-	0.00
T45	600	606	38.64	108.5	0.00	66.65	-	-	0.00	0.00	-	0.00
T46	676	682	37.36	108.5	0.00	67.68	-	-	0.00	0.00	-	0.00
T47	1,218	1,221	30.82	108.5	0.00	72.73	-	-	0.00	0.00	-	0.00
T48 Alt	437	445	41.91	108.5	0.00	63.96	-	-	0.00	0.00	-	0.00
T49 Alt	866	870	34.68	108.5	0.00	69.79	-	-	0.00	0.00	-	0.00
T50 Alt	3,885	3,886	16.91	108.5	0.00	82.79	-	-	0.00	0.00	-	0.00
T51 Alt	4,422	4,423	15.35	108.5	0.00	83.91	-	-	0.00	0.00	-	0.00
T52 Alt	9,320	9,320	6.47	108.5	0.00	90.39	-	-	0.00	0.00	-	0.00
T53 Alt	10,230	10,230	5.38	108.5	0.00	91.20	-	-	0.00	0.00	-	0.00
T54 Alt	8,689	8,690	7.28	108.5	0.00	89.78	-	-	0.00	0.00	-	0.00
T55 Alt	7,355	7,355	9.25	108.5	0.00	88.33	-	-	0.00	0.00	-	0.00
T56 Alt	1,308	1,311	30.00	108.5	0.00	73.35	-	-	0.00	0.00	-	0.00
T57 Alt	6,927	6,927	9.96	108.5	0.00	87.81	-	-	0.00	0.00	-	0.00
T58 Alt	4,954	4,954	13.98	108.5	0.00	84.90	-	-	0.00	0.00	-	0.00
T59 Alt	4,549	4,549	15.01	108.5	0.00	84.16	-	-	0.00	0.00	-	0.00
Sum		46.69										

- Data undefined due to calculation with octave data

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DECIBEL - Assumptions for noise calculation

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

Noise calculation model:

ISO 9613-2 General

Wind speed:

95% rated power

Ground attenuation:

General, Ground factor: 0.7

Meteorological coefficient, C0:

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)

Octave data required

Air absorption

63	125	250	500	1,000	2,000	4,000	8,000
[db/km]	[db/km]	[db/km]	[db/km]	[db/km]	[db/km]	[db/km]	[db/km]
0.1	0.4	1.0	1.9	3.7	9.7	32.8	117.0

WTG: VESTAS V117-3.3 GridStreame 3300 117.0 !O!

Noise: Revised Sound

Source	Source/Date	Creator	Edited
Manufacturer	1/3/2014	USER	2/16/2015 3:25 PM

Status	Hub height [m]	Wind speed [m/s]	LwA,ref [dB(A)]	Pure tones	Octave data								
					Generic data	63 [dB]	125 [dB]	250 [dB]	500 [dB]	1000 [dB]	2000 [dB]	4000 [dB]	8000 [dB]
User value	84.0	95% rated power	108.5	No	Generic data	90.1	97.1	100.5	103.1	102.9	100.0	95.2	85.7

NSA: Noise sensitive point: User defined (82)-H01

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)

Ambient noise: 0.0 dB(A)

Margin or Allowed additional exposure: 0.0 dB(A)

Sound level always accepted: 0.0 dB(A)

Distance demand: 427

NSA: Noise sensitive point: User defined (83)-H02

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)

Ambient noise: 0.0 dB(A)

Margin or Allowed additional exposure: 0.0 dB(A)

Sound level always accepted: 0.0 dB(A)

Distance demand: 427

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DECIBEL - Assumptions for noise calculation

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

NSA: Noise sensitive point: User defined (84)-H03
Predefined calculation standard:
Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)
Ambient noise: 0.0 dB(A)
Margin or Allowed additional exposure: 0.0 dB(A)
Sound level always accepted: 0.0 dB(A)
Distance demand: 427

NSA: Noise sensitive point: User defined (85)-H04
Predefined calculation standard:
Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)
Ambient noise: 0.0 dB(A)
Margin or Allowed additional exposure: 0.0 dB(A)
Sound level always accepted: 0.0 dB(A)
Distance demand: 427

NSA: Noise sensitive point: User defined (86)-H05
Predefined calculation standard:
Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)
Ambient noise: 0.0 dB(A)
Margin or Allowed additional exposure: 0.0 dB(A)
Sound level always accepted: 0.0 dB(A)
Distance demand: 427

NSA: Noise sensitive point: User defined (87)-H06
Predefined calculation standard:
Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)
Ambient noise: 0.0 dB(A)
Margin or Allowed additional exposure: 0.0 dB(A)
Sound level always accepted: 0.0 dB(A)
Distance demand: 427

NSA: Noise sensitive point: User defined (88)-H07
Predefined calculation standard:
Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)
Ambient noise: 0.0 dB(A)
Margin or Allowed additional exposure: 0.0 dB(A)
Sound level always accepted: 0.0 dB(A)
Distance demand: 427

NSA: Noise sensitive point: User defined (89)-H08
Predefined calculation standard:
Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)
Ambient noise: 0.0 dB(A)
Margin or Allowed additional exposure: 0.0 dB(A)
Sound level always accepted: 0.0 dB(A)
Distance demand: 427

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DECIBEL - Assumptions for noise calculation**Calculation: V117-3.3 84m HH Rev 9 Gen Ground AttenuationNoise calculation model: ISO 9613-2 General 8.0 m/s****NSA:** Noise sensitive point: User defined (90)-H09**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (91)-H10**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (92)-H11**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (93)-H12**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (94)-H13**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (95)-H14**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427

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DECIBEL - Assumptions for noise calculation**Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation** **Noise calculation model: ISO 9613-2 General 8.0 m/s****NSA:** Noise sensitive point: User defined (96)-H15**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (97)-H16**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (98)-H17**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (99)-H18**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (100)-H19**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (101)-H20**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427

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DECIBEL - Assumptions for noise calculation

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

NSA: Noise sensitive point: User defined (102)-H21

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)

Ambient noise: 0.0 dB(A)

Margin or Allowed additional exposure: 0.0 dB(A)

Sound level always accepted: 0.0 dB(A)

Distance demand: 427

NSA: Noise sensitive point: User defined (103)-H22

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)

Ambient noise: 0.0 dB(A)

Margin or Allowed additional exposure: 0.0 dB(A)

Sound level always accepted: 0.0 dB(A)

Distance demand: 427

NSA: Noise sensitive point: User defined (104)-H23

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)

Ambient noise: 0.0 dB(A)

Margin or Allowed additional exposure: 0.0 dB(A)

Sound level always accepted: 0.0 dB(A)

Distance demand: 427

NSA: Noise sensitive point: User defined (105)-H24

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)

Ambient noise: 0.0 dB(A)

Margin or Allowed additional exposure: 0.0 dB(A)

Sound level always accepted: 0.0 dB(A)

Distance demand: 427

NSA: Noise sensitive point: User defined (106)-H25

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)

Ambient noise: 0.0 dB(A)

Margin or Allowed additional exposure: 0.0 dB(A)

Sound level always accepted: 0.0 dB(A)

Distance demand: 427

NSA: Noise sensitive point: User defined (107)-H26

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)

Ambient noise: 0.0 dB(A)

Margin or Allowed additional exposure: 0.0 dB(A)

Sound level always accepted: 0.0 dB(A)

Distance demand: 427

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DECIBEL - Assumptions for noise calculation**Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation** **Noise calculation model: ISO 9613-2 General 8.0 m/s****NSA:** Noise sensitive point: User defined (108)-H27**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (109)-H28**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (110)-H29**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (111)-H30**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (112)-H31**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (113)-H32**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427

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DECIBEL - Assumptions for noise calculation**Calculation:** V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s**NSA:** Noise sensitive point: User defined (114)-H33**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (115)-H34**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (116)-H35**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (117)-H36**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (118)-H37**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (119)-H38**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427

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DECIBEL - Assumptions for noise calculation**Calculation:** V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s**NSA:** Noise sensitive point: User defined (120)-H39**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (121)-H40**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (122)-H41**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (123)-H42**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (124)-H43**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (125)-H44**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427

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DECIBEL - Assumptions for noise calculation**Calculation:** V117-3.3 84m HH Rev 9 Gen Ground Attenuation**Noise calculation model:** ISO 9613-2 General 8.0 m/s**NSA:** Noise sensitive point: User defined (126)-H45**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (127)-H46**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (128)-H47**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (129)-H48**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (130)-H49**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (131)-H50**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427

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DECIBEL - Assumptions for noise calculation**Calculation:** V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s**NSA:** Noise sensitive point: User defined (132)-H51**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (133)-H52**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (134)-H53**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (135)-H54**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (136)-H55**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (137)-H56**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427

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Calculated:

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DECIBEL - Assumptions for noise calculation**Calculation:** V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s**NSA:** Noise sensitive point: User defined (138)-H57**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (139)-H58**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (140)-H59**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (141)-H60**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (142)-H61**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (143)-H62**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427

Project:

20131290 Rolette Power Development

Rolette Power Development, LLC
Warren Enyart and Merle Boucher
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DECIBEL - Assumptions for noise calculation

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

NSA: Noise sensitive point: User defined (144)-H63

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)

Ambient noise: 0.0 dB(A)

Margin or Allowed additional exposure: 0.0 dB(A)

Sound level always accepted: 0.0 dB(A)

Distance demand: 427

NSA: Noise sensitive point: User defined (145)-H64

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)

Ambient noise: 0.0 dB(A)

Margin or Allowed additional exposure: 0.0 dB(A)

Sound level always accepted: 0.0 dB(A)

Distance demand: 427

NSA: Noise sensitive point: User defined (146)-H65

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)

Ambient noise: 0.0 dB(A)

Margin or Allowed additional exposure: 0.0 dB(A)

Sound level always accepted: 0.0 dB(A)

Distance demand: 427

NSA: Noise sensitive point: User defined (147)-H66

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)

Ambient noise: 0.0 dB(A)

Margin or Allowed additional exposure: 0.0 dB(A)

Sound level always accepted: 0.0 dB(A)

Distance demand: 427

NSA: Noise sensitive point: User defined (148)-H67

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)

Ambient noise: 0.0 dB(A)

Margin or Allowed additional exposure: 0.0 dB(A)

Sound level always accepted: 0.0 dB(A)

Distance demand: 427

NSA: Noise sensitive point: User defined (149)-H68

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)

Ambient noise: 0.0 dB(A)

Margin or Allowed additional exposure: 0.0 dB(A)

Sound level always accepted: 0.0 dB(A)

Distance demand: 427

Project:

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DECIBEL - Assumptions for noise calculation**Calculation:** V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s**NSA:** Noise sensitive point: User defined (150)-H69**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (151)-H70**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (152)-H71**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (153)-H72**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (154)-H73**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (155)-H74**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427

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DECIBEL - Assumptions for noise calculation**Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation** **Noise calculation model: ISO 9613-2 General 8.0 m/s****NSA:** Noise sensitive point: User defined (156)-H75**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (157)-H76**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (158)-H77**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (159)-H78**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (160)-H79**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427**NSA:** Noise sensitive point: User defined (161)-H80**Predefined calculation standard:****Imission height(a.g.l.):** Use standard value from calculation model**Noise demand:** 50.0 dB(A)**Ambient noise:** 0.0 dB(A)**Margin or Allowed additional exposure:** 0.0 dB(A)**Sound level always accepted:** 0.0 dB(A)**Distance demand:** 427

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DECIBEL - Assumptions for noise calculation

Calculation: V117-3.3 84m HH Rev 9 Gen Ground Attenuation **Noise calculation model:** ISO 9613-2 General 8.0 m/s

NSA: Noise sensitive point: User defined (162)-H81

Predefined calculation standard:

Imission height(a.g.l.): Use standard value from calculation model

Noise demand: 50.0 dB(A)

Ambient noise: 0.0 dB(A)

Margin or Allowed additional exposure: 0.0 dB(A)

Sound level always accepted: 0.0 dB(A)

Distance demand: 427